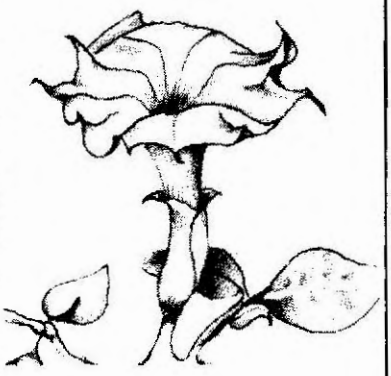
The Confluence

The Journal of Colorado Plateau River Guides

Volume 1, Number 1 Winter 1994



Logo Contest/page 19

DON HATCH

THE PREZ SAYS

GREETINGS FROM GCRG

VEEP MESSAGE

FROM THE EDDY

CNP RIVER MANAGEMENT

STATE LICENSING

NAVAJOS

FRANK WRIGHT

CNHA

SAN JAUN WATERFALL

CLAY HILLS

ENDANGERED FISH

USGS IN CATARACT

FIELD SCHOOL

FIRST AID

CURRENTS

MEMBERSHIP

Don Hatch: River Man

by Roy Webb

There could be nothing more appropriate than having a profile of Don Hatch in this first issue of *The Confluence*; Don has spent more time on the Green and the Yampa and the Colorado than probably any three of the rest of us put together, and is still one of the most ardent advocates and defenders of the Green and its lovely surroundings.

Don Hatch was born May 31, 1928, in Vernal, the second son (out of four--the Hatch families run to boys) of Bus and Eva Hatch. He literally learned to run rivers at his father's knee, as did all the Hatch boys. Don remembers that he was a teenager before he actually got to see a rapid; before that, his father Bus would make him crouch down in the cockpit of his Galloway-style wooden boat, so that all Don saw was the wooden sides of the boat and his father's knees. Later, at a very early age, Don and his brothers began to run boats for their father, on the occasionally commercial trip that occurred before the war.

Because the river running business was small in those days, the river community was a small one. Everyone on the river knew everyone else. Anyone who came to run the famed rapids of Lodore would stop at the Hatch house in Vernal, there to spend the night telling river stories. Norm Nevills, Amos Burg and Buzz Holmstrom, Roy DeSpain; all of them were guests with the Hatches at one time or another. In 1938, when the French kayakers passed through the Uinta Basin, a ten-year old Don gave up his bed for one of the party. Two years later, when Norm Nevills passed through on his way to launch at Green River, Wyoming, he stayed with Bus, and Don remembered sitting up just outside the living room, listening in wonder as tall tales were woven about rivers and canyons.

After World War II, Don entered the University of Utah, where he studied education. He graduated and obtained a teaching certificate in 1950, and began a long career as an elementary school teacher in Salt Lake City. Don chose teaching because it allowed him his summers off so he could pursue his first love--running rivers. Every summer, without fail, he was on the river with his father and brothers. At war's end, wooden boats were still the norm, but Don saw the future (like a number of others at the time) in the inflatable surplus rafts that were just then becoming available. He soon convinced his father to make the switch--no small task in itself--and Hatch pioneered the use of inflatables on the Green and Yampa. As war-time restrictions on travel eased, more and more people wanted to take advantage of their new freedoms and see more of the country. Many came to Vernal to try their hand at river running, and Don and Hatch River Expeditions was there.

(continued on page 4)

The Confluence

...would like to be published quarterly by and for Colorado Plateau River Guides. Help us grow. Join the membership today!

Colorado Plateau River Guides is a non-profit organization dedicated to:

- **Protecting the rivers of the Colorado Plateau.**
- **Setting the highest standards for the river profession.**
- **Providing the best possible river experience.**

Membership dues:

$20 per year.
$100 for 6 years.
$195 for life.
$295 Benefactor.

***Guide Membership** is open to anyone who has worked in the river industry.
***General Membership** is open to everyone.

Spring Meeting/April 9 & 10
Board of Driectors Meeting/ April 3

Officers

President:
Susette DeCoster-Weisheit
Vice President:
Tim Thomas
Secretary/Treasurer:
John Weisheit

Directors

Bluff:	Tom Rice
Green River:	Serena Supplee
Moab:	Jake Burnett & Rebecca Martin
Vernal:	Penny Elder

Newsletter Committee

Susette DeCoster-Weisheit, Shannon Demuth, John Martin, Tom Rathke, Serena Supplee, Red Wolfe, John Weisheit.

Art work by Anne Carter and Susette DeCoster-Weisheit

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077

The Prez Says

by Susette DeCoster-Weisheit
President, CPRG

Lights..., Camera..., Action!

So what happens when you get a large group of "boat yogies" together? Yep, stories, lies, gluttony, drinking, socializing, and even a little organization. As of November 12, 1993, I hadn't realized the full potential of such a gathering. I found myself among such a group of people gathered at Pack Creek Ranch interested in the possibilities of an Upper Colorado River Basin organization. As I sat looking at the group I saw both familiar and unfamiliar faces, but most exciting was what I heard--a group of people with common desires. Each person seemed to be saying what I felt: protect the rivers, join together, hear my voice. By November 13, 1993, I can say I was amazed by the energy that was put into the establishment of Colorado Plateau River Guides (CPRG).

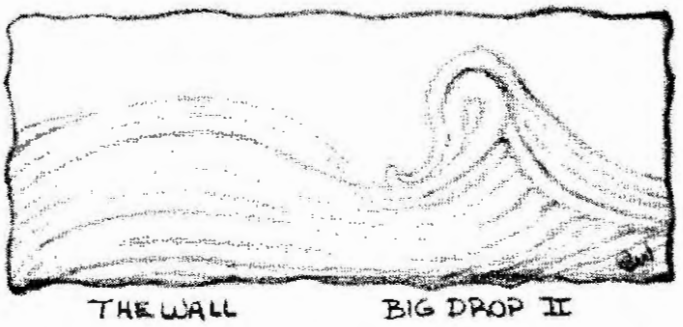
Since our first meeting when I took on the presidency, I have continued to be delighted by the interest in CPRG. I have also been somewhat overwhelmed by questions. One question in particular has been asked many times. What can CPRG do for me? My answer seemed to be growing lengthier each time I responded. Upon reflection I've found that our mission states accurately what CPRG can do for each member and also exemplifies how the rivers, where we work or play, can benefit from our membership. I believe it is through the efforts of active members that we will achieve a satisfying membership and accomplish that mission.

The Confluence is our seasonal contact with the membership and creates a medium for communication between professional guides, recreational rafters, outfitters, agencies, and corporations with similar goals. Look forward to articles on Colorado Plateau history, geology, archeology, and biology as well as information on current river issues and updates on available seminars and classes--not to mention some good story telling. Education is our emphasis. As guides we affect many people each season. Our passengers look to us for information and guidance. Each time we introduce someone to the river, we are the key to their education in river use and etiquette.

I am excited for CPRG. Support has come in many ways. Help in reaching more guides has been welcomed from several outfitters. Information requests have been received from recreational clubs and individuals alike. We are currently working with the National Park Service, Bureau of Land Management, and Utah State Parks and Recreation offices in hopes of assisting them to achieve our common missions.

I would like to thank the Grand Canyon River Guides (GCRG) who traveled to Moab in November. Your support has been most welcome. Thank you for providing us a common meeting grounds and for your words of wisdom. I think it is a wonderful group of people who will change their schedule by traveling some 400 miles to accommodate the possible establishment of a sister organization.

With an increasing membership, we've already been rewarded with valuable input for future growth. Each member is a voice for the river and the land. I look forward to hearing from you. See you at the spring meeting!



THE WALL BIG DROP II

Best Wishes from Grand Canyon

Brad Dimock, President GCRG

Amid the mid-November snows at Pack Creek Ranch, several of us who have been heavily involved with Grand Canyon River Guides over the last six year history had the odd sensation of giving birth.

We had gathered at Ken and Jane Sleight's ranch for two purposes. First was to have our fall general meeting, bringing membership up-to-date on current issues, discussing tough topics, and most importantly, telling lies and reveling. Our second purpose was to bring together some of the Northern crowd who had expressed an interest in working on upper basin issues, to try to act as sourdough starter for a new and possibly similar group.

It was a pretty tentative plan and many of us were a bit skeptical--"the upper basin is too diverse," "there aren't enough grizzled, demented old timers around," "no leadership figures have emerged," "it ain't gonna happen." What the hell, though, we thought. We'll give it our best shot. And we did.

The GCRG meeting on Saturday morning went fine. We brought folks up-to-speed on some of the things we're accomplishing in Grand Canyon. What sorts of things? Well, a much improved dialogue has been established between guides and outfitters, and between guides and the NPS; we have come to have an influence on policy in many areas and achieved equitable solutions to a few sticky problems. Co-operative programs have been established and we've helped facilitate pension and insurance plans in several companies.

We've become a strong advocate on several environmental issues and have been acknowledged by friends in Washington as having a major influence on the passage of the Grand Canyon Protection Act and the implementation of the Glen Canyon Environmental Studies through our extensive on-river letter writing campaigns. Our opinions and help are now valued and sought after. Currently we're grappling with the finalization of the Glen Canyon EIS, the overflights issue, and trying to effect reform in the way Grand Canyon superintendents continue to be capriciously moved from one position to the next.

Community and the heritage of the boating community are a big part of what we do too, via our (in all modesty) incredible quarterly journal and projects like our oral history program. Our membership, now over 1000, continues to grow, and it looks like, for better or for worse, we're going to be around for quite a while.

We wrapped our part of the program up around noon, and after lunch launched into the Great Unknown of the alleged new group. We started with a dozen of GCRG's old hands in the center of the room, giving advice, warnings, encouragement and ideas to a room full of interested folks. Although initially the northern folk seemed a bit timid, afraid to speak up too loudly lest they get put in charge, one-by-one voices and personalities began to emerge.

Mid-afternoon someone suggested it was time for the GCRG folks to move to the back of the room and see what would happen. We did, and were amazed and delighted. Tentatively at first, then with more and more momentum, a group developed and leaders emerged. There was denial at first, of course, "I'm not leadership material," "I don't have the qualifications," "I don't have the time," "no one knows who I am"...(familiar ground for us!) But their momentum got the best of them and at 3:07 (or was it (3:08?) they made it over the hump and went ballistic. There was no turning back. We broke for dinner. They didn't.

At their first official meeting on Sunday morning, we watched from the sidelines as responsibility was delegated and accepted, and issues were discussed and dispatched in a fraction of the time it took us when we started. For us at GCRG it was exciting, rewarding and even a little emotional. Something was born there with a potential and a direction we can only guess at.

We'd like to offer our heartiest congratulations and encouragement. Sure, there will be some incredibly difficult times when a very few people are shouldering a very hugh burden. Yes, there will be naysayers, critics and obstructionists. But hold firm, be stubborn. The rewards will come, your influence will grow and the education you get along the way will amaze you. The rivers you run and the community those rivers bring together will be much richer for your efforts.

And to the naysayers: wake up! Send in your dues. Call Susette and ask how you can help. You've gotten a hell of a lot from the river over the years. It's time to start giving something back.

So What's in a Name?

Tim Thomas, Vice-president CPRG

For some, a name is simply a description. For others, it's a reflection of self. Yet for others, it's symbolic of a cause and a larger purpose. And the origins of CPRG's name? Although it would be embellishing a bit to say the folks who gathered at the Grand Canyon River Guides (GCRG) fall meeting in Moab, last November, delved deeply into their souls to decide on Colorado Plateau River Guides as the name. There was indeed thought (albeit a bit obscure at times) and there is meaning.

Primarily we wanted to let others know what area we are concerned about - the area where we work and play. Of course, there was debate over whether we had included or excluded someone or something. But like most names it falls far short of encompassing the totality and potential latent when people come together to achieve a common purpose (like beer drinking and saving the world). An obvious example that comes to mind is our sister organization, GCRG, and their successes over the past six years, from championing causes such as the passage of the Grand Canyon Protection Act, to perhaps their crowning glory--the inception (conception) of CPRG.

So hopefully the "Colorado Plateau" gives focus and definition to our purpose, and "river guides" simply gives us a starting core of concerned individuals upon which we can build an organization open to all who wish to be involved. At best we'll succeed in our goals. At worst, we'll have a few people running around with meaningless titles tacked onto their names.

From the Eddy

John Weisheit, Editor CPRG

At the first meeting of the newsletter committee, we decided that the name for the printed format of Colorado Plateau River Guides would be *The Confluence*. In the upper basin of the Colorado River, river guides and private boaters float the tributaries too. These tributaries increase the flow of the Colorado River at a confluence--an appropriate metaphor to connect our ideas and needs for a meeting in print.

We feel this issue legitimizes CPRG and hope it inspires readers to join the membership. A membership form is included for your convenience.

I would enjoy expressing sincerest thanks to the officers, directors, and members of Grand Canyon River Guides for sharing their "sour dough starter" *and* for getting CPRG in the oven. We express our sincerest thanks to Jane and Ken Sleight for allowing us to have our first CPRG meeting at Pack Creek Ranch. I also would like to thank all the contributors for the articles received in what basically was short notice. Special thanks to the guides of the San Juan River; you became the strong arm to the formation of CPRG. Thanks also to Jeanne Treadway director of Canyonlands Natural History Association and to Karla VanderZander from Canyonlands Field Institute. Thanks also to the board members of the Dan O'Laurie Museum for allowing us to use their conference room for meetings.

(Hatch continued from page 1)

In the late 40's, when the Echo Park Dam controversy erupted and threatened to flood his beloved canyons, Don was one of the few Vernal natives to dare oppose the dam. From his home in Salt Lake, Don would keep track of the latest statements from the Bureau of Reclamation and inform his father (who also opposed the dam) so they could plan ways to thwart the Bureau. For his views he was vilified in Vernal, told he was a traitor to the community, and warned not to return. Don laughed it off, knowing that he was right and that eventually the community and the nation would come around to his way of thinking, and so they did. In the meantime, he spent more and more time on the river, as Hatch River Expeditions grew from a part-time family business to a major outfitter.

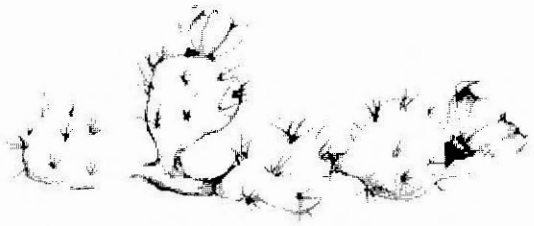
There was still time for other adventures, though; in 1952, Don climbed up to the rim of the Canyon of Ladore with Charles Eggert, an independent filmmaker. The discussion turned to Major Powell, and Eggert mused that he would some day like to follow the course that Powell followed. Don replied, "Maybe we will someday, Charlie, maybe we will." Three years later it was a reality; Don, Charles Eggert, and various others (including a woman named Cyd Ricketts Sumner), set off from Green River, Wyoming, for a voyage that would take them all the way to Lake Mead, retracing Major Powell's route for the last time before the great dams were built. Don, however, although he was the driving spirit behind the expedition, wasn't there at the finish. At Lees Ferry, as they readied their boats for the final stretch through the Grand Canyon, Don received a message from his father Bus. Bus had been hired by Lowell Thomas to fly to Pakistan and raft the Indus River for a documentary that Thomas was making. Bus knew that he needed help

in this undertaking, so he called on Don. Don stayed with the Eggert party until Phantom Ranch and then reluctantly left them, eventually to make his way to the gloomy gorge of the Indus in far-off Pakistan.

Arriving in Rawalpindi, Don found Bus and the film crew ready to fly to Skardu, where the river voyage would take place. Since the plane was already loaded with boats and cameras, Bus told Don to wait and come on the next days flight. It was a long wait; the weather closed in the next day and Don and others of the crew were forced to wait for three weeks before a flight could get in. Once there, they found the river huge, swift and cold, but the old instincts took over and soon they were running the mammoth rapids of the Indus with alacrity, if a bit cautiously. Unnerved by his experiences on the boats, the director made them switch to the nearby Gilgit River, a tributary of the Indus. Here too Don and Bus were able to run the boats, though the rapids were gigantic. Finally, the movie was "in the can," and the film and the boat crews readied for departure. The director, however, decided he needed one more shot. The next day, as Don rowed a seven-man inflatable while Bus followed in a pontoon with the camera aboard, Don lost an oar. When it looked like the big pontoon would run him down, Bus turned the camera boat, which went sideways into a mammoth hole and flipped. Don, recovering his oars easily, rescued one of the crew, but one man, one of the actors in the film, was drowned and the body never recovered. Nor were their misfortunes over; in the meantime Don had contract typhus, and was forced to spend three weeks in a hospital in Rawalpindi, hovering near death.

In the 1960's, river running began an explosion period of growth, meaning more and more work for the Hatches, especially Don and his brother Ted. Bus was aging, a result of a hard life, and turned more of the business over to his sons. Bus died in June 1967, and shortly thereafter Don left his teaching career to move to Vernal and operate Hatch River Expeditions full-time. Also during this time he was heavily involved with the Wester River Guides Association, which he had helped start back when he lived in Salt Lake City. Don was always one of the leaders of the WRGA, and recognized early on that the association needed to become more professional if it was to respond to the many challenges that commercial river running faced in those days. Increasing regulation, burgeoning numbers, escalating competition, the private vs. the commercial debate, and the controversy over motors in the Grand Canyon were all issues that involved the WRGA, and Don was in the middle of all of them.

The first time I met Don Hatch was in 1984, when I was doing research for my



first book, a history of river running of the Green. We met at the Hatch office at Cap Mowrey's old house in the east part of Vernal, a part of town often known as Hatchland. The first thing that struck me about Don was his friendliness; even though we had never met, he welcomed me into his house like I was one of the family. As we talked, another point came to me: Don had no agenda, no axes to grind, as far as river history went. Of course he was proud of Hatch and the record they had compiled, but he was more than willing to give others their due. His only concern, and an admirable one, was for accuracy in the history I was planning to write. Having made a fair share of that history himself, he had every right to be concerned that it be recorded accurately.

During that time, a friendship developed between myself and Don, as can so easily happen with a man so open and caring. One day, as we stood outside the Hatch office, under the big cottonwood tree that shades the house, we talked of river history and his family's place in it. Don commented casually that he would like to see something written down about his father. Something clicked in me; why couldn't I be that someone? To shorten a long story, I ended up writing the biography of Bus Hatch called RIVERMAN: THE STORY OF BUS HATCH. Don worked with me throughout that process, as did his brother's Ted and Frank, and it was a better book for it. Bus had his faults, and not all found him pleasant to be with; he was quick-tempered, a perfectionist, not above chewing out a new (or old) boatman for a slight infraction. But I was able to see Bus through Don's eyes, and despite Bus' faults, it was a good portrait that emerged, of a man concerned for his family and for the rivers that were so much a part of his life.

Today Don enjoys a position of prominence in the hearts of river runners everywhere; during a recent recovery from a serious operation, he mentioned how he was amazed at how many people called and wrote to wish him well, and how old boatmen "seemed to come out of the woodwork." Anyone who knows Don wouldn't be surprised; however, in a business that still projects a macho, "strong and silent" image, Don has always been an exception. Supportive, caring, concerned, even nurturing, whether it be a novice boatman or an equally novice historian, Don Hatch has been and will remain one of the best-known and most-loved rivermen on the river.

Canyonlands River Management Plan

by Jim Braggs

During the 1994 calendar year, Canyonlands National Park intends to rewrite its River Management Plan. The existing plan was developed and written in the late 1970's and approved by the Park Superintendent and Regional Director in 1981. It is seriously dated as management guidelines require parks to review their plans every ten years. Attitudes and issues have changed and new pressures are being exerted on the park mandating a review.

Beginning early in January, Resource Management Division staff, River District staff, and the Chief Ranger will meet to form a committee and establish task directives. This group will develop a timetable and outline the steps necessary to carry out the task. They will determine whether the plan can be completed in-house or if there is a need to hire a professional staff person.

A Notice of Intent will then be issued to the news media stating that the existing plan will be opened to public review and revision. A Public Scoping period will be established in which the park asks for comments and requests the public to provide current issues for the park to consider. Canyonlands will then develop alternatives based on the comments and issues received, and prepare a draft Environmental Assessment and River Management Plan.

The draft plan will be published and made available for review. For a period of 30 - 60 days comments will be gathered, analyzed, and incorporated in the plan. The final Environmental Assessment and River Management Plan will be developed, approved by the park Superintendent, sent to The Rocky Mountain Regional Director for final approval, and issued to the public. This plan will then become the guiding management tool used to manage the River District for the next decade.

Issues the park feels need to be looked at include, but are not limited to, the following:

* Limiting or not allowing motor use on the Green River.
* Wild and Scenic status for both the Green and Colorado rivers inside Canyonlands National Park.
* Carrying capacities for calm water use, particularly on the Green River.
* Commercial and Private allocations for Cataract Canyon and party size.

If all goes according to task directives and high water doesn't take away needed resources, the plan should be completed by the fall of 1994. Since the River District will be guided by this plan for the next ten years and a truly public process is important, the park needs your comments. Get involved and let the park know how you feel.

Commercial River Guiding and Outfitting in Utah

by Tony White

Commercial river running in the state of Utah is big business with approximately 60,000 passengers being carried by commercial outfitters in 1993. The professional river guides and outfitters providing this service to the recreating public must be commended for an outstanding safety record. In preparation for the upcoming season, CPRG and the Utah Division of Parks and Recreation (State Parks) would like to share information relating to commercial river guiding and outfitting in the State of Utah.

The administration and enforcement of the Utah Boating Act is under the supervision and direction of Utah State Parks. It is the policy of the State of Utah to regulate and promote safety for persons and property in and connected with the use, operation and equipment of vessels and to promote uniformity of laws. In fulfilling this policy, State Parks developed a commercial river guide permit program and outfitting company registration program. Under Utah Boating Act, any person who operates a vessel engaged in carrying passengers for hire on any river of the state must possess a Utah River Guide Permit and be employed by a registered outfitting company.

Each year, river outfitting companies must register with State Parks. This process involves a fee, verification of a business license, verification of river trip authorization from the state or federal land managing agency, and a listing of authorized agents' signatures. The outfitting company registration procedure is an effort by the State of Utah to protect the public from unscrupulous "pirate" outfitters who would fail to have business licenses, insurance, river trip authorizations, or professionally licensed guides. Once an outfitting company is registered and recognized by State Parks, the outfitter may send guide permit applicants in their employ to one of three testing and permitting centers (Moab, SLC, and Vernal). The river guide permit application process requires that the applicant be at least 18 years of age, complete the prescribed form with appropriate signatures and registered outfitting company sponsorship, be current in the required first aid and CPR certification, pay a $10 fee, and have operated a vessel on the required number of

river trips necessary to obtain the guide permit being sought. Lead guides (Guides I and II) are also required to successfully complete a written test on Utah Boating Laws and Rules.

State Parks believes that commercial river guiding and outfitting is a profession requiring highly skilled and knowledgeable personnel that are capable of providing a safe, recreational experience to the public. Like all true professions, personnel must meet and maintain minimal standards in order to be considered a "professional." The minimal standards/qualifications utilized by the State of Utah for commercial river guide permit requirements are based on river running experience, emergency medical training, and knowledge of the Utah Boating Act.

Persons seeking Utah River Guide Permits must complete the Utah River Guide Permit Application in full with required river running experience listed. This information should be completed prior to the authorized agent signing the application. The application is considered a legal document and the authorized agent's signature verifies that the guide is employed by a State--recognized outfitting company and has obtained the required river running experience as listed on the application. These applications may serve as a first-line defense for a guide and outfitter in court proceedings where an injured party is attempting to show negligence or inadequate skills/training.



Guide permit applicants must also present original copies of first aid and CPR certifications. Photocopies are not accepted due to the ease of falsification. Also, it is required by Utah Boating Act that guides carrying the original certification cards and river guide permit at all times while working. The carry of these certification cards is necessary due to the large number of enforcement personnel who work the rivers to insure safety and compliance with Utah Boating Act. A river guide permit may be issued in May despite a first aid certification that expires in June. By requiring the guide to carry the original certification card, enforcement personnel are able to insure that the guide has completed the appropriate training to stay certified. Failure to maintain current first aid and CPR certification renders the guide permit invalid.

Guides and outfitters are reminded that experience trips are valid only when obtained within ten (10) years prior to the date of application for the guide permit or renewal. Guides wishing to renew a permit must meet this log requirement, complete the prescribed form with appropriate signatures, pay a $10 fee, and present original certification cards for first aid and CPR. It is the belief of State Parks that for a person to retain professional status as a commercial river guide they must maintain a certain level of proficiency both in vessel operation and emergency medical care, be sponsored/endorsed by a State--recognized outfitting company, and have a working knowledge of the Utah Boating Act.

The information that must be provided on the prescribed River Guide Permit Application for initial, renewal, and duplicate permits is as follows:

1)Type of guide permit sought must be checked off at the top of the application by the authorized agent of the registered outfitting company.
2)Applicant's full name and premanent address. Note: Guides must notify State Parks within 30 days of any change of address.
3)Applicant's date of birth, height, eye color, and hair color.
4)Applicant's social security number.
5)Applicant's signature and date.
6)Outfitting company name and type of guide permit authorized by outfitter.
7)Authorized agent's signature and date.
8)Minimum river experience required to obtain type of permit issued or being sought. Note: Experience trips are valid only when obtained within ten (10) years prior to the date of application for the guide permit or renewal.

Guide I...must list at least 9 "whitewater river" trips.
Guide II...must list at least 6 "other rivers" trips.
Guide III...must list at least 3 "whitewater river" trips.
Guide IV...must list at least 3 "other rivers" trips.

9)River section must be listed by the name of the river and mileage/section and qualify as the proper water classification (either "whitewater river" or "other rivers" as defined by Utah Boating Act) for the type of permit issued or being sought.

(continued on page 19)

Navajo Origins and Early Occupations

By Red Wolfe

Introduction

This article explores the possible origins of the Navajo people, one of the most adaptable and successful cultures to inhabit the Colorado Plateau. This culture is more properly referred to as Dineh, which is a Navajo word referring to "the people." Of course one could ask a Navajo, but this article attempts to explore the question from an Anglo/European archaeological perspective and in no way attempts to substitute a traditional Navajo explanation.

Athabascan Migrations

Today, the Navajos are the most populous native group in the United States, and occupy a reservation encompassing over 24,000 square miles. The Navajo are descended from Athabascans, a group of societies with a shared language who inhabited much of the interior of northwestern North America. Athabascans came to the North American continent across the Bering Land Bridge from Asia in fairly recent times. As these Athabascan speakers gradually moved south, they seemed to have branched off in different directions. Some of their descendants are found along the Pacific Coast of the northwestern United States, southern Canada, and also in the interior of western Canada. One group, the Apachean Athabascans, made it all the way to the southwestern United States.

By studying dental affinities between modern Asians and Native Americans, it appears that Athabascans left the forests of northeast Siberia about 12-14,000 years ago. A three-rooted molar is a common trait of Athabascans and can be traced back to specific regions of Siberia.

Understanding prehistoric migrations is difficult. Lacking written records, archaeologists must resort to material remains to reconstruct past events. A big problem with this approach is that many cultural changes occurred en-route between a hunting/gathering subsistence in Siberia to the semi-nomadic, partly agricultural subsistence of today's Navajo. Four contending routes have been suggested: Plains Border, High Plains, Rocky Mountains, or Intermontane. Three time periods of possible arrival have been suggested: AD 800-1000, AD 1200-1400, or post-Spanish (AD 1540). The most recent evidence points to the Plains as the migration route. The linguistic evidence suggests the Apachean Athabascans diverged into the ancestors of the present day Apaches and Navajos about AD 1300 and may have entered the Southwest at about AD 1400.

Some investigators have proposed an entry into the present-day Four Corners region as early as AD 1000. These groups most likely left western Canada as a result of famine. Another possible explanation is based on known volcanic eruptions that produced large ash falls over large areas of western Canada around AD 750. This natural disaster may have made the area temporarily uninhabitable, causing Athabascans to diverge in different directions. This event occurs at a time which linguists estimate was the beginning of the separation in Athabascan dialects. Dental similarities between Athabascans and burials found in some sites in eastern Colorado, dating to AD 1000-1200, may indicate an Apachean presence close to the northern edge of the Anasazi region at about the same time as the great Pueblo Abandonment, around AD 1300.

Spanish and Pueblo Interaction

The first arrival of the Spanish occurred in AD 1540 with the arrival of Coronado. After this point, we can begin to look at historical accounts for information of what native groups were living where. A problem with Spanish documents is they are often ambiguous when identifying groups of Southern Athabascans.

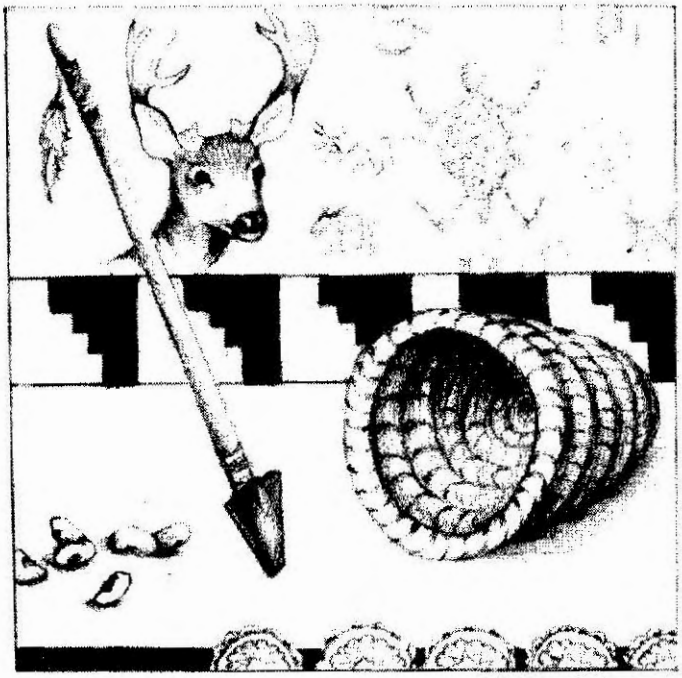
These accounts, mentioning semi-sedentary Apachean groups who practiced some agriculture, fail to acknowledge a long--time presence of these groups in the Southwest. During this time period, much interaction between the newly arrived Athabascans and the Puebloans led to the development of what we today recognize as Navajo culture. The often brutal attempt by the Spanish to subjugate native cultures in the Rio Grande Valley led to the Pueblo Revolt of AD 1680. Before this time Navajo and Spanish contacts were sporadic; however, they became more frequent and soon hostile. The hostility was in part due to the Spaniard's desire to keep the Navajo, which they obtained from the Hopi, as captives. As the Spanish defeated one Navajo alliance after another, refugees began leaving the Rio Grande Valley; some went to Hopi, some went to join the Plains Apache, and some went north into the drainage of the San Juan to join the Navajo. At this time the horse and metal objects began to become part of Navajo culture. Navajo groups teamed up with Pueblo groups in an effort to repel attempts at domination and colonization by the Spanish.

The Pueblo Revolt was a major event in Southwestern cultural history. Pueblo groups, together with other native groups including the Navajo, expelled the Spanish from the Rio Grande Valley and all of New Mexico. At this time, Navajo groups were

occupying the drainage of the upper San Juan River near the present-day Navajo Reservoir. This area is referred to as the "Dinetah" by modern Navajo who claim it as their ancestral homeland. The Dinetah contains the earliest clearly identifiable and datable Navajo archaeological remains.

Dinetah Phase

The Dinetah Phase refers to Navajo culture prior to the intimate contact with Pueblo refugees. Many Dinetah sites have been recorded in the Navajo Reservoir area of Colorado and New Mexico as a result of fieldwork undertaken during the construction of the Navajo Dam on the San Juan River. Dates of AD 1550 to 1700 have



been suggested on the basis of tree ring dates, intrusive pottery, and accounts in Spanish documents. The Dinetah Navajo are assumed to have been non-agricultural hunters and gatherers living in mobile bands who utilized seasonally both high and low areas of northern New Mexico. The high site density around Navajo Reservoir indicates a sizeable population.

Gobernador Phase

In 1696 the Spanish attempted the Reconquest of New Mexico, causing Puebloan refugees to flee north. It is during this time period (1696-1775) that the Gobernador Phase is observed. This period of Navajo/Pueblo interaction lasted until about 1755, when it appears the Navajo were forced out of the upper San Juan by Ute raids.

The material culture from this time period includes forked-stick, cribbed log and stone masonry hogans; pueblitos, towers, fortified sites, ramadas, sweat lodges, rock art with Puebloan motifs and recognizable Yei figures, corn and beans, horses and sheep, and small numbers of European trade goods. Spanish documents describe wooden implements for farming of maize, beans, pumpkins, and watermelons. Domestic animals included horses, goats and sheep.

These early groups seem to be a mixture of Navajo, Tewa, Cochiti and Jemez. During this early Gobernador Phase, the Navajo underwent much Pueblo acculturation and the Navajo practice of matrilocal descent, matrilocal residence patterns, and clan structure are believed to be Puebloan in nature. It also appears that aspects of Puebloan religion were being incorporated by Navajo as part of their own belief system. The first Navajo rock art is recognized at this time. It is ceremonial in content and resembles both the Pueblo religious art of this time and modern Navajo dry-painting art.

Post-Gobernador Phase

By the mid-18th, century severe pressures were brought upon the Dinetah by drought and intensified Ute attacks, causing conflicts between Apachean values and Pueblo values that by now were very much a part of Navajo culture. The 18th century changes seen in Navajo culture toward a more mobile and dispersed population and the raising of livestock, may have provided the ability for Navajos to escape their enemies. Economy at this time shifted to agriculture, animal husbandry, and manufacturing (primarily the weaving of woolen cloth). All of these traits are what is known as traditional Navajo culture. At this time Navajos expand to the west and south and begin to occupy Canyon de Chelly and areas of the present-day reservation. These more open areas would have offered better pasturage for their increasing animal herds. The many versions of Navajo creation stories often speak of the boundaries of their territory as being defined by sacred mountains. These correspond to the La Plata Mountains of Colorado, the San Francisco Peaks of Arizona, and Mount Taylor and Blanca Peak of New Mexico, and also correspond to the territory occupied by the Navajo during the late 18th and early 19th centuries.

Recent Archaeological Studies

In recent years, much archaeological activity has occurred in the Dinetah country of southwestern Colorado and Northwestern New Mexico as a result of cultural resource activities associated with oil and gas production on public lands. Recently excavated occupation sites

(continued on page 19)

Conversation with Frank Wright

by Tom Rice

Frank Wright sits underneath a wall--sized black and white photograph of the site where he camped his first night in Glen Canyon. The large, Navajo sandstone walls which loom above the camp, and the pristine beach that spills along the Colorado River, are now buried by the water of Lake Powell. Only the sound of a lake boat or a fin of an invading fish can reach them now.

He does not appear like the typical boatman we run into today. He is in the class of early river runners like Kenny Ross, Norman Nevills, Ken Sleight, and even John Wesley Powell, but uniquely individual as only an early explorer can be. No flip flops, no chrome ammo can, no rendition of his most recent death defying run through "Satan's Gut;" only stories of a seldom travelled era that almost all of us will never get to see or experience.



Mr. and Mrs. Frank Wright
photo courtesy of Frank Wright

I sat down with Frank Wright on a sunny December morning at his home in Blanding, Utah. Memories of his river trips beginning in 1948 with Norman Nevills began to unfold. His first trip was a float down the San Juan River from Bluff, Utah, to Mexican Hat, Utah. Shortly before that trip, Wright was working in his repair shop in Blanding when Nevills stopped by to get some vehicle work done. He recognized Nevills' name, for he had recently read about him in *The Saturday Evening Post.* Because of this article, Wright was interested in Nevills and in his trips down the river. The following week, Nevills returned for more repair work and asked Wright to join him on the float from Bluff to Mexican Hat. Frank Wright was off and floating.

Wright envisioned his day run from Bluff to Mexican Hat as a leisurely, friendly float where he would get to sit back, enjoy the scenery, and let the others do the rowing. It began that way and then suddenly changed when his turn to row the boat came up. With no experience behind the oars, Wright suddenly found himself at the oars of a wooden Nevills boat, manipulating the vessel down through the sandwaves of the San Juan River.

Wright made it to Mexican Hat, relieved but still wary of his skills at the oars. He returned to Blanding only to embark on one of many more trips with Nevills; this time from Mexican Hat through Glen Canyon. From that point, Frank Wright became a skilled oarsman--a fact recognized by Nevills--and not simply a Nevills' boatman.

In 1948, Wright, was the 97th recorded traveller through Grand Canyon. He became enamored with the river as so many boatman do. He fell in love with the country. Associations with new people on every river trip made him aware of the uniqueness and the beauty of the land and the cultures which surrounded him.

Ingrained in Wright's head are fond memo ries. Said Wright, "Very few saw Glen Canyon as it was and as it still could have been." It was undisturbed, ...one of the most beautiful places on earth." As Wallace Stegner supports wilderness for the sake of being able to look into wilderness and believe in wilderness, Frank Wright claims the beauty of Glen Canyon was for the sake of being able to peer at beauty and have it peer back. The concept is summed up simply when he describes his favorite spot in Glen Canyon, "It is too special of a place to explain."

...And then humans created the lake. Up the Escalante River, in the Cathedral of the Desert, is where Wright abruptly met the fate of the country which is now choked by the silt and the water of Lake Powell. He and two others hiked into the Cathedral. A pool, a small cascade of water, and the maidenhair ferns draped on the rocks, combined with the silence and the beauty of

the event, were mesmerizing. They whispered to one another, walked silently. Even though he had visited the Cathedral many times during earlier river trips, Wright continued to be in awe of the sheer beauty. Suddenly, the bark of a dog shattered the peace, followed by yells of teenage boys running up the canyon. The lake and the lake boaters had found the beauty of wilderness and would change it forever. It was a realization that Wright and others would never be able to shake.

Frank Wright is not an environmentalist, nor an industrialist. He feels that Glen Canyon Dam was a mistake. On the other hand, he agrees with the commercial advantages--to a degree. He sees water through the eyes of someone who lived in an era when water was looked at from a different angle. Never-the-less, he does recognize the destruction that Glen Canyon Dam wrought upon the country he respected.

Wright can put a few other things on his list of accomplishments. After Norman Nevills died in a plane crash at Mexican Hat, Wright and Jim Riggs bought Nevills Expeditions. Later, he followed John Wesley Powell's route from Green River, Wyoming, through Grand Canyon, seeing not only Glen Canyon, but also Flaming Gorge, before a reservoir drowned it as well. In 1957, when flows as high as 100,000 cfs were roaring down Grand Canyon, he became one of the first boatmen to pilot a rigid wooden boat through such high water.

The high water trip of 1957, his last river trip, prompted the boatman Frank Wright to sit back and reflect upon his experiences in an industry and in canyons that will forever be out of our reach. His thoughts and memories of places once untouched should remain in the historical record. One day they will be important to those who want words of experience to accompany the pictures of lost canyons.

Canyonlands Natural History Association

by Sharon Brussell

If you're a Colorado Plateau guide, Canyonlands Natural History Association (CNHA) can be a valuable resource for developing or adding to your own natural history library and interpretive repertoire. We carry a thorough inventory of books and maps covering area geology, hiking, biking, and off-road trips, as well as the Colorado, Green, and San Juan rivers. All books, maps, guides, and other interpretive material that CNHA sells have been approved by the NPS, USFS, and BLM. Also available are other valuable and accurate site- specific and regional information.

CNHA maintains a resource library at its main office, located at 30 South 100 East, Moab (across from the Moab library). Included in the library are Canyon Country Workshop videos which offer wonderful opportunities for self-education. Area experts cover such topics as archeology, geology, ethnobotany, rock art, resource protection, human history, history of river running, safety and hazard management, and interpretive skills. Colorado Plateau River Guides and CNHA members are encouraged to visit CNHA and use the library at their convenience.

CNHA members receive a 20% discount on purchases of a dollar or more on regular sales items, an annual newspaper, catalogue, updates on seasonal specials, and information on workshops opportunities. Initial fees are $10, with a $7.50 annual renewal fee.

CNHA is a non-profit organization which exists solely to assist the National Park Service, the U.S. Forest Service, and the Bureau of Land Management in their education and visitor service efforts. CNHA operates bookstores in the agencies' visitors centers and at the multi-agency visitor centers in Moab and Monticello. Proceeds from the sales support the many agencis' educational, interpretive, and scientific programs in Southeastern Utah.



Paiute Falls of the San Juan River

by Gene Stevenson and Donald Baars

The San Juan River

The headwaters of the San Juan River lie in the high San Juan Mountains of southwestern Colorado, near Wolf Creek Pass. Water from the upper basin and several tributaries are temporarily stored in Navajo Dam, located on the Colorado--New Mexico border. From Navajo Dam, the San Juan River flows unimpeded across northwestern New Mexico and into southeastern Utah where it finally converges with the Colorado River in what is now Lake Powell.

On its course below Navajo Dam, the San Juan carries enormous amounts of suspended-and-bottom-load sediments. This high stream of soils is weathered from the overgrazed plateau lands of the Four Corners Region. Spring run-off and late summer rains can rapidly change the San Juan from a docile stream to a seething river of mud. Throughout its course, the San Juan River drops an average of more than 5 feet per mile, and as much as 14 feet per mile in the lower canyons. Historically, flows vary dramatically, from a recorded high of 91,000 cubic feet per second (cfs) in 1911, to several occasions when it basically dried-up. Since the construction of Navajo Dam in the 1960's, the highest flow has been 25,000 cfs in 1971; the last decade has seen flows ranging between 15,000 cfs and 150 cfs.

Today, the San Juan River is popular for commercial and private recreational boating enthusiasts. The most frequently-run stretch of the river is from Bluff to Clay Hills Crossing in southeastern Utah, a distance of nearly 84 miles. At Bluff, the river leaves its lazy meandering course and flows through deep limestone canyons incised into the Monument Upwarp. It is there, on the west flank of the Monument Upwarp, that the high gradient, silt-laden river enters the placid waters of Lake Powell. And not surprisingly, it is there where nature is at odds with the "achievements " of man.

Lower San Juan River Siltation

The decision to build another dam above Lake Mead, on the Nevada-Arizona border, was partly due to the tremendous rate at which this reservoir was silting-in. After exhaustive political efforts had failed to permit construction of dams in Grand and Marble canyons, the U.S. Bureau of Reclamation constructed Glen Canyon Dam near the Utah-Arizona border. Lake Powell began to fill in 1963 and power generation began in 1964. By 1980, 27 years later, Lake Powell was finally filled and the spillways were tested for the first time. Because of a wet cycle in climate, the lake maintained a high reservoir pool until about 1988. In those nine years, the upper reaches of the San Juan River Arm of Lake Powell completely filled with sediment.

Enter Waterfall

A waterfall now blocks navigation 2.2 miles below Clay Hills Crossing; the top is 9 feet below high lake level; the waterfall drops another 26 feet. The original course of the river flowed around a ledge of Organ Rock Shale (Permian Age) along the right-hand valley wall, and headed almost



Arial View of Paiute Falls
photo by Gene Stevenson

directly southward toward Paiute Farms. At high lake levels, silt was deposited evenly across the area, burying the Organ Rock ridge and the remainder of the valley floor uniformly nearly to the location of Paiute Farms, which at the time served as a Navajo-operated marina for upper Lake Powell and a take-out point for many San Juan River trips. The meandering current of the river lost its original course and

spread into several distributary channels that formed deltaic silt deposits where the current entered the quiet waters of the lake. As the lake lowered in the late 1980's, San Juan River currents shifted to the right (north) to circumnavigate the delta, flowing across the buried Organ Rock ledge. The currents became incised into the lake sediments as the lake level continued to drop and, upon cutting down to bedrock, encountered the Organ Rock ledge and a formidable obstacle, such that no one but the foolhardy attempted running it. With continued lowering of Lake Powell, the rapid matured into a sheer waterfall that has become a curiosity. Fishermen have enjoyed fishing the large eddies below the falls, where hundreds of fish mill around, confused that they are unable to travel upstream as before.

Trapped in the new channel, astride the exhumed rock ledge, the waterfall now forms a temporary nick point, or perched base level of erosion. Lake sediments trapped in the 19 miles of canyon above the waterfall have been temporarily suspended in the system at a level more than 26 feet, perhaps as much as 80 feet, above the new base level of Lake Powell. An artificially low gradient now moves finer sediments through the nearly 15 miles of canyon between the falls and clear water of the lake at Milepost 100.2 (1922 survey), where the second delta is necessarily forming.

As late as June 1992, the river flowed in a nearly straight path toward the waterfall; by October a huge eddy had developed above the falls. Apparently the river is trying to find its way around the rocky obstacle, and slide toward its old river course that circumvented the ledge to the south. When the waterfall is breached by erosion, or the river finds a new course around the obstacle, one thing is certain - the river will immediately re-establish its gradient and quickly erode through the unconsolidated lake sediments that have been perched upstream. This will be evident to any observer as a loud "unzipping" sound.

Once the obstacle is breached, the lake sediments will be deeply scoured, leaving the only existing boat ramp at Clay Hills Crossing high and dry, suspended 25 feet or more above the newly established river level. Take-out of the river-running equipment will be virtually impossible for several years until the lake sediments have thoroughly dried and settled. As the lake has subsided, hugh concentric desiccation cracks have formed along either side of the river bed. Slumping on a large scale of these unstable features will rapidly accelerate, and dangerous thixotropic conditions (quicksand) will prevail for some years following breachment. River travel, amounting to about 11,000 people each year, will be necessarily put to an end for lack of a viable take-out ramp.

An Update

In 1993, there was a considerable increase in the pool elevation of Lake Powell due to a high spring run-off from the Rocky Mountains. The Lake Powell pool elevation for the winter of 1992-1993 was 3610 above sea level (asl), or 90 feet low. The pool elevation peaked in June, 1993, at 3667 asl, raising the lake level 57 feet. The raising pool level did not inundate Paiute Waterfall but it did manage to shorten its overall fall.

Conclusion

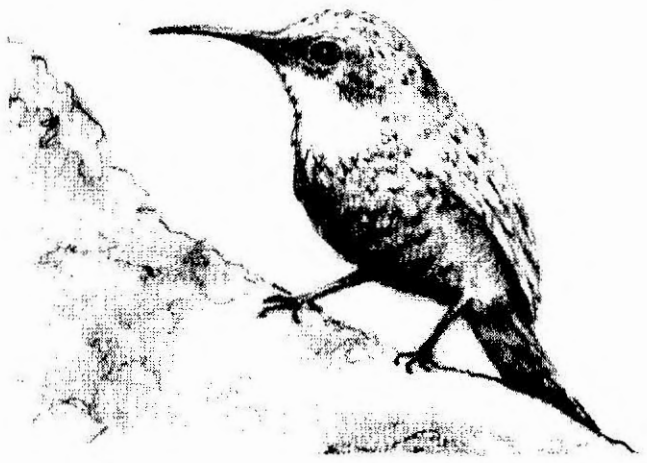
When Glen Canyon Dam was built there was no study pertaining to the huge volume of silt that would be deposited at the lake-river interface on the Colorado and San Juan rivers. No apparent consideration was given to the starved beaches that would develop downstream in the Grand Canyon. Least studied were the upper marinas, necessary for the recreational objective of the project, that would be progressively silted such that continuous abandonment would be the only solution. Obviously, no consideration was given to drastically altered stream courses, the safety hazards that would result, nor of major ecologic damage that must necessarily follow.

A Navajo friend once explained why the Bureau of Indian Affairs was so reluctant to recognize Native American problems and approve changes. "It all started when Yellow Hair (Custer) said: 'Don't do anything until I get back!'" Perhaps John Wesley Powell had a similar effect on his Bureau of Reclamation.

Quote

"So much depends on so little, and there is no sure way to prophesy human behavior. I spent the night with almost unbearable thoughts and was glad, when at last there was a glow of light in the eastern sky."

Clyde Eddy/Spanish Bottom, 1927



Endangered Fish, Endangered Rivers:
Why "Critical Habitat" is Important

by Tamara Wiggans

"Quit thinking about decent land-use as solely an economic problem ...the last work in ignorance is the man who says of an animal or plant: 'What good is it?' If the land mechanism as a whole is good, then every part is good, whether we understand it or not... To keep every cog and wheel is the first precaution of intelligent tinkering..."

Aldo Leopold

Q: How deep is the river and what do you do in the winter?

A: Not deep enough and this year I spent much of November and December wading through government documents and other literature about endangered fish. My answer to a third question "what kind of fish live in this river?" will never be the same.

The Colorado squawfish, bonytail, humpback chub, and razor-back sucker were once abundant throughout the Colorado River basin, from Wyoming to Mexico. These fish, which exist nowhere else on earth, are now threatened with extinction due to the combined effects of dams, diversions, introduction of non-native fish, and other human impacts.

All four species have been "listed" as endangered by the U.S. Fish and Wildlife Service (FWS) and are protected by law. But putting a fish on a list is not enough. Their numbers continue to dwindle. The bonytail and razorback sucker are extremely rare, and are not reproducing in the wild. The only ones left are the old guys who sometimes live to be 40 and 50 years old. Forty species and sub-species of fish in North America have become extinct this century, primarily due to human-caused changes or elimination of their habitat.

The Endangered Species Act requires that the FWS designate "critical habitat" when a species is listed. Under court order, as result of a Sierra Club Legal Defense Fund lawsuit, the FWS has finally come up with several sections of several Colorado Basin rivers proposed as critical habitat for endangered fish. In the upper basin, these include portions of the Yampa, White, Duchesne, Green, Gunnison, Colorado and San Juan. In the lower basin, portions of the Gila, Salt and Verde rivers, as well as the Colorado are being considered.

The proposed river stretches were chosen because they are now inhabited or are potentially habitable for use in spawning, feeding, rearing, or as migration corridors. The river reaches are all within the fishes' known historic ranges.

Why should you support critical habitat? Who cares? These fish are the dinosaurs of the Colorado--they couldn't adapt to changing times--so bye-bye fish. Besides they're just a bunch of suckers, trash fish.

Well, just remember, river runners and these fish share the same habitat--the river. How would we feel if the rivers were pumped so dry that we couldn't float a boat anymore? Could we just walk away and accept that we're the dinosaurs, just a bunch of suckers, river trash?

We live and work in a river environment unique to the planet. It took tough and adaptable fish to survive in the pre-dam Colorado basin, known for its high sediment loads, widely fluctuating flows, and turbulent whitewater.

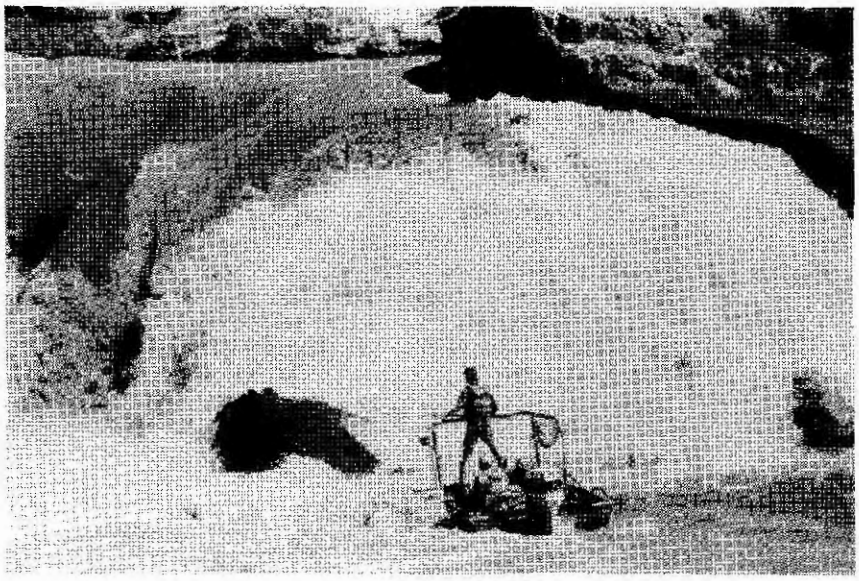
The humpback chub actually likes hanging out in rapids--sound familiar? And the voracious Colorado squawfish once reigned as the top predator in the Colorado River system. This torpedo-shaped hunter has been known to eat mice, birds, even prairie dogs. Historically, squawfish reach weights of 50-80 pounds, lengths of 6 feet, and lived to be 70 years or older. Because of its long spawning runs, the squawfish was dubbed the white salmon or Colorado salmon by early settlers, and we valued as "good eating" and a sport-fish.

We lose more than just fish if we let them go extinct. Their decline is an early warning, that something is wrong, that the delicate balance between the river, and the land, plant and animals, is upset. We're deluding ourselves when we forget that we, as human beings, are just one part of a dynamic, inter-connected system. As many of us have long suspected, the entire ecosystem of the Colorado River Basin has been so drastically altered that the health and survival of many other native species is now at risk.

The water development interests of the Colorado Basin are fighting critical habitat designations tooth and nail, and have even threatened to sue. Once a stretch of river is identified as critical habitat, the needs of the fish must be protected when any new dam, diversion, or other project requiring federal involvement is proposed.

In addition, the "re-operation" of several existing dams is being considered, so as to mimic pre-dam flows that the fish need for spawning. The absence of high spring runoffs to flood back-waters, clean out debris, and flush in nutrient has eliminated good spawning conditions and food sources. Dams block migration routes and alter temperature and sediment loads. Introduced, non-native fish often compete and prey on the young fish.

Water for fish in the arid and rapidly growing Southwest is highly controversial. The FWS held several public



Fish Biologists at Paiute Falls
photo by Gene Stevenson

hearings around the region in late November and early December. A handful of river guides attended the hearing in Farmington, New Mexico, where most of the speakers were highly hostile to the idea of critical habitat. In a room full of water developers, a couple of us mustered the courage to stand up for the fish.

The issues are complicated, and the competing interests are polarized, to say the least. For example, the re-operation of dams might mean diminished hydro-electric capacity, or less water for irrigation, municipal and industrial uses. Most of us live with electricity; we also eat food grown with Colorado River water, and drink water coming out of the system somewhere. Those opposed to critical habitat for fish would have us believe that we're all going to go broke, freeze, starve and die of thirst in the dark.

Progress on these same kinds of issues regarding the Glen Canyon Dam and the Grand Canyon Protection Act is proof that people can come together and figure our new, creative approaches to water management.

FWS needs to hear from the river community. Ultimately, water for fish also means water flowing downstream in the river where it belongs, something I think we can all support. If we can save these endangered fish, we may be saving the Colorado River ecosystem for humans and other living things.

WRITE A LETTER TODAY

* Urge the FWS to designate as much critical habitat for endangered fish as possible.

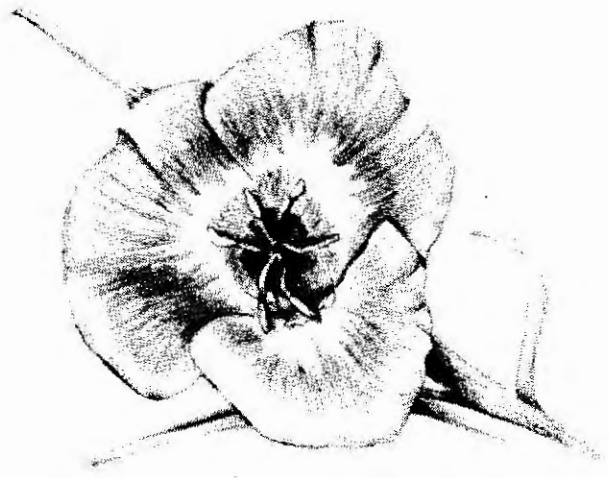
* Encourage FWS to stand firm in their proposed designations. It's important that they minimize the exclusion process" whereby critical habitat can be excluded due to economic factors.

*The dams and reservoirs are not going to go away. But with more efficient and effective management at existing facilities we can balance the health of the river with our economic endeavors.

*Often the most valuable letters are those that present a different perespective or that provide new information. That is why I highly recommend actually reading the Draft Documents and how much information they will lack. To get a copy or to write a letter, the address is:

U.S. Fish and Wildlife Service
2060 Administration Building
1745 West 1700 South
Salt Lake City, Utah 84104-5110
(801) 975-3630

The deadline for comments was January 15, 1994, but they were considering extending the comment period, so write anyway ASAP.



Quote

"For there are some people who can live without wild things about them and the earth beneath their feet and some who cannot."

Louise Dickenson Rich

The 1921 Survey of Cataract Canyon

by John Weisheit

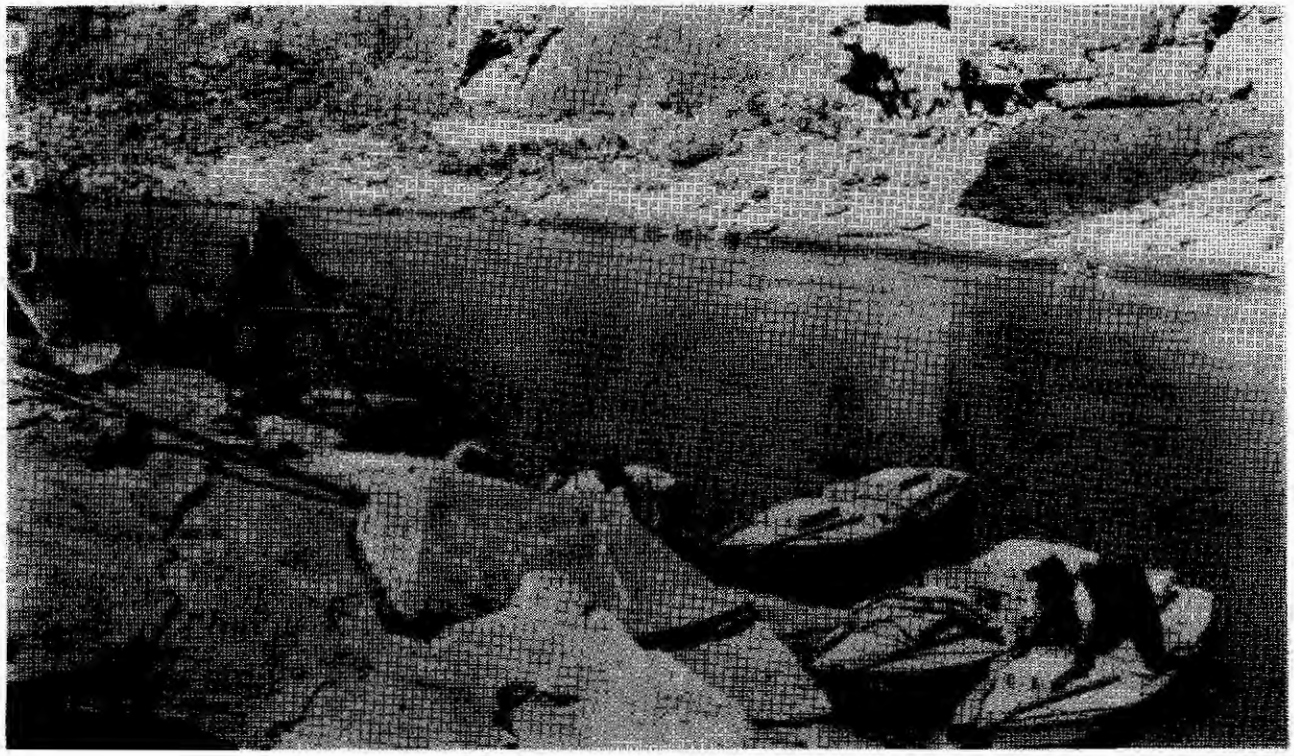
Background

During the early 1920's, parts of the Colorado River system were surveyed by the United States Geological Survey (USGS). These surveys developed for two reasons: 1) Congress passed the Federal Power Act in 1920; 2) the city of Los Angeles and Southern California Edison Company filed applications with the Federal Power Commission for six dam sites on the Colorado River. The sites included Bull's Head Rock, Pyramid Canyon, Old Callville, Boulder Canyon, Grand Wash, and Lees Ferry.

The chief topographer for the dam surveys was Claude H. Birdseye. The chief hydrologist was Eugene C. LaRue, an employee of the United States Reclamation Service, which was originally a department of the USGS and is now known as the Bureau of Reclamation. The first surveys were proposed above the Lees Ferry Dam Site, and targeted the contour line at 3,900 feet above sea level (asl). The first assignment, which occurred in June and July of 1920, ran a line from Flagstaff, Arizona, to Lees Ferry, Arizona. Forthcoming river surveys would soon correlate with that bench marker. The lower section of Glen Canyon was surveyed by a Mr. Fowler. For instrumentation, Fowler's team used a system called the Yoekel Precise Level. At first, Fowler's team used boats with outboard motors; however, due to the silt concentration of the river (15%), they found this form of propulsion unreliable and converted to motorized paddle wheels. The San Juan River survey was headed by Kelly W. Trimble and started in July of 1921, from Bluff, Utah. The Cataract Canyon survey started in September of 1921, from Green River, Utah, and was headed by William R. Chenoweth. For instrumentation, Trimble and Chenoweth used the plane table and alidade (see photo), making it possible to create a map on-the-spot. By October, all three surveys met in parts of Glen Canyon and eventually tied in with the established benchmark at Lees Ferry.

Cataract Canyon Survey

The survey in Cataract Canyon consisted of the following individuals: William R. Chenoweth, topographical engineer; Sidney Paige, geologist; E.C. LaRue, chief hydraulic engineer; Leigh Lint, rodman; Harry Tasker, rodman; Frank Stoudt, recorder; John Clogston, chef; Ellsworth Kolb, lead boatman; Emery Kolb, photographer; Henry Rauch, photographic assistant. The survey through Cataract Canyon was a joint effort with Southern California Edison. The boats were appropriately named *Edison, L.A.,* and *Static*. The *Static* had a mounted transom



Chenowith with plane table and alidade
Photograph by E. C. Larue

Possibly at 30 Mile Dam Site
Coutesy of U.S.G.S., Denver

for an outboard motor to assist its progress across the flat water to The Confluence. This motor was quite possibly the first outboard motor used through Stillwater and Labyrinth canyons. A tethered line was used to tow the other boats. Later, Chenoweth decided that tying the rafts togetherer side-by-side was more practical (as practiced by modern boatmen in similar situations). Emery Kolb and Henry Rauch actually participated on this expedition as "free-lance photographers". They were essentially guided by their own agenda, especially before entering Cataract Canyon. Emery used the *"Edith,"* which was the boat he piloted in 1911 through the canyons of the Colorado Plateau.

1921 was an interesting year to survey the canyon, as the Colorado River peaked at its highest flow thus far for the 20th century. A modified report placed the discharge at Lees Ferry on June 18, 1921, at 220,000 cfs. However, when the Cataract Canyon survey reached The Confluence on September 6, 1921, the Colorado River flowed at a tame 8,320 cfs. Trip photography shows incredibly high beach dunes and driftwood piles.



Two possible dam sites in Cataract Canyon were determined by LaRue during the course of the survey. Interestingly, he did not find a suitable site until the Colorado River left the Paradox Basin. The Basin is a geological sub-province with a Pennsylvanian stratigraphy of sea water evaporates (anhydrates). The dam sites were called Mille Crag Bend and 30 Mile (30 miles below The Confluence), otherwise known as Dark Canyon. On a previous expedition (1914), LaRue investigated a dam site 1/2 mile below The Confluence, which he called the Junction site. A floating steam-powered drill rig was used to determine the thickness of the river sediments to bedrock. Flood waters forced abandonment of the drilling procedure which attained a depth of 124 feet without reaching bedrock. The low water elevation of the river at The Confluence is 3,880 feet asl.

For Cataract Canyon the survey logged 39 miles from The Confluence to Mille Crag Bend with a total of 49 rapids which where titled by number, and an average gradient drop of 11 feet per mile. Rapid #45, formed by debris flows from Dark Canyon, had a measured section with the greatest gradient drop of any rapid on the Colorado River within the Colorado Plateau. Rapid #45 is now 186 feet below Lake Powell's high pool elevation of 3,700 feet asl. It was at Rapid #45 that lead boatman, Ellsworth Kolb, ran a boat between rocks, resulting in a two-day delay. LaRue reported that Rapid #47 was formed by bedrock rather than by debris flow.

Conclusion

Other USGS river surveys were completed in subsequent years. They include the 1922 Green River survey from Green River, Wyoming, to Green River, Utah, headed again by Kelly Trimble with Bert Loper as lead boatman. Loper was also with LaRue during the 1914 Junction dam site testing. The Grand Canyon was surveyed in 1923 by Claude Birdseye with Emery Kolb as lead boatman. LaRue was also on the Grand Canyon trip. Ironically, Hoover Dam (Black Canyon site) near Las Vegas, Nevada, was chosen as the first arch gravity dam on the Colorado River. Glen Canyon Dam was constructed 15 miles rather than 4 or 8.5 miles above Lees Ferry as recommended by LaRue. Dams were constructed at neither of the Cataract sites, which was fortunate for the town of Moab, since the impounded waters would have flooded the community. I think that Harry Tasker, rodman for the Cataract Canyon survey, summed up the experience well: "Some come here to see the work of God, but I come here to hold a rod."

From Canyonlands Field Institute

by Rebecca Martin

Canyonlands Field Institute (CFI), in Moab, has a number of 1994 course offerings specifically designed for professional guides. These include a variety of Safety and Medical certification courses, different levels of River Rescue training and Multi-Agency Guide Training options in addition to our regularly scheduled courses covering topics pertinent to programs on the Colorado Plateau. CFI is currently placing an emphasis on training options designed to reach "influencers," e.g., professional guides, trainers, and educational personnel, who are in positions to each the increasing numbers of visitors who are visiting the Colorado Plateau. To help make this training available, scholarships are being offered for most guide training courses.

Coming up are, among other options, a Wilderness EMT course at Professor Valley Field Camp in March, the newly emerging Colorado Plateau Guide Institute's Field School in April and an Endangered Fish Recovery Workshop in May. For further information on CFI's Guide Training Courses, please contact: CFI, Attn: Rebecca Martin, Box 68, Moab, UT 84532. 1-800-860-5262 or FAX: (801) 259-2335.

ISSUES/TOPICS/SUGGESTIONS

Here's what concerned our members at the first meeting.

ALL RIVERS

Dam proposals
Endangered and reintroduced species
Toilets and human waste
Air traffic over the rivers
Guide health insurance
Licensing and testing
CPRG information flyers
River Etiquette

CATARACT CANYON

Camp Sign in box
Overcrowded lake camps

HORSETHEIF AND RUBY CANYONS

Motor restrictions

MOAB DAILY

Motor restrictions - BLM take out to Potash

WESTWATER CANYON

Take out
1994 permit changes
Wild and scenic status
Fence out cows

DOLORES RIVER

Seasonal water releases

GREEN RIVER - ALL CANYONS

Flaming Gorge Dam water releases
Impacts and traffic

LABRYNITH AND STILLWATER CANYONS

Motor restrictions
Canoe impact

Write to let us know what you think.

We need articles, art work, poetry, or comments from you!

SPRING MEETING APRIL 9 & 10
DETAILS FORTHCOMING

NEWS/INFORMATION/MEMBERS

Westwater News

We need volunteers for fence building in Westwater please contact CPRG!

Public Information

For a copy of Operation of Glen Canyon Dam Draft Environmental Impact Statement
Write to/Bureau of Reclamation; Colorado River Studies; POB 11568, SLC, UT 84147
Specify summary or draft with appendices.
Send comments to Colorado River Studies;
Lee McQuivey, POB 11568, SLC, UT 84147
(801) 524-5479

For McPhee Dam Operations Contact:
Bureau of Reclamation/Dan Fritz
(303) 385-6500

For Animas/La Plata Dam Operation Projects Contact:
Taxpayers for the Animas River
Mike Black/(303) 385-4118

Four Corners Action Coalition
Mr. Jerry Swingle/(303) 247-5797

Recovery Program for Endangered Fish in the Upper Colorado River Basin
Contact: Colorado Division of Wildlife
Connie Young/Public Info. Coordinator
Colorado Division of Wildlife
6060 Broadway, Denver, CO 80216
(303) 291 7468

Founding Members

Nancy Allemand, Bego, Bill Bishop, Sean Brown, Bill Bruchak, James Buickerood, Jake Burnett, CFI, CNHA, Doug Capelin, Dave Christensen, Tim Cooper, Susette DeCoster, Shannon Demuth, Daniel Dierker, Brad Dimock, Adam Druckman, Penny Elder, Joe Englebrecht, Walter Hajduk Garry Heinze, Dee Holliday, Marvin Jensen, Nathan Jones, Bert Jones, James Knipmeyer, Jaque Ledbetter, Tom Ledbetter, Gary Lockrow, William Love, Steve Lyons, Peter Lawson, Dave MacKay, Dave May, John Martin, Rebecca Martin, Kelly Matheson, Terri Merz, Tom Moody, Mary Moran, Nels Niemi, Don Oblak, Andre Potochinik, Clifford Rayl, Tom Rice, Lynn Roeder, Christa Sadler Steve Savage, Rachael Schimdt, Norm Shrewsbury, Keith Sleight, Karen Smith, Gene Stevenson Lew Stieger, David Stratton, Zane Taylor, Tim Thomas, Peter Van De Carr, Karla VanderZander, Jene K. Vredevoogd, Robert Webb, Roy Webb, John Weisheit, Tim Whitney, Tamara Wiggans, Red Wolfe

(Licensing continued from page 7)

10) Permit number (applicable only to state and federally permitted waters). Note: Permit number must be the number issued by a governmental land management agency. If the permit was for commercial carry of passengers, the guide may list the commercial outfitting company's name in lieu of a permit number.
11) Put-in and take-out dates must be listed by month/day/year.
12) Type and size of vessel operated.
13) Trip leader's name.

River guide permit applications and study guides of the Utah Boating Act may be obtained at any testing and permitting center. Applications and study guides will be mailed upon request. Numerous first aid and emergency medical training programs are recognized by State Parks as equivalent to American Red Cross training standards. A listing of these course equivalents is available upon request.

Guides and outfitters seeking further information regarding commercial river guiding activities or the Utah Boating Act are encouraged to contact State Parks at either of the following offices:

Utah Division of Parks and Recreation
Southeast Region Office
89 East Center Street
Moab, Utah 84532
(801) 259-8151
Contact: Tony White

Utah Division of Parks and Recreation
Main Office
1636 West North Temple
Salt Lake City, Utah 84116
(801) 538-7220
Contact: Ted Woolley

(Navajo continued from page 9)

of hogan-like structures in a narrow strip along the Colorado-New Mexico border have yielded radiocarbon dates from the mid AD 1400's, but many archaeologists doubt the validity of these new early dates as truly representing a Navajo occupation. Navajo often used wood they had found laying around or wood out of preexisting structures to build their own structures.

Conclusion

Trying to figure Navajo origins is difficult and perhaps may never be fully understood. The culture history of the Southwest results from a complex series interactions between various groups. The Navajo culture we know today developed from an interaction of Athabascan speakers with several cultural groups as they migrated south. These groups include Plains bison-hunters, Pueblo farmers, and later the Spanish missionaries and settlers. This process, by late 17th century, had led to a well-defined Navajo culture based on hunting and agriculture. The Navajos are a very adaptable people who have borrowed and enculturated that which has been useful to them and discarded those characteristics that were not useful. Early Navajos and Utes often incorporated Pueblo artifacts for their own use which clouds the archaeological record.

CPRG LOGO CONTEST

You decide the theme for the CPRG logo. Let your art work grace the cover of *The Confluence* and all CPRG correspondence. Drawing must be 2 inches wide and 3 inches long.

COLORADO PLATEAU RIVER GUIDES
P.O. Box 344, Moab, UT 84532

Membership

Name/Organization

Nickname

Company/Freelancer

Winter Address

City State Zip

Winter Phone Summer Phone

Phone: (801) 259-8077

Application

Years Experience/Comments/Interests

Are you joining as a...
( ) **Guide Member** (Must have worked in the River Industry)
( ) **General Member** (Must love the Colorado Plateau)

Please send annual dues of $20 to the above address. Thank you for your support!

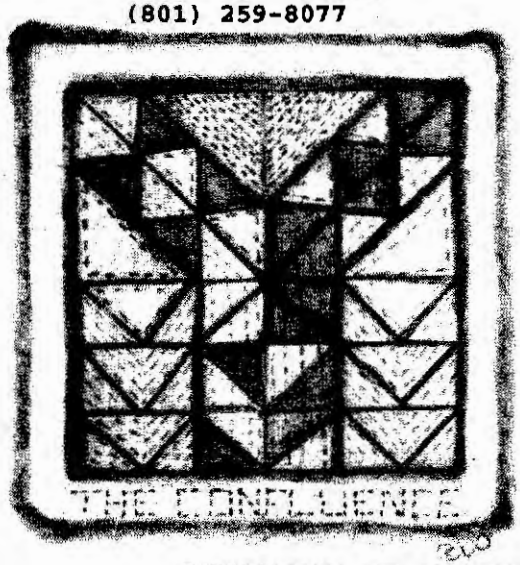
Professional Guide Training Options for the 1994 Season

by Rebecca Martin

Some of you will have heard that we intended to publicize Guide Training Options for the coming season in this first issue of *The Confluence*. Well we received so many options, they weren't even manageable using a chart. (This is good!) Below, then, is the logical "Plan B": a listing of training source contacts where you may call/write to get specific information. Sorry you have to do further footwork, but believe me, there's a lot of great stuff out there in the offering! Call them!

Canyonlands Field Institute P.O. Box 68 Moab, UT 84532 *Safety/Medical Certifications Call (800) 860-5262 *Swiftwater Rescue *Colorado Plateau Topics Call (801) 259-7750 or FAX (801) 259-2335	**Salt River Rafting** Attn: Robert Bond 7111 East First Street Scottsdale, AZ 85251 *Safety/Medical Certifications (602) 941-4222
Four Corners School East Route P.O. Box 1029 Monticello, UT 84535 *Safety/Medical Certifications *Colorado Plateau Topics Office (801) 587-2156 Basecamp (801) 587-2859	**Wilderness Medicine Institute** P.O. Box 9 300 10th Street Pitkin, CO 81241 *Safety/MedicalC ertifications *Many locations *Many dates (303) 641-3572
George Marsik P.O. Box 686 Flagstaff, AZ 86002 *Safety/Medical Certifications 1-800-2PADDLE	**Wilderness Professional Training** P.O. Box 759 Crested Butte, CO 81224 *Safety/Medical Certifications *Many locations *Many dates 1-800-258-0838 (303) 349-5939 FAX (303) 349-1049

From: COLORADO PLATEAU RIVER GUIDES
P.O. Box 344
Moab, UT 84532
(801) 259-8077



FORWARDING AND RETURN POSTAGE GUARANTEED/ADDRESS CORRECTION REQUESTED

The Confluence

The Journal of Colorado Plateau River Guides
Volume 1, Number 2 Spring 1994



Steve Arrowsmith
The Best Expedition
Soil Crusts
Animas - La Plata Project
Dolores River
SUWA
The Prez Says
From the Eddy
Inscriptions
Clay Hills
RIP
Fish Recovery

A Tribute to Steve Arrowsmith

by Tim Thomas and Friends

For Steve, it all started with a Grand Canyon trip.... a gangly fourteen year-old asthmatic kid from West Virginia, seeing the West and the Colorado River for the first time. The river worked it's magic and Steve returned West to live and start a guiding career with the American River Touring Association (ARTA) in California. A quick study, Steve picked up on the more important, yet subtle aspects of river running; how not to burn dutch oven desserts, bring your guitar whenever possible, sleep late if you could, don't be indecisive in a Class V rapid, and a love for that which gives much to your life and asks nothing in return.

While in college at the University of Colorado, Steve became more involved with river conservation issues. Being quite articulate, he used his knowledge and love of rivers to impassion others towards the river's plight. After graduation, Steve started his own commercial river rafting business and named it Humpback Chub River Tours, operating from "Granny's Attic" in Dolores, Colorado. The name, Humpback Chub (an endangered fish), itself is a testament to Steve's concern for the river and it's inhabitants. In retrospect, it seems fitting that the particular river Steve choose to base his company on was the Rio de Dolores, or The River of Sorrows.

After numerous low water years in the late 80's (post McPhee Dam), Steve moved to Moab, Utah, where he could also run commercial raft trips on the Colorado and San Juan Rivers. Humpback Chub offered some of the lowest priced commercial river trips available to environmental organizations and concerns, as well as special populations and individuals who otherwise would have been unable to afford a raft trip. This was Steve's way of sharing the river experience and simultaneously encouraging others to protect this unique natural resource. (Which is also how Steve could range from talking about pancakes to river politics in the same breath.)

In 1992, Steve decided to sell Humpback Chub's operation to Canyonlands Field Institute, an organization he believed to share his concerns about educating others on environmental issues. Steve's decision was based largely on his continuing struggle with asthma, which constantly hampered his abilities to accomplish the goals he had set for himself. A malady since childhood, Steve's asthma eventually killed him in June of 1992. Steve's death revealed much about his personal wealth, which while alive he continually down-played. Namely that he left numerous, generous bequests to environmental and social advocacy groups, in addition to helping fund such ventures as Operation Nighthawk (aerial watchdog group) and the Valdez Principals. In light of his untimely death, at the age of 30, those of us fortunate enough to have known Steve are amazed at this man who accomplished so much and touched so many in his own quiet and unassuming way. Steve... you'll always be in our hearts... and we'll all be down the river.

The Confluence

...is published quarterly by and for Colorado Plateau River Guides. Help us grow. Join the membership today!

Colorado Plateau River Guides is a non-profit organization dedicated to:

* Protecting the rivers of the Colorado Plateau.
* Setting the highest standards for the river profession.
* Providing the best possible river experience.

Guide Membership is open to anyone who has worked in the river industry.

General Membership is open to everybody.

Membership dues:

$20 per year.
$100 for 6 years.
$195 for life.
$295 Benefactor.

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Susette DeCoster-Weisheit
Vice President	Tim Thomas
Secretary/Treasurer	John Weisheit

Directors

Bluff	Tom Rice
Green River	Serena Supplee
Moab	Rebecca Martin
Vernal	Penny Elder

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077

We need articles, artwork, poetry, stories, and opinions. If you use a computer, please send text for an IBM PC with WP 5.1 on a 5 1/4" floppy.

From the Eddy

by John Weisheit

The comment period for the Draft EIS on the operation of Glen Canyon Dam ended April 11. Personally, I felt extremely frustrated when composing my letter of opinion. Mostly because my personal desire is to have Glen Canyon Dam removed and yet I am fully cognizant that such an aspiration is quixotic. Or is it? Glen Canyon Dam has a life expectancy and will be decommissioned someday anyway. Silt aggradation or structural failure, whichever comes first, will force us to face the eventuality. The GDC EIS will serve to reform Western water policy. How far will the reform go? When the day comes for a decommissioned Glen Canyon Dam, will we as a society be ready? Will we have new technologies implemented to provide electricity, water, and food? In my view, the dam is already dead. Might as well start now. Free the gates!

In the meantime, the immediate reality is this: A huge political soup kitchen with a constituency that spreads from the Grand Ditch to Laguna Salada. The menu for today's special reads a Modified Low Fluctuating Flow with scheduled high water releases to build beaches and improve fish breeding habitats. Okay, but what's on the dessert tray? I hope to see the reality of an endangered fish recovery program that gives criterion to the relatively intact habitat above Glen Canyon Dam. I don't want the height of the spillway gates at Glen Canyon Dam increased to submerge yet more riparian habitat in Cataract Canyon, the San Juan River, and all the small tributary streams within Glen Canyon National Recreation Area. I also hope that the momentum has started for a scientific study of the entire basin's ecosystem at reasonable costs with minimal impacts. And please - no more water projects - I find my thirst is quenched!

Special Thanks

As you all know the "sour dough" November meeting of Grand Canyon River Guides fermented into a baked Colorado Plateau River Guides loaf. Some other things were cooking that day, master nutritionists Sarah Martin and Dennis Silva.

Apologies

When we went to press for the first issue, we tabled an article about the new boat ramp at Clay Hills Crossing on the San Juan River written by Bill Bishop. Unfortunately, the article did not appear in the text. This was a computer glitch we did not observe until it was too late. Bill, we're very sorry! The article appears in this issue.

Bill has a wonderful collection of Desert Magazine, with wonderful articles about the Colorado Plateau that are now true classics of river running history. Bill is gracious enough to make copies of articles to help river historians with their research. Contact CPRG.

The Prez Says

by Susette DeCoster-Weisheit

Welcome to summer! The other day, as I was rowing the last few miles of Westwater Canyon against the wind, I looked around and realized that spring was fast-fading to brown here in the canyons. I also realized that the next issue of The Confluence was still strewn along the stairs in our house -- unfinished. So with a day-off and laundry in the wash, I have set down once again to update you on the turn-of-events at CPRG.

A big thanks goes out to Tex's Riverways and The "Three D's" for hosting our Spring Meeting on April 9 in their warehouse. Due to the efforts of our Vice President, Secretary/Treasurer, and 19 members the meeting was a success. Although I was on the river and unable to attend the meeting, I got a full update and would like to pass some details on to you.

Jośe Tajade, from Sheri Griffith River Expeditions, spoke regarding Workman's Compensation (WC) and needed reforms. Utah guides are among the highest use percentage for WC withholdings. Compared to Arizona Grand Canyon Guides at 6% our Utah 20% seems outrageous.

How can we change rates? According to a WC representative speaker at the Utah Guides and Outfitters meeting this spring, we can only hope to bring rates down if the incidents are reduced. What can guides do to help? Safety. Most injuries occur during rigging and de-rigging. Ask for help in lifting (food coolers, water coolers, motors, etc.). It is not a question of if you can lift something alone; but, rather a question of should you lift it alone. Much of the equipment is large and awkward. Watch for abuse and be willing to remind your fellow guides they need to take care. Talk with your employer about offering incentive programs; fewer injuries bring higher returns and less equipment damage.

It was suggested that incident reduction is only part of the problem and that fraudulent claims are also a contributor. What can be done about fraudulent claims? Outfitters may be the key in the reduction of fraud. After medical approval, outfitters can by law request the claimer return to work and perform suitable light duty work. This in turn reduces the time the injured party draws against WC and reduces the possibility that someone can take a paid vacation at the expense of the guides paycheck and outfitters profits.

Jeanne Treadway of Canyonlands Natural History Association (CNHA) attended to present CPRG with a proposal for non-profit status. CNHA is a non-profit organization and they have established a non-profit "umbrella" called the "Canyon Country Volunteers". They have offered to accept CPRG under that umbrella. This would allow CPRG non-profit status as well as some use of CNHA's office equipment and personnel. Why? Because our missions set out to achieve cohesive goals. What do they want in return? Cooperation in achieving our missions. What do we give them? Our book work. They will maintain our accounting with a yearly audit and we gain the security that we will not be responsible for a tax error. Sounds to easy? Well, CNHA has been and continues to be a key force in the protection of the canyons and as a non-profit organization they divert any profits to the lands and river ways they are trying to protect by means of direct funding and through education. CNHA views CPRG as possible means in achieving such goals.

Westwater Ranger Station underwent some changes. The gravel pit operation is gone. Skip is gone and will be sorely missed; however, he can be found not so far away in Desolation Canyon. We are now greeted by Alvin, Chad (returning), and Chuck -- welcome. You may see Doreen in Westwater, she is busy doing wildlife sightings and monitors. There is a bald eagle nesting at Mee Canyon, a Golden at miners cabin and another bald 2 miles below the Ranger station. River otters were introduced once again on the Gunnison River and once again they're moving downstream. If you see something interesting, help Doreen out by writing down the information: the what, where, when, and drop it off at the ranger station on your next trip.

Westwater is getting some much needed attention this year. The miner that bulldozed into the miner's cabin area last year is in trouble. His bulldozing violated four different ecological acts so most hope we have seen the last of him and his destruction. The new ramp at Cisco take-out is making life easier for guides and private boaters alike. Westwater is being considered once again for Wild and Scenic designation; however, it is going to take some letters from us guides and from our guests as well to get things underway. Check out the "Friends of Westwater" for a one day/next day patrol and clean up. No permit needed. Contact CNHA or CPRG.

Other business included a motion that CPRG remain a "river guides" organization which was seconded and passed. Also put to the floor was a motion to accept the by-laws with noted changes.

I hope you enjoy this issue as much as I have and I look forward to hearing your comments. We need articles, art work, and ideas for the next issue please help us out if you can. Have a great summer and see you on the river.



Clay Hills Crossing Boat Ramp. Photo courtesy of Linda Richmond.

Clay Hills Takeout

by Bill Bishop

GOOD NEWS: Recent telephone conversations with Vic Knox, Chief of Professional Planning Services, and Ken McMullen, Environmental Specialist for Glen Canyon National Recreation Area indicate that all permits and approvals have been obtained and funding has been secured for the improvements to the river takeout at Clay Hills. It will take about three days to complete the project and it is anticipated that all work will be completed before March 1, 1994.

The existing access road will be widened to 25 feet and two 18 inch culverts will be installed in the slough. The takeout ramp will be expanded to approximately 130 feet wide by 90 feet deep - almost doubling the river access and increasing the cleared area four fold. The silt bank at the river will be leveled and the area graded to attain a 5:1 slope for the entire ramp. The ramp and access road will be covered with filter fabric and then three inches of gravel.

An open-air, port-a-potty will also be provided. NPS is going to construct the slab and privacy enclosure; the commercial outfitters will supply the toilet and supplies. A sign discussing takeout etiquette will be erected.

No improvements to the county road or parking area are proposed at this time. River runners will still need to pack out all trash and human waste as no receptacles will be provided.

Ironically, the last permit to be obtained was from the Army Corps of Engineers. Section 10 of the Rivers and Harbors Act of 1899 requires a permit for the deposition of fill into navigable waterways. It seems ironic that the agency responsible for so many boondoggle water projects throughout the west was concerned because a little dirt could accidentally get pushed into the river.

Animas-La Plata Water Project Threatens Animas and San Juan Rivers

by Tamara Wiggans

Running the maze of Southwestern water politics gets tedious and I'd much rather just be out running the river. But running the river has become a threatened and endangered activity, especially the Animas River near Durango, Colorado and the San Juan River in southeastern Utah.

The threat comes in the form of yet another major water development scheme known as the Animas-La Plata Project (A-LP). This project would reduce the Animas River to a mere trickle, rendering rafting impossible. And as the main, free-flowing tributary to the San Juan River, Animas water is often the only thing keeping boating (and fish) alive on the San Juan. Flows are already depleted by irrigation via Navajo Dam and Reservoir upstream of the Animas and San Juan confluence. In dry years, the Animas is literally a life-safer to the San Juan.

Rafting and kayaking on the Animas is now estimated to be an annual 3 million dollar business in Durango. 1993 Bureau of Land Management figures show that last year approximately 12,000 people floated down the San Juan, famous for its Anasazi archaeology and scenic "Goosenecks" canyon. These popular and unique stretches of river will be lost to boaters, and as important habitat for endangered fish - if A-LP is ever built.

The proposed project is a complicated and extraordinarily expensive series of pumps, pipelines and reservoirs. Massive amounts of electricity would power the pumps, taking water out of the Animas River, pushing it over a thousand feet uphill, into Ridges Basin Reservoir and points beyond, ultimately ending up in the La Plata River drainage to the west.

The Bureau of Reclamation desperately wants to build A-LP, probably its last big project ever. The price tag alone is an astounding -- $675 million -- and the return is estimated to be 62 cents for every $1 invested, making A-LP a real boondoggle. The Bureau doesn't have a real good track record of staying within its budget. A-LP will likely follow in the footsteps of the nearby Dolores Project, which at 79% completion was 750% over budget, hiking A-LP's possible price tag up to $5 billion!

Glaring omissions in the Bureau's 12-year-old Environmental Impact Statement have provided opponents with plenty of ammunition, with which they've gone to court and repeatedly won. After a feeble attempt in 1992 at updating the 1980 EIS, the Bureau was hammered by negative public comments, including substantial criticism from the Environmental Protection Agency for ignoring the Clean Water Act.

In addition, U. S. Fish and Wildlife Service researchers have been finding endangered Colorado Squawfish is the San Juan. The Bureau has now been forced into funding a 7-year study of the fish and their habitat needs (See "What is a R.I.P?", in this issue). The Bureau still hopes to re-revise the EIS soon, which could be challenged again in courts by opponents.

All of these complications would have killed any other project in these days of money problems and increased environmental awareness. But A-LP has two things going for it:

1. The main motivation for building A-LP is to satisfy water rights of the Southern Ute and Ute Mountain Ute Tribes. By providing the Utes with water to develop their large coal reserves and agricultural lands, A-LP will take care of the tribal water claims that might otherwise threaten Anglo farmers and water users. The popular U.S. Senator Ben Nighthorse Campbell of Colorado is a long-time supported of A-LP and makes his home in Ignacio, center of the Southern Ute Reservation. Campbell is Northern Cheyenne, and angrily accuses opponents of A-LP as being anti-Native American.

2. Frank E. (Sam) Maynes, Durango's aggressive and legendary water attorney, has held the A-LP together despite repeated setbacks. His Durango law firm represents the Southwestern Water Conservancy District, the A-LP Water Conservancy District, five other sub-districts, the Southern Ute Tribe, La Plata Electric, and at times, Pittsburgh and Midway Coal Co. Intimidating, enormously influential, and a mastermind in the game of water politics, Maynes' tenacious leadership has kept the project afloat since 1968 when it was first authorized by Congress.

THE GOOD NEWS is that support for A-LP is eroding, and that opposition to the project is gaining momentum. Many Southern Utes have joined farmers, boaters, fiscal conservatives, and environmentalists in fighting A-LP, creating a diverse and determined force to be reckoned with.

Soaring costs and federal deficit have forced A-LP backers to split the project into two phases. Phase II, which would now receive no federal funding, is the phase that would build pipelines, pumps, and ponds to deliver the water to the Utes. So while the tribes would be given water in the Phase I reservoir, they would have no means to utilize it.

The City of Durango is looking at less-expensive alternatives to A-LP to satisfy their growing needs. The tangled financial mess plaguing farmers on the Dolores Project, as well as the CUP (Central Utah Project) and CAP (Central Arizona Project) has agricultural interests running scared. Many farmers along the Animas River in southern Colorado and northern New Mexico are members of the Four Corners Action Coalition (FCAC), who represented in court

(continued on page 16)



The Best Expedition of 1891

by John Weisheit

Many of you have read David Lavender's book River Runners of the Grand Canyon. In the pictorial section there is a wonderful photo of Harry McDonald taken in 1891 by the photographer of the Best Expedition, James McCormick. That image was taken on the right side of Rapid #15 in Cataract Canyon. It is an interesting story to tell and one I would like to share, courtesy of the Marston Collection at the Huntington Library, San Marino, California.

Beginnings

The Best Expedition of 1891 was a dream conceived by a placer gold miner, Harry McDonald. McDonald, as many such miners of the 1880's did, learned to handle a river boat through necessity. His first recorded trip on the Colorado River occurred in 1887 when he floated a skiff from Grand Junction, Colorado, to Westwater Creek in eastern Utah. McDonald would build a small cabin on the right side of the Colorado River near the mouth of a side canyon 2 1/2 miles above the Utah/Colorado border. Today, that side canyon is called McDonald Creek. McDonald's placer trade eventually took him to the gravel bars of the Colorado River in upper Glen Canyon. There, in 1889, McDonald met Frank M. Brown and Robert B. Stanton, overseeing a boating expedition to survey the Colorado River canyons for a railroad route. McDonald joined that ill-fated river trip, which eventually included the drowning deaths of Brown and two crew members in Marble Canyon, and where Stanton abandoned the expedition by hiking out. Stanton would reorganize that expedition in the same year and made McDonald his lead boatman. While on that expedition, just below the confluence with the Little Colorado River, McDonald noticed a potential mining enterprise in the Cardenas Lava, a geological formation of the Unkar Group that is over one billion years old. For reasons that still remain vague, McDonald left the expedition by foot at Crystal Creek and in the dead-of-winter, completed the amazing feat of traversing the Kaibab Plateau to the then nearest town, Kanab, Utah.

Enter James D. Best

McDonald soon found himself in the financial center of the Intermountain West, Denver, with a plan that needed a willing capitalist. With some persuasion James D. Best, a principal of a real estate brokerage firm called McKnight, Best, and Company, became the lead financier of a river expedition to investigate the mining potential of Colorado River canyons. A company was formally organized by four directors, by-laws submitted, and stocks issued. The name of the company was: Denver, Colorado Cañon Mining and Improvement Company.

The expedition members, other than Best and McDonald were: John Hislop, boatman and engineer; Elmer Kane, boatman; William Hiram Edwards, boatman; Luther Jewell, boatman; John Jacobs, boatman; and J. A. McCormick, photographer.

Boat Craft

Two boats were ordered from the Douglas Boat Factory in Waukegan, Illinois. They were identical to the boats used by Stanton during his second expedition. To successfully operate the two boats, six boatmen were required (three per boat). Sitting with their backs to the downstream current, were the bow and stroke positions, where each man worked two 10 foot oars. Standing in the aft position was the steersman with a single 12 foot oar. The concept was to have the bow and stroke positions pulling hard with their oars to give the boat "speed". The steersman would then use his oar as a rudder giving the craft direction.

The boats had a carrying capacity of 2100 lbs., were 22 feet in length, 4 1/2 feet in width (beam), and 32 inches deep; constructed of oak planks, 3/4 inch thick for ribs, 1/2 inch thick for gunwales; were round-bottomed with a steel-plated keel; 10 watertight compartments were lined in galvanized steel with a total storage capacity of 144 cubic feet. When empty, each boat weighed 800 lbs. and cost $1000.

Underway to Disaster

The trip launched from the railroad town of Blake (Green River), Utah, and was to exit at the railroad town of Needles, California. They launched on the 10th of July, 1891, and reached The Confluence on July 20th, where they made camp at the head of the first rapid in Cataract Canyon. Trip photography indicates a water flow of about 15,000 cfs. On the 21st, at about 3:00 in the afternoon, the party arrived at what is now known as Mile Long Rapid, or Rapids #13 to #18. The men pulled ashore to assess the danger of this boulder-choked course. The decision was made to run the boats through with crew gear.

The following is the testimony of a crew member, William Hiram Edwards: "The first boat pulled out into the current and the two oarsman pull hard as the boat must go faster than the water in order to get steerage way. All goes well until they get about half way down the rapid when they get too close to a big whirlpool near the right shore which catches the boat and whips it around into an eddy and they pull ashore. We follow with our boat and when we see them on shore suppose they have discovered something wrong with the lower part of the rapid and try to follow them but find the current so strong we cannot make it. In trying to turn we lose steerage way and the boat turns about but with the help of the steersman's oar we back water and slip between two big boulders, landing about 100 yards below the first boat at the head of the last fall in the rapid [a successful run of Rapid #15]. The first boat then makes another start, but the current being very swift from the opposite shore they cannot get their boat straight with the current and drift down striking broadside on one of the big boulders we had barely missed. The boat capsizes instantly and took the four men down with it. One of our crew looking up saw the head of the steersman, Mack [McDonald], ...the current carried him to the rock and he climbed up on it. Next we see two of the others [Kane and Jewell] come up 100 feet downstream [and drifted down river for about one mile]. Best [had] been caught in the boat but finally freed himself [and] came to the surface [where McDonald pulled him] up on the rock."

The crew tried to free the pinned boat with what tools they had and were unsuccessful. On the 25th, Hislop hiked out of the canyon and went cross-country to Dandy Crossing (Hite) where he acquired some explosives. He returned to the wreck site on the 29th, where they attempted to blast the rock apart, to thus free the boat. This method of white water rescue also proved unsuccessful. The final disappointment occurred when flood waters caused the river to rise 4 to 5 feet, submerging the rock and ending their hopes to free the boat.

Conclusion

They spent a week at Rapid #15 trying to salvage Boat #1. Probably while waiting for Hislop's return, most of the members left inscriptions on the talus boulders of the river right side. Today, this is a popular hike for photography, to scout the rapid, and watch modern boats pass through - sometimes with similar difficulties. The rapid is affectionately known today as, "Capsize". However, river historian Otis Marston preferred to call Rapid #15, "Best Rapid".

The expedition continued toward Dandy Crossing in boat #2 whenever quiet waters allowed for such an opportunity; otherwise, they walked the shoreline. No portaging or lining was done on the trip. Upon reaching Dandy Crossing, they acquired a skiff to relieve the load and floated to Lees Ferry, AZ. At that point, the idea of boating to Needles was abandoned and the members then purchased stock animals and traveled up into the Kaibab Plateau and down into the Grand Canyon following Bright Angel Creek. No formal mining enterprise was ever accomplished.

When the Best Expedition was formed in 1891, only two expeditions had made complete runs through the Colorado River and the Colorado Plateau. In definitive language, the historic Colorado River (pre-1921), starting geographically at The Confluence of the Green and Grand rivers and through to the geographic end of the Colorado Plateau at the Grand Wash Cliffs. However, both expeditions, Powell's Expedition of 1869 and Stanton's trip of 1889 - 90, both met with boat loss and crew desertion.

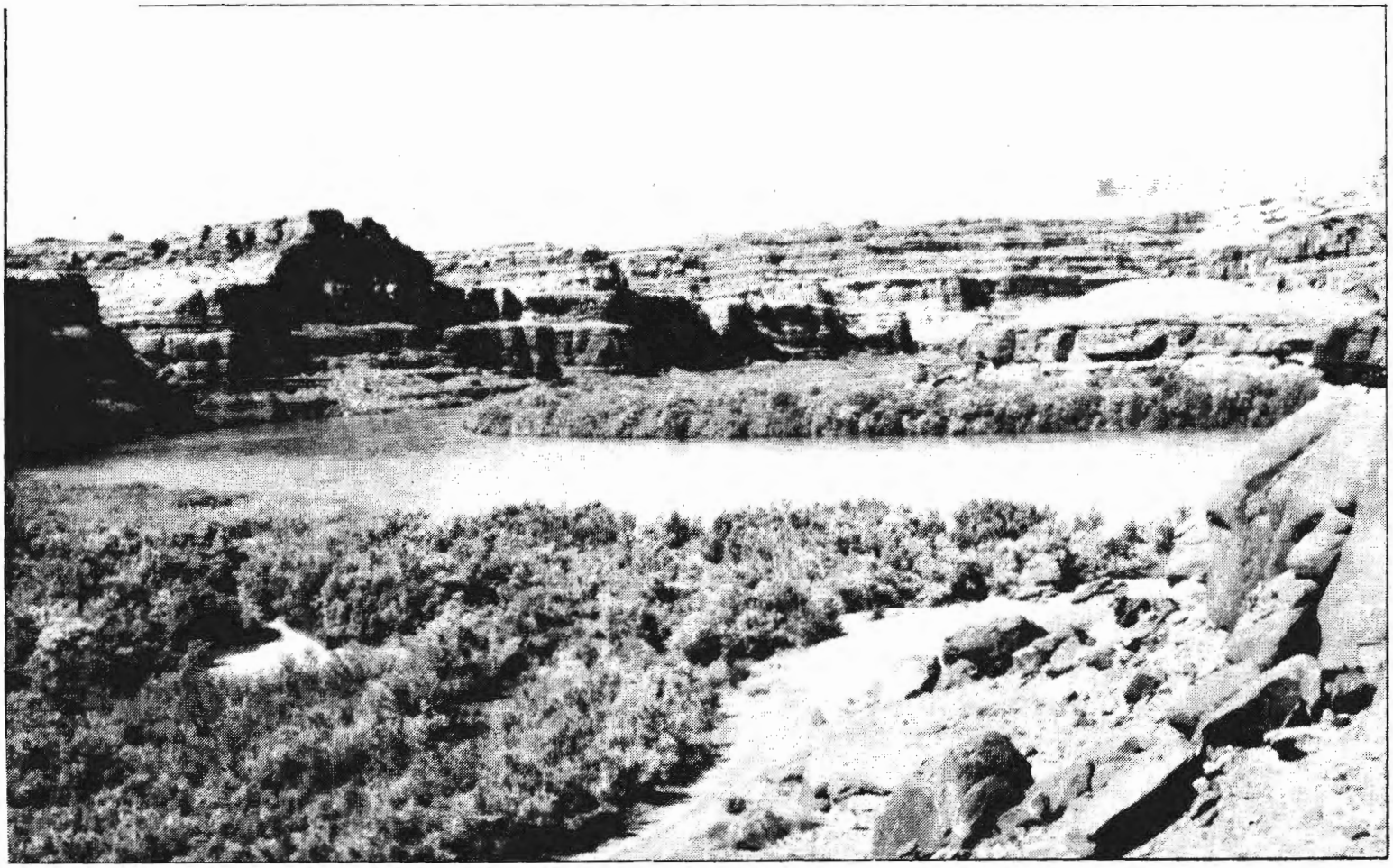
It is my impression that the Best Expedition was to make the first trouble-free trip through to the Grand Wash Cliffs. Funding for the trip amounted to $10,000 with every possible need taken into consideration. Three of the crew members (Hislop, Kane, and Edwards) were veterans and non-deserters of Stanton's completed expedition. According to physical descriptions in various clippings from the Denver and Salt Lake City newspapers, the boatmen were physically fit, and all were over six foot tall, which is not likely to be a 19th century coincidence.

Interestingly, the Best Expedition was to be the last trip for the round-bottom boat class. This was outside of Clyde Eddy's romantic idea to replicate the concept for his river trip in 1927. On that expedition, Eddy too lost a boat and had crew desertion. In 1896, Nathanial Galloway and George Flavell completed trips with flat-bottomed boats using upstream ferries for steerage. A boating innovation that brought repeated success to the future traverses of the Colorado River.



"The scenery between Bridge Canyon and the Crossing of the Fathers is more wonderful than that of any section of the Colorado River above Lee Ferry. In fact, is some ways it is more interesting than the Grand Canyon proper."

Eugene LaRue, 1921. USGS hydrologist and proponent for construction of a high dam above Lees Ferry.



Colorado River at mouth of Lockhart Canyon. Photo by Jim Knipmeyer

"Lost" Inscriptions Found

by Jim Knipmeyer

For the past seventeen years I have been locating and photographing old, historic inscriptions that early explorers, prospectors, settlers, and travelers left drawn or carved on rock boulders and canyon walls of the Colorado Plateau region. Some I have found on my own, many I have learned about in various readings, and a number I have been told of by friends and other interested people. Most of the names and/or dates that I have recorded are prior to 1900, unless they are of some particular significance historically since that time.

One group of inscriptions I read about was in the 1889 diary, or notebook, of Frank C. Kendrick. Kendrick was a mining engineer hired by Frank M. Brown, Colorado, to survey the route of a proposed water-level railroad from Grand Junction, Colorado, to the joining of the then-Grand River with the Green. Kendrick and four other men of his party left Grand Junction on March 29, 1889, and arrived at The Confluence on May 4.

In his diary entry for Thursday, May 2nd, Kendrick wrote the following paragraph: "At Sta [station] 7144+20 we found a little valley coming in from the South where it appears some few cattle come to water, the first below Moab. On a large rock at the East side of canon there are many Indian inscriptions. Snakes, lizards with 2 heads, men & women & cet & many things we could not make out. Also the names of many cowboys written in 87 & 88 (sic)."

It was, of course, the last sentence that attracted my attention. Using Kendrick's surveying distances I determined that his "little valley" was probably Horsetheif or Lockhart Canyon, left-bank tributaries of the Colorado at about Mile 26.5. I had also long been wondering about the name Lockhart Canyon, the national Park Service, the Bureau of Land management, or various local histories not being able to shed any light on the matter.

Eventually I heard that Mitch Williams, long-time Moab

guide and tour operator, had recalled some time before of seeing a name, "Ollie Lockhart," near the mouth of the canyon. He and others had subsequently looked for it, but without success. Therefore, in the summer of 1993 a friend of mine, Mike Ford, and I set off to search for both the reported Kendrick inscriptions and the Ollie Lockhart name. A graded road had been put in to the mouth of the canyon from the Lockhart Basin road by oil interests in the 1920's, and had been improved again by uranium prospectors in the 1950's. So we drove in Mike's Jeep rather than go by boat down the Colorado River.

A short search finally resulted in my spotting the correct location, some more recent initials and Kendrick's "Indian inscriptions" showing up first. A closer examination revealed other names lightly scratched onto the rock surface, several with dates of 1887. Then Mike spied the Ollie Lockhart, with a date of 1988, very faintly scratched into the sandstone. Other writings immediately below were finally deciphered to be the words "Silverton Colo." Our search had been a success and the Kendrick inscriptions and the Ollie Lockhart name had turned out to be at the same place and part of the same grouping!

Some of the early names are John E. Brown, James C. Blood, and Frank C. ------, with a date of "Jan 9 1887". Others are of B - Buchanan, - - Savage, and J - Blood, accompanied by a date of "Mch [March] 1887". The full date with Ollie Lockhart's name is "Feb 8th 1888".

As Kendrick had stated, most of these names were of cattlemen. John E. Brown had settled on nearby Indian Creek in the vicinity of present-day Dugout Ranch in 1887. James C. Blood was ranch foreman for the Pittsburgh Cattle Company, headquartered up near Old La Sal, from 1884 until 1887. Jehiel V. Savage was the cattle foreman for the Pittsburgh company during the 1880's.

But Ollie Lockhart is still somewhat of a mystery. Upon checking with the county historical society in Silverton, Colorado, I did find that Oliver Lockhart was a resident of that town in 1888. However, he was the county clerk, a man of the "clerical mass", and there were no indications that he was ever involved with either mining or cattle.

So what Ollie Lockhart was doing at the mouth of a seldom-visited Colorado tributary canyon a little over a year prior to the river survey of Frank Kendrick is open to question. Perhaps it is the opinion put forth by the gentleman at the historical society in Silverton, that Lockhart's presence in Utah may have simply "been a one-time vacation-adventure". After all, I have been doing that exact thing in southeastern Utah for over thirty years now!

These names and dates near the mouth of Lockhart Canyon have not, of course, really been lost. I have since learned that other people do know of them. But to my knowledge this is the first time that they have been associated with the inscriptions mentioned by Kendrick in his 1889 diary. It is also important, I feel, that a record was made of these names and dates before they are completely erased by time and the weather.

Cryptobiotic Crust Holding the Place in Place

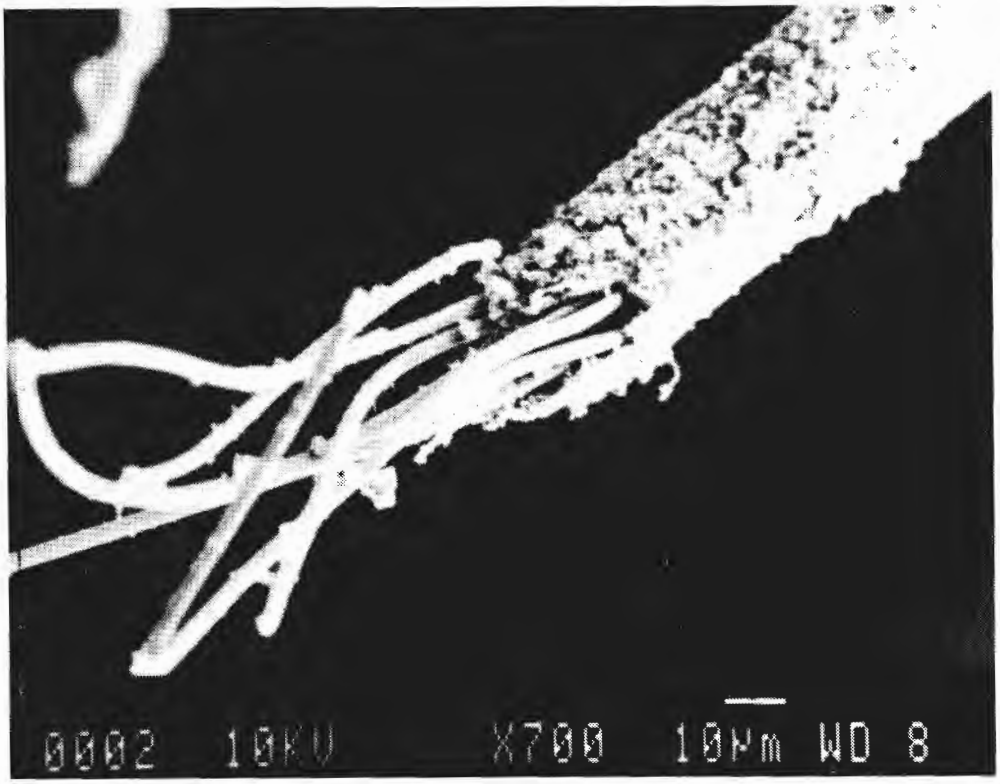
by Jayne Belnap

Living soil crusts are found throughout the world, from the hottest deserts to polar regions. In arid regions, these soil crusts are dominated by cyanobacteria, and also include soil lichens, mosses, green algae, microfungi, and bacteria. These crusts play many important roles in the ecosystems in which they occur. In the cold deserts of the Colorado Plateau region (parts of Utah, Arizona Colorado, and New Mexico), these crusts are extraordinarily well-developed, often representing over 70% of the living ground cover.

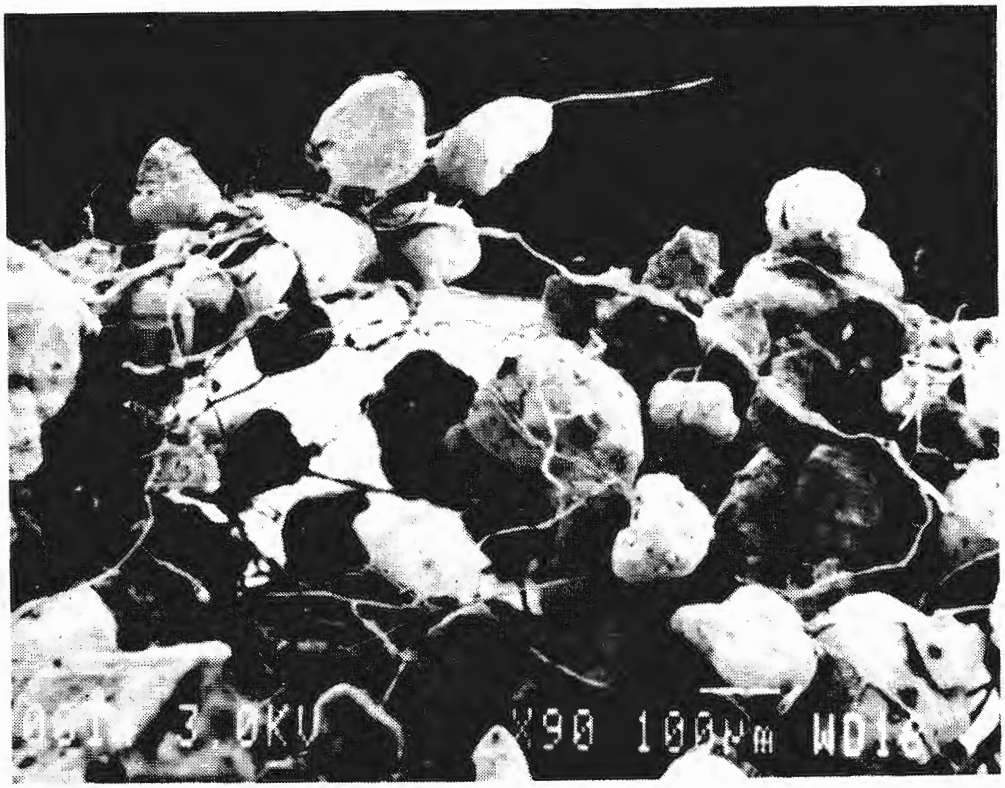
Cyanobacteria, previously called blue-green algae, are one of the oldest forms of life known. It is thought that these organisms were one of the early colonizers of earth's land masses and integral in the formation and stabilization of the earth's first soils. Some of the earliest fossils found, called stromatolites and dating more than 3.9 billion years old, are extremely thick mats of cyanobacteria. These mats are believed to have played an important role in converting the earth's original carbon dioxide-rich atmosphere into the oxygen-rich atmosphere necessary for the evolution of life as we know it today.

Cyanobacteria occur as single cells or as filaments. The most common form found in desert soils are the filamentous type. The cells or filaments are surrounded by sheaths that are extremely persistent in these soils. When moistened, the cyanobacterial filaments become active, moving through the soils and leaving a trail of the sticky, mucilaginous sheath material behind. This sheath material sticks to surfaces such as rock or soil particles, forming an intricate webbing of fibers in the soil. In this way, loose soil particles are joined together, and otherwise unstable and highly erosion-prone surfaces become resistant to both wind and water erosion. The soil-binding action is not dependent on the presence of living filaments: layers of abandoned sheaths, built up over long periods of time, can still be found clinging tenaciously to soil particles at depths greater than 15 cm in sandy soils. This provides cohesion and stability in these loose sandy soils even at depth.

The crusts have other functions as well. They are important in the interception of rainfall. When moistened, the sheaths absorb up to ten times their volume of water. The roughened surface of the crusts slows precipitation



Crust in sandy soils. The visible fibers are Microcoleus vaginatus. Note how Microcoleus connects the otherwise loose sand grains together, thus preventing wind and water erosion.



Microcoleus vaginatus, the dominant organism in the crust. Microcoleus is important in enhancing water and nutrient relations within the soil, as well as increasing soil stability.

QUOTE

"An adventure is a poorly planned trip."

Mark Twain



QUOTE

"We do not remember days; we remember moments."

Cesare Pavese

runoff and increases water infiltration into the soil. This is especially important in arid areas with sporadic, heavy rainfall. Vascular plants growing in crusted areas have higher levels of many essential nutrients than plants growing in areas without crusts. Electron micrographs of sheaths show them covered with fine clay particles to which cling essential nutrients, keeping these nutrients from being leached out of the upper soil horizons or becoming bound in a form unavailable to plants. In addition to the functions of stabilizing surfaces and increasing water harvesting, crustal organisms also contribute nitrogen and organic matter to ecosystems. This is especially important in desert ecosystems, where nitrogen levels are low, and often limiting to the systems' productivity.

Unfortunately, many activities of man are incompatible with the presence and well-being of these cyanobacterial crusts. The cyanobacterial fibers that confer such tensile strength to these crusts are no match for the compressional stress placed on them by footprints (cows or people) or machinery, especially when the crusts are dry and therefore brittle. Crushed crusts contribute less nitrogen and organic matter to the ecosystem. Impacted soils are left highly susceptible to both wind and water erosion. Raindrop erosion is increased, and overland water flows carry detached material away. This is especially a problem when the destruction is in a continuous strip, as with vehicular or bicycle tracks. These are highly susceptible to water erosion as channels are quickly formed, especially if on slopes. Wind blows pieces of the pulverized crust away; it also blows the underlying loose soil around, covering nearby crusts. Since crustal organisms need to photosynthesize, burial can mean death. When large sandy areas are impacted in dry periods, previously stable areas can become a series of moving sand dunes in a matter of only a few years.

Large areas that are impacted may never recover. Under the best circumstances a thin veneer may return in five to seven years. Even a single footprint has a long-lasting effect: nitrogen fixation stops, and underlying sheath material is crushed. Damage done to the abandoned sheath material underneath the surface cannot be repaired since the living organisms are only on the surface. Instead, sheaths must build up slowly as a result of many years of cyanobacterial growth.

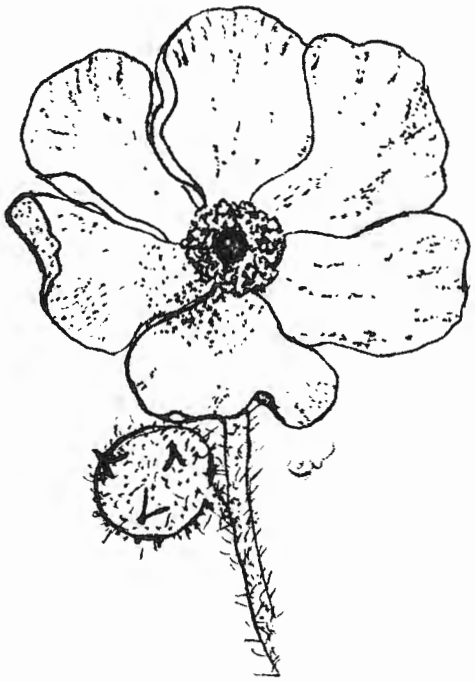
It is critical that we take care of the soil crusts around us, as they are an essential part of the ecosystem. They are the topsoil of the desert. Stay on trails or try to walk only in washes or on rock when possible. Help us keep the place in place!

What About that Cryptogamic Stuff?

Cryptobiotic crusts were formerly called cryptogamic crusts since the majority of the organisms in the crust were once considered cryptogams. Cryptogam, meaning "hidden marriage" in Latin, is used to refer to non-vascular plants that include the mosses, green algae, and other such organisms that do not have true flowers.

Cyanobacteria, the dominant group of organisms in the crusts, were at one time considered to be part of the cryptogam group, thus making the crusts almost entirely cryptogamic species. Since then, however, cyanobacteria have been reclassified, and are now considered to be either their own kingdom, or of the kingdom Monera, which also includes true bacteria.

The name "cryptobiotic crusts" was chosen since it was easy to remember, and carries no taxonomic implications. "Cryptobiotic" means "hidden life", and thus covers all the organisms found in the complex universe of these crusts.



QUOTE

"Once a journey is designed, equipped and put in process, a new factor enters and takes over. A trip, a safari, an expedition is an entity, different from all other journeys. It has personality, temperament, individuality, uniqueness. A journey is a person in itself, no two are alike. And all plans, safeguards, policing and coercion are fruitless.

We find after years of struggle that we do not take a trip, a trip takes us. Tour masters, schedules, reservations, brass bound and inevitable, dash themselves to wreckage on the personality of the trip. Only when this is recognized can the blown-in-the-glass bum relax and go along with it. Only then do the frustrations fall away. In this a journey is like marriage. The certain way to be wrong is to think you control it.

I feel better now, having said this, although only those who have experienced it will understand it."

John Steinbeck

What is a Rip?

by Tamara Wiggans

In a world of abbreviations, acronyms, and alphabet soup, RIP is a funny one, conjuring up images of sharp rocks and old boat bottoms, of climbing over a barbed-wire fence, or the feeling I get when I pay taxes.

RIP stands for Recovery Implementation Program. RIP is related but separate to the U.S. Fish and Wildlife Service's current efforts to designate critical habitat for endangered fish (see the 1994 Winter issue of The Confluence.)

There are two RIPs operating on the Colorado Plateau: one for the upper Colorado River basin and a separate one for the San Juan River. The goal of the programs is to protect and recover the endangered fish while allowing water development to proceed. These conflicting goals make RIPs open to criticism from both pro- and anti-fish interests.

The upper basin RIP group is composed of representatives from the U.S. Fish and Wildlife Service (FWS), Bureau of Reclamation, Western Area Power Administration, the states of Wyoming, Utah, and Colorado, as well as the National Audubon Society, the Environmental Defense Fund, and the Colorado and Wyoming Wildlife Federations.

The upper basin RIP has recently released RAP (What's next, a FLIP?) RAP stands for Recovery Action Plan. RIP/RAP contains a set of specific measures with time frames for achieving their goals. Priorities are adequate in-stream flows, improved habitat, stocking native fish, studying competition from non-native fish, and on-going monitoring and research.

Some fish biologists privately concede that the RIP's RAP is flawed, that the competing agendas of RIP's participants have resulted in a RAP that drags its feet. Obviously research and flow comparisons do take time, but it's unclear if RIP/RAP will work in time to save the fish.

Meanwhile, on a separate front, FWS is required by law to designate critical habitat for the endangered fish for the Colorado River system. RIP/RAP and critical habitat designations are good initial steps: the first is a policy process, the second is law. It is doubtful whether the fish can tell the difference. The San Juan RIP is still in its infancy, and environmental groups are refusing to participate, calling it a sham.

The San Juan RIP was formed after the FWS issued a biological opinion in 1990 regarding the proposed Animas-La Plata project (A-LP) in southwestern Colorado. Colorado squawfish were found in the San Juan River, and construction of the project would deplete flows of the San Juan, jeopardizing survival of the endangered fish (see article on A-LP in this issue). After a year of negotiations, a so-called "reasonable and prudent alternative" emerged where the Bureau of Reclamation, who desperately wants to build A-LP, agreed to fund seven years of research and to develop a RIP for the San Juan.

The San Juan RIP consists of representatives from FWS, Bureau of Reclamation, Bureau of Indian Affairs, Bureau of Land Management, the states of Colorado, New Mexico, and the Southern Ute, Ute Mountain Ute, and the Jicarilla Apache tribes.

Accused of focusing on politics instead of biology, the San Juan RIP is banking on "re-operation" of Navajo Dam on the San Juan upstream of Farmington, New Mexico. They're hoping that the increased water releases from Navajo will let the controversial A-LP off the hook when it comes to San Juan depletions.

So far, the Navajo Nation, whose water rights are most affected, are protesting the San Juan RIP and refusing to participate. The state of Utah is still unsure of what it wants to do. The Park Service, although it manages several miles of shoreline along the lower San Juan, has not been allowed to join the RIP. Environmentalists fighting A-LP say it is crazy to let more water out of an existing facility just so that another one can be built.

From The Southeastern Utah Wilderness Alliance

by Scott Groene

Green River Canyon Slated for Development

The Green River is currently threatened by two proposals. First, BLM will soon release a new proposal to allow a slew of natural gas wells to be drilled on either side of the Green River just north of the head of Desolation Canyon. The proposal would turn a pristine area, generally reached only by flat water float trips down the river from Ouray, into a mess of scattered roads and pipelines. Over twenty of the wells would be drilled within a proposed wilderness area. This threat appeared to be dead a year ago, when the BLM state director ruled in SUWA's favor on an appeal against an earlier proposal to drill 52 gas wells in the "Desert Springs Unit" in this same area. But the oil and gas industry is back. To get on the mailing list for the plan call the Vernal BLM office at (801) 781-4410.

Second, the BLM's Vernal District Office is proposing to open Nutter's Hole area, on the east side of the Green River near Sand Wash, to commercial collection of building stone, with permits granted for 150 tons of stone per year per permit (with apparently no limit on the number of permits issued). Trucks and hoists would be allowed cross-country travel to retrieve the stone, degrading the remote and rarely visited area which is now proposed for wilderness. Comments on the project, or requests for information, can be directed to:

Richard Wilson, BLM-Vernal District, 170 South, 500 East, **Vernal UT, 84078, (801) 781-4410.**

The Dolores River Synopsis: An Unequaled Opportunity

by Bill Dvorak, Vice Chair
Colorado River Outfitters Association

In April of 1993, the Bureau of Reclamation (BOR) issued a scoping document regarding the modification of the operation of McPhee Dam. The intention is to change existing water release criteria established for fisheries in 1977, and acquire additional water rights for fish and wildlife purposes. BOR has since asked the Bureau of Land Management, National Forest Service, State of Colorado, and others to help partner, i.e., help pay for these additional water rights. It appears the time is right to expand this process to include other recreation users of the resource, not just fish and wildlife.

BOR has identified 8600 acre feet of water as being available for purchase. My though thought is by enlarging the scope of beneficiaries to include other recreational users, all parties can gain. The fisheries people want a pool of water to utilize as they deem necessary. The problem for the boating recreator is that the water managers have to predict run-off as accurately as possible or conservatively as the can to keep in the irrigators good graces. This year they aired on the extreme side of conservation run-able flows of 800 cfs were guaranteed only through June 18th, yet the release from McPhee continued to be in excess of 800 cfs, for the next nine days and over 600 cfs into the first of July. Unfortunately the folks who regulate the resource choose to ignore scientific data such as SNOTEL and soil conservation readings, and relied on photos of the La Plata Mountains. By acquiring water rights for recreation, we can take much of the guesswork out of the process.

If there were 8600 acre feet of water available for recreation, the flow regulators would have the ability to be far less conservation on flow predictions knowing they could utilize this water for augmentation. This would greatly enhance the length and reliability of the whitewater recreation season. (In case you are unfamiliar with the resource, the Dolores River ranks as one of the three or four best river trips available in this country, rivaling the Grand Canyon and the Middle Fork of the Salmon River.) Additionally the volume of water not utilized to augment flows to 800 cfs for whitewater could then be utilized to keep flow at 250 - 300 cfs for secondary low water season. This would allow canoes, kayaks, small rafts, inflatable kayaks, etc., additional access to this tremendous recreational/fishing resource.

This scenario would also benefit the fishery in many ways. Principally, it would conserve the fish pool so that there would be a significant amount of time elapsed before it was needed. had this program been in effect in 1993, it would have been the end of July or the first of August before the fisheries pool kicked in. It would also expand the fishery allowing it progress downstream as well as enlarge and improve fisheries habitat. This low-water season would also create a viable fishing resource.

Hopefully, you will see that this is a win for all concerned. The BOR will have a featured project it can use as an example for its' new direction, "An unequaled Opportunity." The recreational interests will have a longer and more reliable season as well as a secondary season. The Fish and wildlife will have an improved and enlarged habitat, plus an additional method of egress. We can't go wrong. Let's Do It!

Contact: Dan Fritz,
Bureau of Reclamation
(303) 385-6500

From the United States Fish and Wildlife Service

Recovery Program for the Endangered Fishes of the Upper Colorado

In the early 1900s landing Colorado squawfish estimated at 20 to 80 pounds gave some anglers the thrill of a lifetime, according to a research document released this week by the U.S. Fish and Wildlife Service (FWS).

"I pitched that green frog out there and this [Colorado squawfish] hit it, just about straight across, and he ran down that fast water, riffles, and took out about 200 feet of line before I turned him around," the report quotes Maybell, Colorado, resident Gene Bittler as saying. "It was one of the most thrilling fish I ever caught if you want to know the truth."

The report, "Historical accounts of the upper Colorado River Basin endangered fish," is based on more than 100 interviews conducted last year with senior citizens in Colorado, Utah and Wyoming. Written by Fred Quartarone, who worked for the Recovery Program for Endangered Fish of the Upper Colorado River, the document includes historic photos of the fish as well as residents' first-hand accounts of catching and eating the now-endangered Colorado squawfish, humpback chub, bonytail chub and razorback sucker.

Anglers reported catching voracious Colorado squawfish on everything from swallows and mice to earthworms and chunks of chicken or rabbit.

Tim Merchant of Green River, Wyoming, said his grandfather caught squawfish using chicken parts to bait multiple hooks on a clothesline. His grandfather tied the line to the bumper of his truck and waited.

"When [the line] went tight, they'd just back the truck up and drag those fish out on the bank," Merchant said. "They wee as big as a junior high school kid, 90 pounds. That's a big fish."

Anglers told of Colorado squawfish that were up to 5 feet long and 80 or more pounds; most recalled squawfish in the range of 20 to 40 pounds.

Many of the seniors said they used Colorado squawfish for food, especially during The Depression. Humpback chubs, bonytail chubs and razorback suckers also were consumed, but reportedly were bonier.



Photo courtesy of Colorado Division of Wildlife.

Three boys pose with a 17-pound Colorado squawfish they caught in the Green River in the early 1920s. Colorado squawfish once grew to nearly 6 feet long in the Colorado River Basin and were called "white salmon" by early settlers. Now endangered, these fish are found nowhere else in the world.

"I know those bonetails [referring to all chubs] aren't edible because I tried to eat one when I was a kid, and they're absolutely sickening," Merchant said. "There's about 2 million bones in each of them."

But Tom Hastings of Green River, Utah, recalled a trapper who regularly ate razorback suckers.

"He'd catch those suckers and eat them. I don't know how they fixed them, but they thought they were better than catfish," Hastings said.

Several seniors compared the taste of Colorado squawfish to salmon. "Gut them and chunk them and put them in quart jars, pressure cook them. Damn, they made salmon taste bad," said Lyndon Granat of Palisade, Colorado.

Seniors recounted both positive and negative attitudes toward the fish. As Don Hatch of Vernal, Utah, explained, "When you grow up and all your life you've been told they are just trash fish, it's hard to get over that feeling. Of course they're valuable, of course they're endangered so that's the reason you should take care of them. We know now."

Anglers used several different names for each fish, sometimes making identification difficult. For example, Colorado squawfish commonly were called "whitefish," as well as "white salmon," "Colorado River salmon" and "landlocked salmon."

Looking at a razorback sucker photo, Bill Allen of Vernal, Utah, showed how confusing the identification process was back then.

"Now that was the humpback," he said. "We'd still call them roundtail, but we called them humpback roundtails ... squawfish ... kind of a humpback squawfish sucker."

Quartarone used photos and detailed descriptions about the fishes' decline. Dams changed the river habitat, they

The fish swam into irrigation ditches and became trapped or were flushed into the fields. Some squawfish were found dead with catfish lodged in their mouths, reportedly because the barbs on the catfish punctured the squawfish's insides and killed them. And the chemical

rotenone was used to reduce native fish populations and make way for non-native sport-fish in and upstream of Flaming Gorge and Navajo reservoirs.

The Recovery Program is a three-state, multi-participant program aimed at recovering endangered fish while providing future water development.

Do you have questions or comments for the U.S. Fish and Wildlife Service on their endangered fish recovery program?

Contact: Connie Young
U.S. Fish and Wildlife Service
Denver Federal Center
P.O. Box 25486
Denver, CO 80225
(303) 236-2985

The Last Page

There is good reason to become and stay a member of CPRG. As a united voice, we can achieve our mission to improve our guiding careers along with the quality of our river trips. The membership does grow steadily so the interest is there, but we need more than a roster - we need your talent and ideas! The board members, quite frankly, can't do it alone. It takes a tremendous amount of energy to make CPRG work and become influential, a potential it can achieve. Be CPRG's eyes and ears. Write articles. Express your talents. Send us your artwork, poetry, and photographs. We are indeed a clearing house for art, history, science, and useful information.

Guides who have trip leader status should be thinking seriously about joining CPRG. If your timid or apprehensive about CPRG, you should call the board members and talk to us directly. We need your input. Show your appreciation for your position and help encourage new guides coming into the industry to share your attitude about your job, the place you work, and the river you run.

Company owners too should think seriously about CPRG. We can be a medium for your frustrations as an employer. We can serve as an intermediary for difficult situations with employees and vice versa.

Join CPRG. Help CPRG. Make it work for all of us!

Coming Next Issue

The Confluence will have a special four page pull-out section on river rescue that will fit into your ammo can for ready use. It will contain drawings of knots, mechanical advantages, etc.



(AL-P continued from page 5)

the Sierra Club Legal Defense Fund, has several legal victories under its belt concerning A-LP.

Opponents of A-LP include FCAC, Taxpayers for the Animas River (TAR), the Southern Utah Wilderness Alliance (SUWA), the Sierra Club, a growing number of Ute tribal members, and others. Now they have hired former Colorado State Engineer Jeris Danielson to formulate alternatives to A-LP that will satisfy everyone's water needs while lowering environmental and financial costs.

For updates and more information contact:

Mike Black of Taxpayers for the Animas River at (303) 385-4118 or Jerry Swingle of Four Corners Action Coalition at (303) 247-5797.

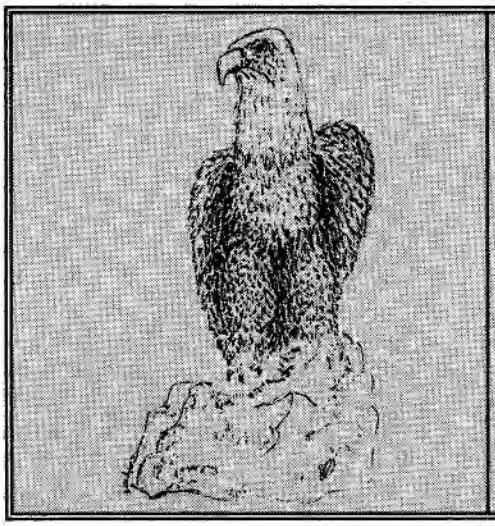
From: Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077



FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

THE CONFLUENCE

The Journal of Colorado Plateau River Guides
Volume 1, Number 3 Summer 1994



Georgie
SUWA
BLM
Opinions
Laccoliths
Uranium Reduction
Bylaws
Alcohol
AIDS
Information
Salinity
Fish Recovery
Library



This photo was taken on the Moab Escarpment by C. W. Cross of the United States Geological Survey in 1905. The foreground is the Moab Valley where the Atlas Corporation now has their defunct uranium ore reduction plant and tailings pond. See pages 18 and 19 for more information. Photo courtesy of the USGS Library, Denver Federal Center.

The Confluence

...is the quarterly journal of Colorado Plateau River Guides.

Colorado Plateau River Guides is a non-profit organization dedicated to:

* Protecting the rivers of the Colorado Plateau.
* Setting the highest standards for the river profession.
* Providing the best possible river experience.

Guide Membership is open to anyone who has worked in the river industry.

General Membership is open to everybody.

Membership dues:

$20 per year.
$100 for 6 years.
$195 for life.
$295 Benefactor.

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Susette DeCoster-Weisheit
Vice President	Tim Thomas
Secretary/Treasurer	John Weisheit

Directors

Bluff	Tom Rice
Green River	Serena Supplee
Moab	Rebecca Martin
Vernal	Penny Elder

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077

We need articles, artwork, poetry, stories, and opinions. If you use a computer, please send text for an IBM PC with WP 5.1 on a 5 1/4" floppy.

ISSN # 1078-425X

"Diversify ...?"

by Susette DeCoster-Weisheit
President, CPRG

"This is not meant to scare you; rather, it is meant to give you facts about what can happen..." How many times have you started a safety talk with those or similar words? I feel I should start this article in like fashion.

This has been a busy season for me. I began my season in late March and have had consistent work thus far and it looks like I will be doing trips through October. Diversification has played a key part in my extended season. With a CDL drivers license for shuttle work, driving 4X4 vehicles, and going south for a month to work in the lower Grand Canyon I have been able to extent my season at least 2 months on either end. But, how long will this type of diversification help me? Till I'm 40, 50, 60, ...?

Many guides start and end their river season with a mountain bike guiding season; while, others take a small vacation before beginning a season in the ski industry for the winter. Whatever your diversification may be, for many our seasonal jobs have become careers separated by benefits. If we are hired as seasonal employees twice a year we do not receive medical benefits, retirement plans, and many other benefits found in a "career." It is left to the individual guide to pay benefits (or would that be deficits?) or arrange a retirement plan with an already average to low income.

Until this year I did not have medical insurance because it was just not possible to fit such an expenditure into my budget. From talking with fellow guides I've found that most do not carry coverage and those, like myself, who are insured can only afford to carry emergency medical with limited coverage. The current government proposals regarding medical aid certainly do not seem geared toward helping our seasonal field. Once again it is left to the individual guide to pay.

Have you thought about retirement? Many of us just laugh and say, 'you can't retire from the river business.' That is closer to fact than fiction. Many guides who began river running as a career in the 1960's and 70's are being forced to face the reality that they cannot retire. Some "burned out" long ago and hold on because they cannot afford to learn a new career or are afraid of change. Some strike out into new businesses having to rely on guiding to keep them in food as they struggle with the new business blues. Some have successfully moved into more permanent careers. And some are forced to rely on friends or family loans until they can get afloat again.

Don't get me wrong, I think that guides <u>can</u> make a career out of their seasonal endeavors. However, I think that if we want to make a career out of seasonal jobs we need to start effecting some changes so that we don't have to worry about benefits and retirement. I'm not even sure where we start in order to achieve such a goal; but, I do think we need to stop ignoring the inevitable. I would like to receive letters or suggestions from you as guides regarding this subject. And to those members who have or do work in the insurance field -- how do we get started?

Combating a Myth: More is Better

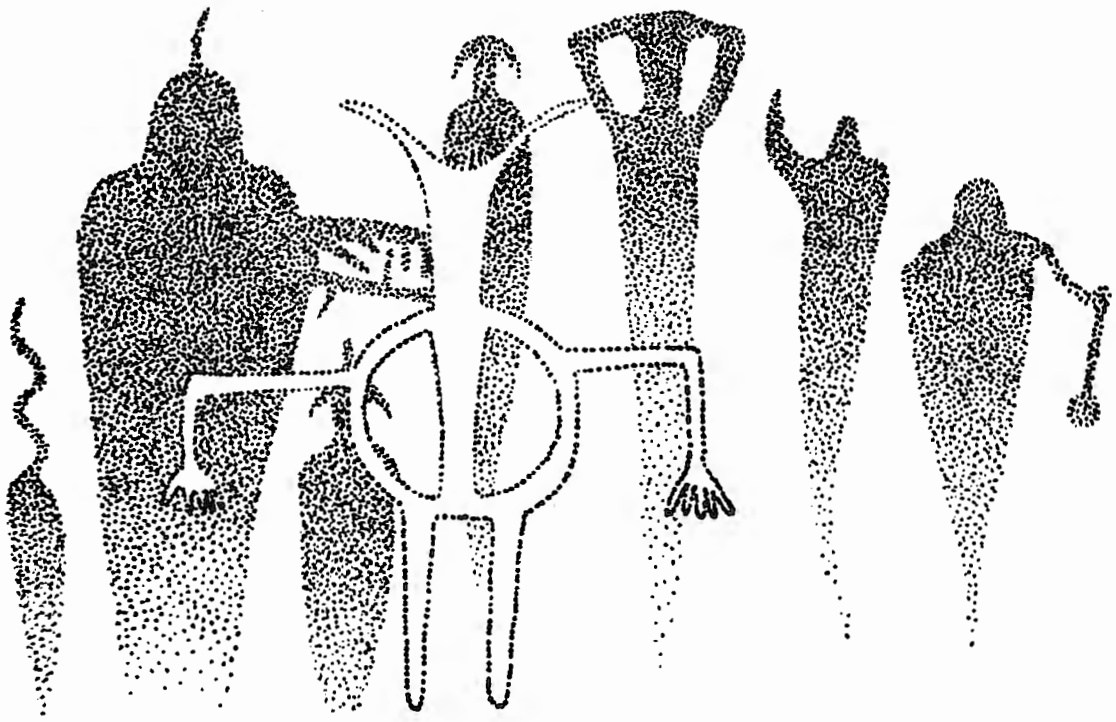
by Tim Thomas, Vice-President, CPRG

I'll start off with a note of thanks to both Tom Moody and Brad Dimock of Grand Canyon River Guides for their respective articles in the Boatman's Quarterly Review; "Time and the River Flowing..." and "Balance". Both of these articles helped clarify for me a vague uneasiness I couldn't quite pin down, but which has bothered me over the past season or so on the river as a guide. In short, Tom's article focused on 'time', that ephemeral creation of ours which governs so much of how and when we do things, and often why. And Brad's article on balance reflected on a growing insular quality of commercial river trips which can result in people experiencing less of the great outdoors at the very point where they could be immersed in it.

Over the past few river seasons it seems I've been increasingly busy with 'things', so much so that after finishing a trip at the warehouse I was amazed at how little I'd done that I'd hoped to do during the trip. So what 'things' did I do? Without listing all of the normal multi-day jobs that we all do, I found it was basically the same routine, it was just more involved and took longer. The most obvious culprit, six item meals. Then comes gear, more of it to haul out, set up, repack, and load again. Stuff like kicker motors, drink coolers, beach chairs, rental gear, etc.. Lastly we seemed to have a lot of river miles to cover to make specific camps to meet certain logistical needs and stay on schedule. What happened to "keep it simple"?

Somehow in our attempts to be better, do better, we started bringing more, offering more, serving more, but one thing we didn't get more of was - time. Time to be alone and bring one's day into focus, time to play on the beach, or explore a new canyon, read a book or watch the changing of the colors of the sunset on the canyon rims. Slowly we've managed to expand on Georgie's canned food dinners, or sleeping under a communal tarp if it rained, or the bus ride back together after the trip. The good with the not so good, things change but time didn't, it keeps flowing with the river.

The should's and shouldn'ts of whether or not to keep doing more and offering more in the creature comforts department, or to run shorter multi-day trips, or bring motors on oar trips, etc., is often decided defacto as a necessity for staying competitive in an increasingly competitive business. But attempting to do or offer more in the guise of being better puts one in direct competition with the very thing that people purportedly come to experience - the river; with all its secrets, moods, sights and sounds. This intentional change in focus away from the river and toward more service, more comforts, more entertainment, and more ways to do it quicker, does not necessarily translate into better. On rivers such as the Colorado, Green, San Juan, and Dolores, where longer multi-day trips offer the chance for people to become intimately involved with the river, a great opportunity is being missed, or at best compromised by the myth that more is better. Given the luxury of an extra day or two on the river, with less money and energy being expended on food and gear and logistics, perhaps guides could better help their guests experience more of the river - and it just may be for the better!



Drawings of Native American artwork in this issue by Devin Vaughan

Georgie White; Legend of the Colorado River

By Richard E. Westwood

My research for a book about Georgie White has covered nearly two years. Three file drawers of trip logs, interview transcripts, news items, letters, and other materials about her make a short article difficult. Almost every trip she took in her forty-six years of river running was an exciting adventure. At this writing I have a first draft of eight chapters completed and have just scratched the surface.

Two books and thousands of articles have been written about this amazing woman, but those stories are incomplete and in many cases inaccurate. She was born Bessie DeRoss on November 13, 1910 at Guyman, Oklahoma, and reared in Denver, Colorado, (contrary to her claim of having been born and raised in Chicago). Georgie had a strong and colorful personality that caused people to be attracted to her or to dislike her intensely. She was twice married and twice divorced. By her own admission, she was not a good wife. She married Harold Clark at Denver in 1928 and they were divorced in Chicago in 1941. Her marriage to James White (Whitey) at Los Angeles in 1942 lasted until their divorce at Las Vegas in 1970, when she took back the surname, Clark.

Georgie didn't know much about the history or geology of the canyon, but she was a motivator and entertainer. If she did some fantasizing and exaggeration, she was not much different from other adventurers of her time. Many passengers came back to go with her year after year. The things she did accomplish were enough to fill volumes.

Georgie was a slim athletic woman with piercing blue eyes and a dominant personality. She was an avid hiker, bicyclist, a lover of animals, and a strict vegetarian. She was living in Los Angeles in 1944, while World War II was still being fought on two fronts. In that year, following the tragic death of her fifteen-year-old daughter, Somona Rose, at the hands of a hit and run driver, Georgie was greatly depressed. To help her over this crisis friends took her to a Sierra Club meeting where adventurer Harry Aleson



Georgie's triple pontoon rig ("big boat") on her 1957 river trip from Green River, Utah, to Hite. Georgie is in the process of reversing the side pontoon. Note the deflated front chamber suffered from a stick that tore the fabric while going to shore. Photography by L. C. B. McCullough. Photo courtesy of Rosalyn Jirge.

was showing pictures of Grand Canyon and the scenery of the Colorado Plateau. She was fascinated by what she saw and begged him to take her along on his next trip. She, Aleson, and Gerhard Bakker, a biologist from Los Angeles College, boated across Lake Mead into Grand Canyon and hiked out to the rim and across the Arizona Strip to St. George. For Georgie it was love at first sight, an affair with the river that only grew stronger with the years.

In 1945 she and Harry swam the lower portion of Grand Canyon in life jackets, nearly drowning in a giant whirlpool. In 1946 they floated a longer stretch using only a three-by-six-foot aviation life raft. Georgie wrote Harry in August of 1947, "When the rapids are mentioned I forget everything else, they cast a spell on me..." Later that year in the icy weather of October the two of them tackled Cataract Canyon in a seven-man army surplus raft.

In the late forties and early fifties Georgie and Harry Aleson took more boat trips, hiked the old Hole-in-the-Rock road made by Mormon settlers in 1880-81, retraced part of the route taken by Escalante and Domingez in 1776, and explored many other exciting places on the Colorado Plateau. On these expeditions Harry was the leader, but Georgie was learning and gaining experience.

By 1950 there had been enough publicity about Georgie's hikes and boat trips with Harry Aleson that she was considered by some to be an experienced boatman. That year she worked as a boatman for Mexican Hat Expeditions and doubled as chaperon for five young starlets being featured as "River Goddesses" by a Hollywood film producer. The movie was filmed in Glen Canyon and took several weeks to complete. Before it was over Georgie decided that if she could take care of those "dingalings", as she called the young ladies in her charge, and get them through safely, she could lead anybody through the canyons. Bob Rigg, one of the other boatmen, said, "Georgie was one strong tough lady! She never missed a stroke. She could pull a boat with the best of us. And she was a great, positive contributor to the entire trip."

Elgin Pierce became her first passenger when the two took a raft trip through Grand Canyon in 1952. Their raft flipped in Hance Rapid, but Georgie stayed with it and was able to bring it to shore. They managed to get the raft right side up again and continue down the river. The next year she led her first "share the expense" trip, a party of six, through Grand Canyon. This excursion was an exciting one, except for the tiresome lining and portaging at the major rapids.

On subsequent trips Georgie would begin innovations that made portaging unnecessary. She first roped three ten-man rafts together side by side, so that if one section of this "triple rig" got into trouble in a rapid the others could pull it out. Occasionally one section of the raft would fold over onto another. This became known as a "Georgie Sandwich." When this happened, passengers would have to lift up the overturned section and flop it back into place.

Next Georgie went to using three thirty-foot bridge pontoons lashed side by side, driven by an outboard motor. She called this her "Big Boat." Eventually she cut out the bottoms and placed an inflated rubber sausage in the oval center of each pontoon. This gave the passengers a convenient back rest and eliminated the need for bailing. This huge contraption would take the largest rapids in safety. Now, anybody, old or young, could make the trip.

With these big rafts she took larger and larger groups down the Grand Canyon, bigger parties than any other outfitter. She also ran trips down the San Juan, the Green, and Glen Canyon. Then she branched out farther, running the Snake, Salmon, and Columbia rivers. In the 1960s she began exploring rivers of Mexico. One excursion down the flood-swollen Rio De Santiago nearly ended in disaster. The overturned boats had to be abandoned and the party was forced to swim across the river before hiking out of the deep jungle canyon.

In the early days most of the other boatmen referred to Georgie as "That crazy woman of the river." But that didn't faze her. She kept right on doing what she wanted to do and doing it her way.

Georgie also ran rivers in Canada and Alaska. She did not pay her boatmen a wage, but did pay their expenses, except once. At the end of a run of the Chitina and Copper rivers of Alaska expenses had been higher than expected and Georgie came up short. She didn't bother to tell Dick McCullum until they got to the airport that she couldn't pay for his ticket home. He was left behind to make his own way back. Despite this, Dick remained loyal to Georgie and worked another four summers for her.

Georgie had a great passion for running rapids and the mystique of Grand Canyon. She wanted to share it with as many people as possible. Her big boats would carry more passengers than the cataract boats or single rigs, making it possible for her to offer the lowest rates of any outfitter. The good movies she made of the trips, which she showed at lectures throughout the winter, made her trips in demand. Because she was a woman doing what was normally done only by macho males, she was in demand for television talk shows. She became better known than any river runner since Powell.

Outfitters who once had criticized Georgie for taking such big crowds down the canyon began to switch from smaller boats to big rafts like hers because it was more profitable.

Georgie started many of her Cataract Canyon trips at Moab. On one of these runs she discovered a dead man floating in the river. Using oars from the boats, they dug a grave in the sand and buried him beside the river. A young Catholic priest said last rites over the grave. Later, Georgie was relating this experience on the Groucho Marx show. Groucho said to her, "It looks like you need to take an undertaker along." "No." Georgie quipped. "Just a shovel." When the audience roared, Groucho was upset because he thought Georgie had upstaged him.

Georgie never lost her head in a difficult situation. She also liked to test other people to see how they would react. Sometimes she would wrestle with her boatmen. Dick McCullum said, "I never knew whether to try to win or lose."

Georgie called her outfit "Georgie's Royal River Rats." She maintained that running rivers made you a river rat, but only by running Grand Canyon were you eligible to be a "Royal River Rat." Her initiation ceremonies were legendary---blindfolded, led over rocks and in the water, questioned about rapids or other features of the canyon and whacked on the bottom with a paddle when wrong answers were given, eggs broken on the head, winding up with a celebration drink of brandy. An arm patch and certificate was then given to prove that you were now a "Royal River Rat." At the end of her trips she would throw a party for everyone at a Boulder City or Las Vegas hotel.

When the Park Service began licensing outfitters to run Grand Canyon, Georgie got one of the smallest allotments of all. This suited her fine because she wanted to lead every one of her trips while the larger outfits hired boatmen and could thus send several trips down per week. In later years Georgie ran only Grand Canyon, her first love.

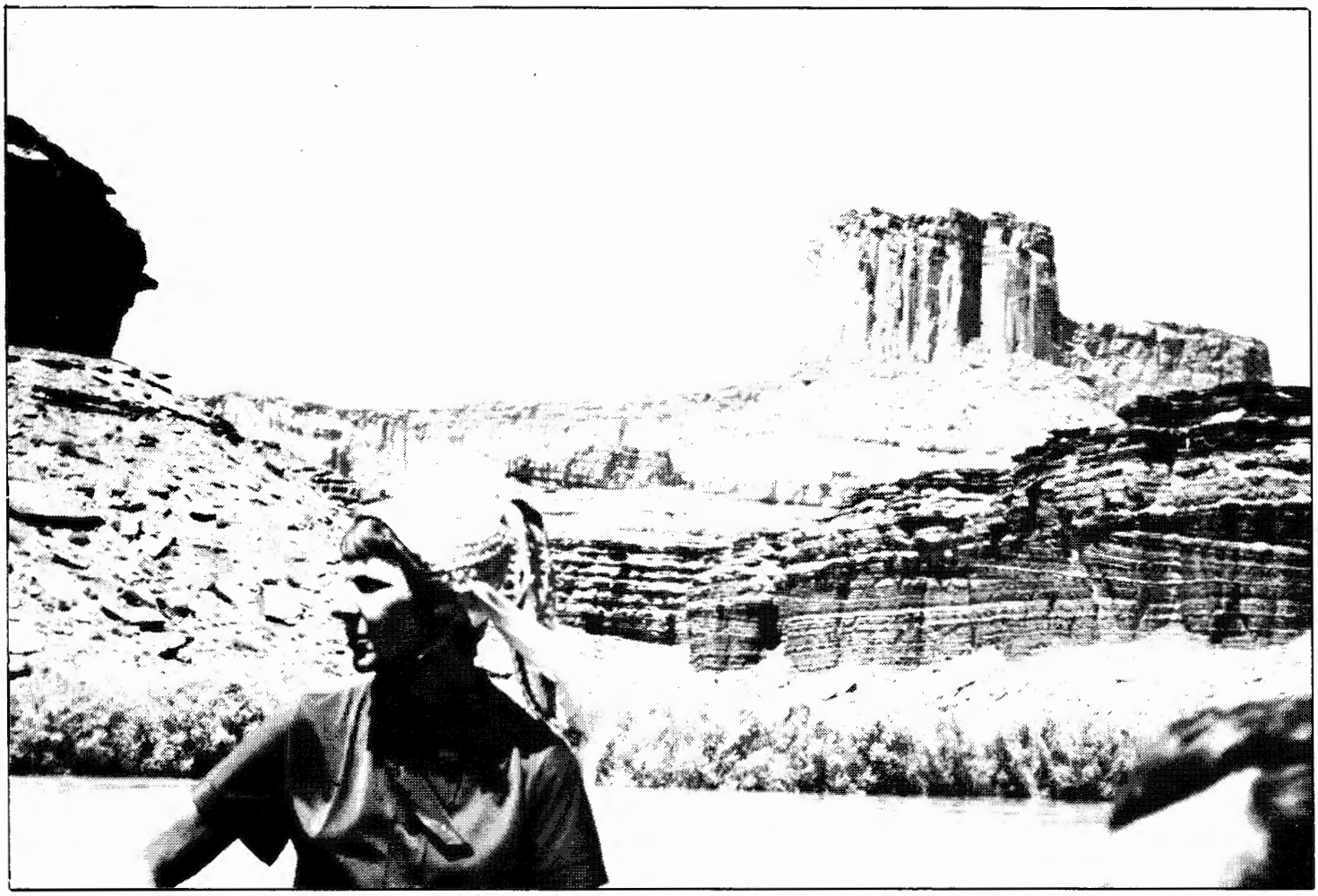
When Georgie would plow down the gigantic waves of Crystal Rapid or Lava Falls without pausing to scout them, boatmen on shore would be reminded of a "Georgie" story and relate it to their passengers. Long before her last run in 1991 she had become a living legend.

Georgie was a "women's libber" long before the term was invented. Personal example was her only contribution to the cause. She didn't even hire women boatmen, preferring Los Angeles County firemen for the most part.

In 1990, Ted Hatch decided that it was about time for the river community to recognize Georgie for her pioneering spirit and contributions to the industry. On her eightieth birthday, November 13, 1990, he threw a party for her at the big Hatch warehouse at Marble Canyon. Georgie was hesitant to come, because she thought few people would show up. How wrong she was! Over five hundred people showed up. Hatch hired a dance band and there was beer for everyone. Ted Hatch claimed the first dance with Georgie. Brian Dierker popped out of a raft decorated like a birthday cake and whisked Georgie away to watch the fireworks from nearby cliffs. The band played until morning. It was a bash to remember.

Georgie boated through the 1991 season and had her brochures out for 1992. But cancer got her and on May 12, 1992, she passed on to the big rapids in the sky.

If any reader has a special story to tell about Georgie, they are invited to write me, Dick Westwood, 5302 N. 79th Place, Scottsdale, AZ 85250



Georgie in lower Labyrinth Canyon on the Green River in 1957. Georgie reached The Confluence on June 13 at an approximate flow of 89,000 cfs (USGS, Water Supply Paper). Photography by L. C. B. McCullough. Photo courtesy of Rosalyn Jirge.

Salinity in the Colorado River

by Tim Thomas

Taken in part from an eight part series on the Colorado River in Rocky Mountain News, June 21, 1984 by staff writer Steve Chawkins.

Our beloved Colorado River, by the time it reaches Mexico, carries some 800 milligrams of salt per liter of water. Now that's not enough salt to really taste. Ocean water is some 40 times saltier. However, each milligram of salt can mean big bucks in terms of the damage it causes farmers and other downstream users. The damage can cost as much as $500,000 per milligram of salt in a liter of Colorado River water in the forms of soil degradation, crop losses, corrosion, and damage mitigation costs. This translates into more than $100,000,000 a year in damage and losses.

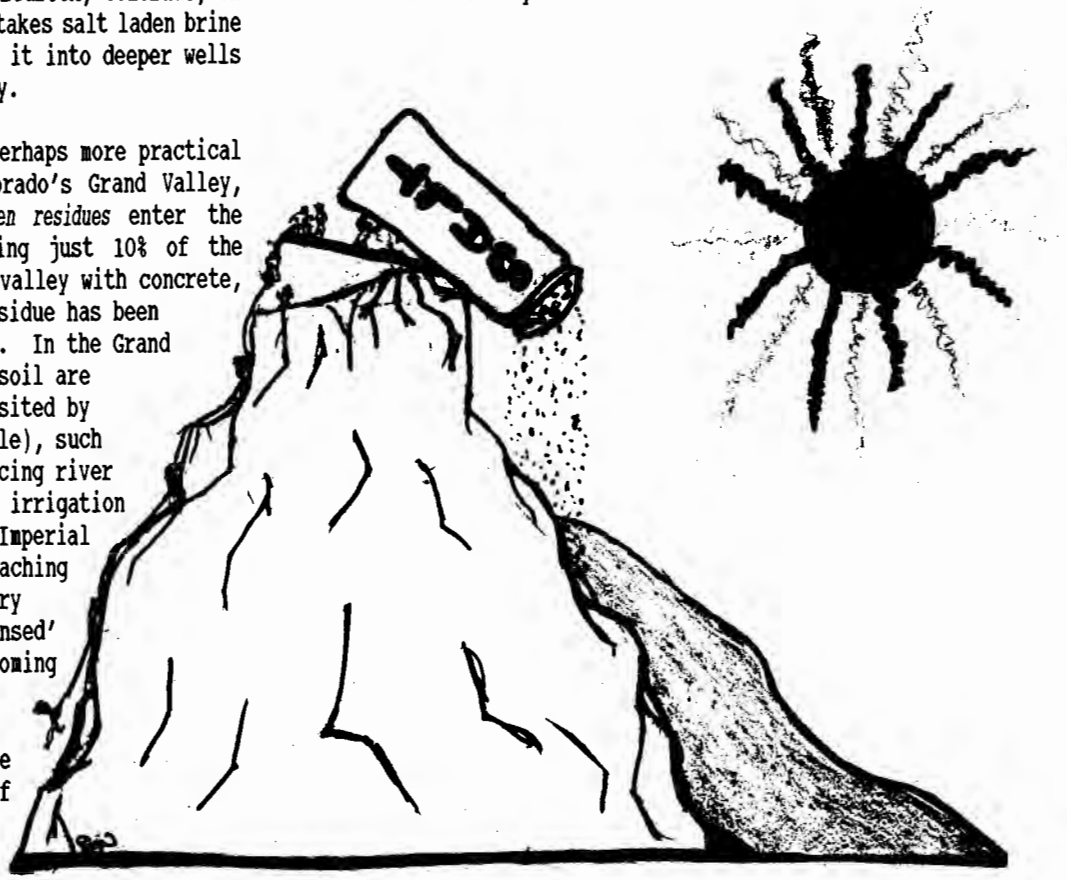
So what do you do with a salty river? You could try to ignore it, but that has its consequences. For example, in the late 1960's, Mexican farmers in the Mexicali Valley protested the increased salinity of the river so vigorously that it became a national political issue and started straining U.S./Mexican relations. In 1974, the U.S, agreed to build the world's largest desalinization plant in Yuma, Arizona, in order to deliver useable water to Mexico. The plant can eradicate most of the salt from as much as 100 million gallons of water per day, but at a cost of almost $400,000,000 for the plant alone. In Bedrock, Colorado, on the Dolores River, a pumping facility takes salt laden brine water from Paradox Valley and injects it into deeper wells in an attempt to reduce river salinity.

Other less costly measures are perhaps more practical however, such as those used in Colorado's Grand Valley, where 600,000,000 tons of *salt laden residues* enter the Colorado River each year. By lining just 10% of the irrigation canals and ditches in the valley with concrete, some 25,000,000 tons of this salty residue has been kept from entering the Colorado River. In the Grand Valley, where salinity levels in the soil are extremely high, due to the salts deposited by an ancient sea (Cretaceous Mancos Shale), such measures are doubly important in reducing river salinity. Similar measures of lining irrigation canals with concrete in California's Imperial Valley help keep salty waters from leaching back into the river. This is necessary when irrigated lands are actually 'rinsed' to help keep salinity levels from becoming too high to grow crops.

But where does all this salt come from anyway? For starters, about half of the rivers saltiness in natural. As much as 500,000 tons of it enters the Colorado River near Glenwood Springs, Colorado, where naturally occurring sulphur hot springs line the river for some 15 miles. This accounts for a large part of the 9,000,000 tons of dissolved salts which the Bureau of Reclamation estimates reaches Lake Mead each year. The rest is picked up along the way as the river flows through salt rich areas such as the Grand Valley. Numerous tributary streams such as the Dolores River and the Little Colorado River, which similarly flow through heavily salt deposited rock formations, add their share of salt to the Colorado River. Additionally, the 'turnback' water from irrigated lands greatly increases the river's salinity as it leaches yet more salt from the soil before returning to the river.

The Dolores itself carries some 600,000 tons of salt per year into the Colorado drainage which accounts for up to 1/2 of the total salt content carried by the lower Colorado. The cause of this high salinity is evident where the Dolores crosses two salt anticlines, which contain salt and salt rich shale up to 14,000 feet thick. The ground water in these valleys dissolves the salt and the brine seeps into the river making it so saline that at low water the Dolores can be five times as salty as sea water.

All tolled, the Colorado River once was about eight times saltier at its end in the Gulf of California than at its head waters on the Continental Divide. Now it is 18 times saltier. Given the Colorado's current use and allocation, it will take a continued aggressive Federal program to help keep the 'life blood' of the West itself alive and healthy.



SUWA Starts Wild and Scenic Inventory

Although over 10,000 miles of rivers have been designated as Wild and Scenic in the United States, not one mile has ever been designated in Utah. **This makes Utah one of only 12 states to have no river protection.** Fortunately, because every federal agency on the Colorado Plateau in Utah is making its Wild and Scenic River recommendations in the next three years, now is the best time to ensure that our free-flowing streams continue to support essential high desert ecosystems.

In order to ensure that these agencies remain on track, Southern Utah Wilderness Alliance (SUWA) is preparing a Citizens' Proposal to Protect the Wild Rivers of Utah. This book will contain photographs, maps, and descriptions of fish, wildlife, and ecosystem surveys of the streams and rivers that remain in their wild and undeveloped state. Much like Wilderness at the Edge, the Citizens' Proposal will be used as the cornerstone to ensure that federal agencies in Utah stick to the federal planning mandates rather than caving into pressure from Governor Leavitt and development interests.

As most of the rivers included in the Citizens' Proposal flow through the Utah Wilderness Coalition's wilderness proposal (also known as HR1500), this is an excellent opportunity to ensure that wilderness ecosystems are not left dry from upstream diversions and that wild lands left out of the BLM's much smaller wilderness proposal remain undeveloped. By including rivers outside of HR1500 lands, many wild areas will be protected providing ecosystems continuity both inside and outside of future wilderness boundaries.

Rivers are important ecosystems because they support a wealth of both aquatic and terrestrial species, especially in the desert. The Utah Division of Wildlife Resources found that 80 percent of all wildlife species depend upon the streamside vegetation, or riparian zones, for at least a portion of their life cycle. These riparian zones in turn are dependant upon free-flowing stream conditions to exist.

Wild and Scenic River (WSR) protection prevents future damming and diversion of rivers but has no effect upon existing water rights. The designation has no effect upon private or commercial recreational use of the river. WSR designation also protects riparian zone degradation by prohibiting development within a quarter mile width along the riverbank. This allows communities to maintain riparian ecosystems while encouraging intelligent water planning, a rare novelty in Utah.

Although **Utah has the highest per capita domestic water consumption in the nation**, outside of the Central Utah Project, no money is being spent on water conservation programs, even though conservation is a tremendous untapped source of water. In Southwestern Utah the Washington County Water Conservancy District is proposing six dams in the Virgin River Basin to fuel growing lawn, garden, and golf course water "needs". Washington County's per capita domestic water use is more than twice the national average.

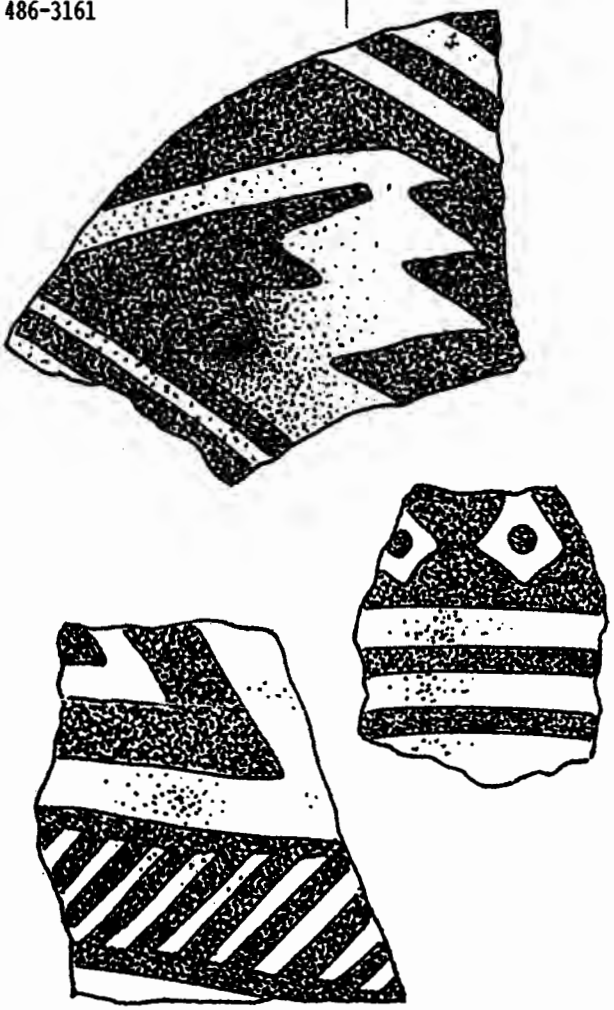
The Virgin River has been listed by American Rivers as one of the 10 most endangered rivers in North America in 1994. For the second year in a row, the group cited endangered fish habitat loss, proposed diversion dams, and a lack of coordination among state and federal agencies as threats to destroying the Virgin River ecosystem.

Two of these dams are proposed immediately upstream from Zion National Park on the headwaters of the Virgin River; the East Fork and the North Fork. The East Fork was first explored for the United States by John Wesley Powell. Carving through the towering Navajo Sandstone cliffs of Parunuweap Canyon, this area contains nearly 90 archaeological sites. The North Fork is one of the most widely visited hikes in the Utah, the Zion Narrows. A dam on this river will have disastrous effects upon the Virgin River ecosystem. Both of these streams are in the Kanab BLM Resource Area which is beginning its Wild and Scenic recommendations. Please write the Kanab RA and tell them that you support protecting both of these beautiful desert streams through Wild and Scenic Rivers designation.

As part of the Citizens' Proposal to Protect the Wild Rivers of Utah, the Southern Utah Wilderness Alliance is seeking information on biological resources and recreational use of Utah's rivers. If you would like to contribute information, or volunteer your time please call:

Southern Utah Wilderness Alliance
Mr. Zach Frankel
1471 South 1100 East
Salt Lake City, UT 84105
(801) 486-3161

Kanab BLM
320 North First East
P.O. Box 458
Kanab, UT 84741



SUWA's Potential Wild and Scenic Rivers

To be eligible for Wild and Scenic River designation a river must be free-flowing (no dams, diversions, or extensive rip rap) and have at least one outstanding remarkable value (ORV). The ORV categories are fish, wildlife, scenic, recreational; geologic, historic, archaeologic. The criteria for each ORV's are very broad in nature and the ultimate agency recommendation is based on the land ownership and the conflicting use. Please add any streams not listed below you think should be considered for protection. Streams in National Parks are not being considered unless their headwaters originate upstream in park boundaries. There is no minimum water volume required to be protected as a Wild and Scenic River. At this point we have divided the state into eight watersheds.

Green River Basin	Colorado River Basin	Virgin River Basin	Dirty Devil Basin	Great Basin	San Juan River Basin	San Rafael River Basin	Escalante River Basin
Ashley	Beaver	Ash Creek	Bullfrog	Birch Crk	Arch Cyn	Blackdrgn	Boulder
Barrier	Mainstream	Beaver Dam	Dirty Dvl	Blacksmith	Butler Wsh	Buckhorn	Calf Crk
Duchesne	Cottonwood	Crystl Crk	Fremont	Goose Crk	Castle Crk	Cane Wsh	Coyote
Rock	Dark Cyn	Deep Creek	Hatch Cyn	Logan Rvr	Comb Wash	Coal Wsh	Death Hlw
Mainstream	Dolores	East Fork	Long Cyn	Ogden Rvr	Cross Cyn	Cottonwood	Deer Crk
Hell Roar>	Fable	La Verkin	Muddy Crk	Provo Rvr	Fish Crk	Eagle Cyn	Mainstrm
Mineral	Hackberry	Mainstream	Oak Creek	Sevier Rvr	Grand Glch	Eardley	40 Mile
9 Mile	Hart's Drw	North Crk	Pleasant	Trout Crk	Hammond	Iron Wash	Harris
Jones Hole	Hatch Wash	Spring Crk	Robber Rst		Johns Cyn	McCarthy	Moody Crk
Price	Indian Ck	Kanab Crk	Salt Wash		Mainstream	N. Salt	North Frk
Range	Last Chnce	Kitchen			Mikes Cyn	Old Woman	Sand Crk
Rattlsnke	Mill Creek	Paria Rvr			Montezuma	Saddle Hrs	Steep Crk
Strwbrry	Negro Bill	Square			Mule Cyn	Salt Wash	The Gulch
10 Mile	Onion Crk	Willis			Owl Crk	San Rafael	25 Mile
Uintah	Prof. Crk	Trachyte			Road Cyn	Spring Cyn	Willow
White	Ruin Cyn	Wahweap			Slickhorn	Virgin Spr	
Whtercks	Salt Wash				Square		
Yellowstne	W. Coy. Cr				Whirlwind		
	White Cyn						

The Bureau of Land Management / Eastern Utah Resource Management Plan

The Bureau of Land Management (BLM) is ready to launch the Eastern Utah Resource Management Plan (EURMP), one of the most ambitious land use planning endeavors undertaken in the state of Utah. The BLM is inviting all the concerned to participate in this important project. One mission of Colorado Plateau River Guides (CPRG) is to affect decisions made by agency Resource Management Plans for the protection of river ecosystems. The board members of CPRG will try to make entry level meetings, but it is recommended that we all get involved on a personal level. Some of the planning areas will include the Price River, the Green River through Desolation and Labyrinth Canyons, the White River, the Colorado River, and the Dolores River.

Interaction is where it's at. You can write, telephone, or stop by the Price River, Book Cliffs, or Grand BLM Area Offices. You can also contact the BLM's District Offices in Vernal or Moab and the State Office in Salt Lake City.

Mike O'Donnell BLM 170 South 500 East Vernal, UT 84078 (801) 789-1362	Jerry Kenczka BLM 170 South 500 East Vernal, UT 84078 (801) 789-1362	Wayne Erickson BLM 324 S. State St. P.O. Box 45155 Salt Lake City, UT 84145-0155 (801) 539-4051	Grand Resource Area BLM 885 S. Sand Flats Moab, UT 84532 (801) 259-8193	Price Resource Area BLM 900 North 700 East Price, UT 84501 (801) 637-4584

That Which Takes Away Forever--AIDS

by Tyge

What once was an occupational gratuity in the business, has now become an occupational hazard. Though the summer of love is in full swing, the only sex worth having - if having it at all - is safe sex during any season.

In the United States, there are now approximately 1.1 million or more HIV infected persons and over 400,000 AIDS cases. In the 14th century, the Black Death killed 25 million people, while there are projected to be 30 to 110 million HIV case's world wide by the year 2000. AIDS does not stand for Asphalt Instant Death Syndrome, (though the outcome is still the same -- Death) but, Antibody Immune Deficiency Syndrome.

The HIV virus reproduces unchecked by invading cells. Next, there is a long asymptomatic period (without symptoms) of a couple months to 16 years or longer, but averaging about 8 years. This asymptomatic period goes on for a long time before testing positive for antibodies in the human body. This is a period of massive unchecked infection. Eventually, there are detectable antibodies (which make tests show positive) that can kill at least some of the HIV in the bloodstream.

Then full-blown AIDS develops, which happens when the blood count of T cells (immune system cells that fight invaders) reduces to about 200 per cubic millimeter of blood, symptoms appear. When AIDS arrives, early symptoms can include unexplained skin rashes, warts, oral candidiasis or thrush, shingles, menstrual problems, or an early onset of one of the opportunistic diseases such as: Pneumoncystic carinii pneumonia or tuberculosis.

After suspected exposure to the disease, typically a blood test is given within one week to establish baselines, then again after six weeks, then perhaps in three months, six months and a year. If the most common antibody test is used, results come back in a few days after each test. But, positive antibody results may not show up for months after true exposure and infections may be raging before the body learns how to make detectable antibodies.

Prevention comes from blocking transmission routes. This means: 1) Avoiding sexual transmission by promoting abstinence, monogamy, use of latex condoms, dental damns and devices to block transmucosal membrane transmission. 2) Protecting the transfusion blood supply by screening and testing. 3) Inducing safe needle use in addicts such as through free distribution of clean needles and by warnings and education.

Rich or poor, male or female, young or old, black or white, these are the players in the game of life. AIDS and HIV do not discriminate one way or the other. In the United States, AIDS and HIV were thought to be just a homosexual disease. NOT! Not only does the heterosexual group remain at high risk, but AIDS is attacking sexually active non-monogamous groups like college communities, youths, and in fact - the entire community!

Until there are effective treatments or prevention by vaccines, AIDS is a sure-fire killer. It is raging across the continents of the world, decimating many African countries. HIV and AIDS do not respect borders!

Being ambassadors of the Canyon, taking ethically and culturally diverse groups down the River, one should have total awareness of the grave dangers inherent in the problems of having - way to much fun.

There are no easy answers to this dilemma of reality. Only one of common sense, if that can be considered in the scope of lost consciousness in the heat of the moment. The decisions you make shall determine your destiny.

To thy own self be true.

Alcohol and the River Guide

Anonymous

"In my judgement, such of us who have never fallen victim [to alcoholism] have been spared more by the absence of appetite than from any mental or moral superiority over those who have. Indeed, I believe if we take habitual drunkards as a class, their heads and their hearts will bear an advantageous comparison with those of any other class."

Abraham Lincoln

In moderation, alcohol is an appropriate social function which delivers a feeling of well-being to its user. However, when abused, can be the cause of the deadly disease known as alcoholism. Statistically speaking, in the United States alone, there are at least 10 million people who are alcoholic. Of those who are, only 10 percent will successfully free themselves from their addiction.

Alcohol is the excrement of yeast, a fungus with a ravenous appetite for sugars. The fungus releases an enzyme which converts sugar into carbon dioxide and alcohol. The yeast will continue to feed on sugars until it dies, which happens when the alcohol concentration reaches 13 to 14 percent. This fermentation process is artificially stopped at 3 to 6 percent for beers and between 10 to 14 percent for wines. Hard liquor percentages are increased by a distillation process.

When first consumed, alcohol behaves as a stimulant, since it is a fuel that is quickly assimilated. However, after three or four drinks, it becomes a depressant. Heroin is addictive for almost 100 percent of its users; morphine for some 70 percent. With these drugs, addiction occurs after about four weeks of use. Alcohol is a selectively addictive drug and affects only 10 percent of its users and

requires periods of years to develop into an addiction.

The body eliminates alcohol when it enters the liver. An enzyme called *alcohol dehydrogenase* attacks the alcohol molecule, quickly removing two hydrogen atoms to create a substance called *acetaldehyde*. The liver then employs another enzyme called *aldehyde dehydrogenase*, to transform acetaldehyde into *acetate*. Acetate is then converted to carbon dioxide and eliminated from the body. For some people, the liver is unable to fully eliminate the toxin acetaldehyde. With time, this chemical accumulates in the body. In the brain, it competes with other chemical substances known as a *brain amine* (or neurotransmitter) for the attention of certain enzymes. Acetaldehyde wins this competition and blocks these enzymes from accomplishing their primary duty of inhibiting amine activity. While acetaldehyde preoccupies the enzymes, it will also form chemical compounds with an amines that is called an *isoquinoline*. In turn, an isoquinoline acts on the opiate receptors of the brain, thus creating the addiction to alcohol.

Alcoholism is never reversible. Prolong contact with the toxin acetaldehyde will forever change the chemical makeup of the mitochondria in the cells. Even after years of abstention, returning to drink will re-activate the compulsion and immediately resume the addiction. Hence the popular saying of the recovered alcoholic, "Your only one drink away from a drunk."

Alcoholism can be genetically inherited. Children of an alcoholic parent are four times more vulnerable to alcoholism then the children of a non-alcoholic parent. Ethnically speaking, Scandinavians, Irish, French, and Native American peoples are prone to alcoholism. Since alcoholism is a genetic malady, the disease progresses unknowingly over the span of many years. This is why the dilemma of denial in alcoholics is so acute. It usually takes an intervention from a spouse, family member, employer, judge, or friend, to encourage the alcoholic to recognize their disease. This is the first and most important step to recovery.

This article is not a temperance action for the river community. This article is an appeal! Treat this dilemma for exactly what it is - a disease - not a breakdown of one's morality or a weakness of spirit. Treatment for alcoholism is an accepted practice of the health insurance industry. Even if one does not have health insurance, there are alternative methods to acquire financial aid. Treatment is cost effective, especially when you consider the amount of money required to maintain the addiction. Start by attending a free meeting of Alcoholics Anonymous. Get an AA member to sponsor you in sobriety. Such an individual has taken the disease full circle and can offer advice and encouragement. Be willing and open minded to learn an alternative lifestyle called - abstinence.

Reference: Milan, Dr. James R., Katherine Ketcham. 1981. Under the Influence: A Guide to the Myths and Realities of Alcoholism. Bantam Books. New York City.



Ammo Can Libraries

We would like to recommend to outfitters and trip leaders the perfect way to provide an inexpensive and comprehensive library for your river trips.

There are two institutions in southeastern Utah that provide excellent magazines concerning the natural history of the Colorado Plateau. These are: **The Canyon Legacy** of the **Dan O'Laurie Museum** and **Blue Mountain Shadows** of the **San Juan Historical Commission.**

These magazines offer full-range topics written by authors who live and work in the Colorado Plateau - many of which are CPRG members. These authors work for various universities, government agencies, professional consulting firms, community organizations, and outfitters.

Our first recommendation would be to join these fine institutions to show your support and to receive their periodicals on a continuing basis. Our second recommendation would be to order back issues. For about $150, you would end up with a very impressive library that would help your guests to better appreciate the Colorado Plateau. It would also serve the purpose of providing reliable interpretive information for entry level river guides. For more information write to:

The Dan O'Laurie Museum
The Canyon Legacy
118 East Center Street
Moab, Utah 84532
(801) 259-7985
Membership fee: $25.00
Back issues from $4.50 to $6.00

San Juan County Historical Society
Blue Mountain Shadows
362 West 400 South
Blanding, Utah 84511
Membership fee: $25.00
Back issues from $8.50 to $9.00

Laccolithic Mountains of the Colorado Plateau

by John Weisheit

Introduction

The last mountains to be included on the map of the continental United States were the Henry Mountains (the Henrys). They were named by John Wesley Powell for Joseph Henry, director of the Smithonsionian Institute and contributor of the scientific equipment used during Powell's historic boating expedition of 1869. The Henrys are igneous intrusive mountains -- more specifically a *laccolith* -- and are located in southeastern Utah bounded on the north by the Fremont River, on the east by the Dirty Devil and the Colorado rivers, on the south and west by the Waterpocket Fold. Mt. Ellen is the highest peak at 11,615 feet with a vertical relief of about 8000 feet. Of the many laccolithic mountains on the Colorado Plateau, the Henrys have received the most attention by the United States Geological Survey. First, by geologist Grove K. Gilbert and second by geologist Charles B. Hunt.

The first geologist to actually describe laccolithic mountains on the Colorado Plateau was Albert C. Peale, during a government sponsored survey under the direction of Ferdinand V. Hayden in the 1870's. When Hayden's team was in the laccolithic La Sal Mountain group near Moab, Utah, they named the highest peak in Mr. Peale's honor, which is the tallest mountain on the Colorado Plateau, standing at 12,721 feet. Said Peale, "[A laccolith mountain] presents one of the most promising fields for future detail investigation to be found in any part of the West, and will well repay the labor of the geologist who shall devote himself to their special study."

I perceive that geologist to be Charles Hunt, because his investigations would later develop into the most comprehensive work available concerning the Cenozoic Era's geological history of the Colorado Plateau and of the Colorado River. These would include USGS Professional Papers 279 and 669C which may be the most eye-opening primary documents ever produced about the Colorado Plateau.

Kinds of Igneous Mountains

There are two kinds of igneous mountains on the Colorado Plateau and are termed as being either intrusive or extrusive. The Henrys are an igneous intrusive structure that formed about 45 million years ago. Molten rock (magma) was injected between sedimentary rocks, which made the overlying rocks bulge, and then cooled slowly within the structure. In this particular process of slow cooling, the magma crystallized into a rock type called granite. This intrusive phenomenon is called a laccolith -- a word of Greek origin meaning cistern or pit. Erosion (mostly glacial) has since stripped away the overlying sedimentary rock, exposing the granite and leaving its present sawtooth-like appearance.

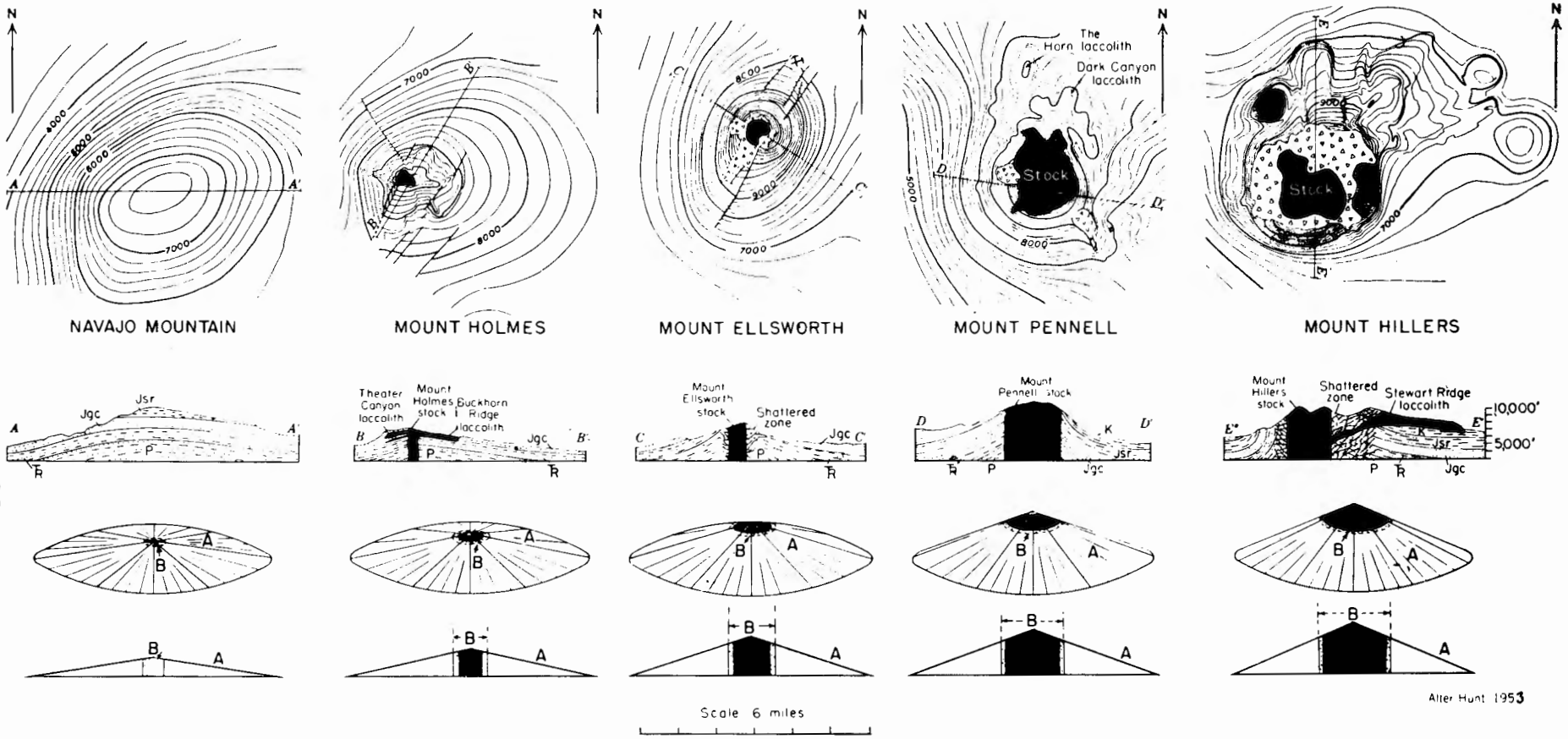
There are two parts to a laccolithic mountain -- the stock and the foot. The stock is the point of injection from the sub-surface magma zone. We will later learn in the upcoming discussion of plate tectonics, that standing water on the surface was sufficient enough to thwart the complete upward travel of the magma, which then moved laterally (sideways) into sedimentary rock. This laterally injected magma is called the foot and the true laccolith. Hydrothermal activity was associated with the stock, which vented vertically through joints caused by the bending of the sedimentary layers. In the case of the northern flank of the La Sal Mountains, a foot vented magma and formed a curious extrusive lava deposit which can be observed in upper Castle Valley. For the La Sal Mountains, most of the intrusive activity started first as a viscous diorite porphyry followed later by a less viscous monzonite porphyry. A diorite porphyry is a granite rich in calcium and sodium. A monzonite porphyry has a similar matrix but contains more potassium and makes for a lighter colored granite.

There are three other kinds of intrusive structures found within the Western United States. This would include the *batholith*, which is defined as an intrusive structure greater than 40 square miles. Their shape is equidimensional and good example is found in Yosemite National Park. A *dike* is an intrusion that fills a vertical fracture within a rock formation. Dikes are seen in the metamorphic schist and gneiss formations of Grand Canyon and Westwater Canyon. An intrusive *sill* fills a fracture that runs parallel to the plane of the mother rock. In the Grand Canyon a sill is observable in the Bass Limestone of the Unkar Group near Hance Rapid and is associated with the asbestos fibers once mined there.

A good example of an igneous extrusive structure (volcano) on the Colorado Plateau are the San Francisco Mountains near Flagstaff, Arizona. Magma was ejected onto the earth's surface (lava) and cooled quickly forming basalt and tuff (ash). Mount Humphreys is the highest peak reaching a summit of 12,670 feet and is Arizona's tallest mountain. The original vertical relief amounted to 8,800 feet, but erosion has since reduced the relief down to about 5,800 feet.

Plate Tectonics

There are other laccolithic mountains on the Colorado Plateau which can be grouped according to age and cause. For ages of about 80 to 65 million years (Cretaceous Period) we have the La Platas, the Carrizos, the Utes, El Late, the Ricos, and the San Miquels, all of which are associated with the Laramide *orogeny* -- mountain building. Interestingly, some of the laccoliths associated with the Laramide orogeny bear mineral wealth; these minerals may have been introduced by the magma content of that time period.



K, Cretaceous rocks; Jsr, rocks of San Rafael group; Jgc, rocks of Glen Canyon group; R, Triassic rocks; P, Permian rocks. Structure contours drawn on base of Ferron sandstone member of Mancos shale. Contour interval is 200 feet; datum is sea level

Structure contour maps, cross sections, and diagrams of Navajo Mountain and of Mounts Holmes, Ellsworth, Pennell, and Hillers in the Henry Mountains. The location of the cross sections is shown by lines on the maps. The diagrams are on the same scale as the structure-contour maps and geologic cross sections of the mountains.

Each diagram is set beneath the mountain it portrays. In the oblique diagrams of the conically deformed circular areas, the lined area A on the lateral surface of each cone equals the area of the basal circle, and the area B is the amount by which the lateral surface exceeds the circular base.

On the Navajo Mountain cone the stippled area B (0.5 sq. mi.) represents the extent of stretching of the domed strata. Areas of the same size are represented by stippling on the other cones. On the assumption that this 0.5 sq. mi. is the limit of stretching of the domed strata, the black areas in the cones of the Henry Mountains represents the theoretical space formed by doming of the strata and available for the intruding stock.

FIGURE 1 —Diagrams illustrating the relationship between the stocks and the domes at the laccolithic mountains on the Colorado Plateau.

During the ages of about 45 to 25 million years ago (Oligocene and Miocene Periods [Olig/Miocene]) we have the Henrys, the La Sals, the Abajos, and Navajo; which are associated with the *extensional rifting* (stretching) of our study area.

As mentioned, it is hypothesized that the reason why magma did not extrude to the surface was due to water. In the case of the Laramide laccoliths a Cretaceous sea, and in the case of the rifting laccoliths an Olig/Miocene lake. The presence of this Olig/Miocene lake indicates the Colorado River system was yet to develop an outlet to sea level. Through-drainage of the Plateau and development of the Colorado River system occurred later, probably about 10 to 20 million years ago and continues to evolve its course such as through Westwater Canyon, which formed some two million years of ago.

About 144 million years ago, the continental North American plate started to press into the oceanic Pacific plate and resulted in the building of the mountains referred to as the Nevada orogeny. Tectonic pressures continued and the Pacific Plate subducted under the advancing North American plate and a second set of mountains were built around 105 million years ago and called the Sevier orogeny. About 80 million years ago, tectonics began to create the Rocky Mountains of the Laramide orogeny. For the Colorado Plateau area, this orogeny also included the Cretaceous laccoliths and other surface bulges such as the Monument Upwarp and the San Rafael Swell. These surface bulges probably then appeared either as islands or at least as a seamount (submarine mountain) in the Cretaceous sea.

About 65 million years ago, in the Tertiary Period, tectonic pressure continued and began slowly to uplift the Colorado Plateau. The strata tilted to the northeast forming a southern barrier that made the Colorado Plateau area a hugh continental basin without an outlet to an ocean. Ancestral rivers feeding this basin flowed west from the Rockies and east from the Sevier resulting in a lake setting for our Tertiary Colorado Plateau. Some of the sediments from this continental lake have escaped erosion and are visible in Desolation Canyon on the Green River.

Eventually the pressures moving the North American plate eased and the affected area began to spread apart (rift), much like the expanding bellows of an accordion. This spreading introduced magma to flow up into the sedimentary rock of the Colorado Plateau and hence, our Olig/Miocene laccolithic mountains, which too probably appeared as islands. Rifting was especially dominate west and south of the Plateau because this area does not seem to have the thick basement rock of the Precambrian crystalline structures as seen in the inner gorge of the Grand Canyon and Westwater Canyon. This area segmented and whole sections dropped (a graben) to form the Great Basin Province of Nevada and western Utah, and the Basin and Range Province of eastern California and southern Arizona; this occurrence left the Colorado Plateau at a higher elevation. Rifting also formed a large oceanic trench (Gulf of California) which opened up to about present-day Needles, California, and became the eventual destination point of the Colorado River when the lake finally over-spilled the Colorado Plateau. That erosive point of discharge from the southern hingeline of the Colorado Plateau (Mogollon Rim/Grand Wash Cliffs) began canyon cutting and is better known as the process of *headward erosion*. However, it was hypothesized that discharge first occurred as a waterfall from an underground river in cavernous Paleozoic limestones and exited the hingeline escarpment as an upscale Vasey's Paradise or Thunder River (Grand Canyon tributaries).

Conclusion

This particular study of the Colorado Plateau is yet to be fully determined. Part of the problem is that the technology is not advanced as the theory. It is difficult to probe into the deep, thermal, and resistant basement rocks of continental and oceanic plates. The other problem is that the uppermost rock evidence has forever been eroded away.

I propose that while Mr. Hunt was studying the formation of the laccolithic Henrys that the anomalies of the Colorado Plateau within his distant view, such as the Book/Roan Cliffs, the San Rafael Swell, the Waterpocket Fold, the Aquarius Plateau, the Circle Cliffs, the Kaiparowits Plateau, the Monument Upwarp, and all the other laccolithic mountains, inspired him to formulate his Cenozoic history of the Colorado Plateau. He took on a monumental task and deserves that special reward Mr. Peale spoke of.

References:

Chenoweth, William L. 1987. Albert C. Peale, M.D. -- Pioneer Rocky Mountain Geologist. Cataract Canyon and Vicinity. Guidebook of the Four Corners Geological Society. Tenth Field Conference. John A. Campbell, Editor. Durango, Colorado.

Hintze, Lehi F. 1988. Geologic History of Utah. Brigham Young University. Salt Lake City.

Hunt, Charles B. 1956. Cenozoic Geology of the Colorado Plateau. Professional Paper 279. United States Geological Survey. United States Government Printing Office. Washington D.C.

Hunt, Charles B. 1969. Geologic History of the Colorado River. Professional Paper 669C. United States Geological Survey. United States Government Printing Office. Washington D.C.

Hunt, Charles B. 1983. Development of the La Sal and Other Laccolithic Mountains on the Colorado Plateau. Northern Paradox Basin/Uncompahgre Uplift. Grand Junction Geological Society. Walter R. Averett, Editor. Grand Junction, CO.

Stokes, William Lee. 1986. Geology of Utah. Utah Museum of Natural History. Salt Lake City.

An Open Letter to the People
Who Care About the Colorado River

by Bill Hedden, Vice-Chair,
Grand County Council, Utah

The Grand County Council wants you to be aware of a very important issue that could seriously degrade the Colorado River system if it isn't properly handled. At stake is the ultimate disposal of 11,000,000 tons of radioactive uranium mill tailings sitting unprotected on the flood plain of the river.

America's nuclear weapons and nuclear power industries have left a legacy of defunct or abandoned uranium mills along the shores of our Western rivers. Tailings piles at most of these sites have been leaking containments into the groundwater and the rivers, and dust from the piles has been blowing into nearby towns. As a result, Congress passed the Uranium Mill Tailings Radiation Control Act (UMTRCA), which made the Department of Energy (DOE) responsible for the cleanup at sites where a responsible party could be identified.

The DOE has studied contamination at the orphaned sites and decided that every pile situated near a river and a population center had to be moved to a more suitable location. Thus, tailings in Lakeview, Gunnison, Rifle, and Grand Junction are all being moved away from the Colorado River or its tributaries.

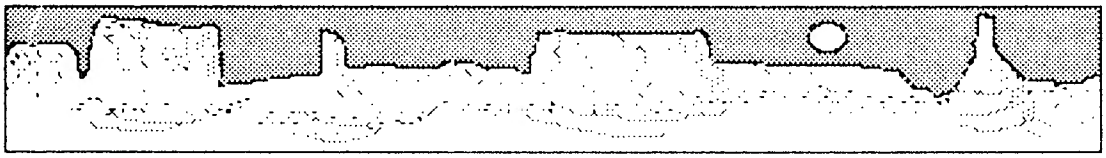
At the same time, the Nuclear Regulatory Commission (NRC) is trying to decide how to deal with the hugh pile located in Moab, Utah, and belonging to Atlas Mineral Company. It is the largest of all these tailing piles, and sits closer to the river than any of the ones being relocated. It was built on a wet alluvial fan formed where a major wash enters the Colorado River. Each Spring, the floodwaters of the river lap at the unlined base of the pile, and contaminants in the form of heavy metals and radioactive particles seep into the groundwater mere yards from the river. To complete the picture of this site, imagine that it is directly adjacent to Arches National Park, just upstream from Canyonlands National Park, and straight across the river from Utah's richest nature preserve.

In July 1993, the NRC released an environmental assessment (EA) and a draft "Finding of No Significant Impact" (FONSI) for a plan to cover the pile and leave it where it is forever. Their rationale for the decision appears to have been that the reclamation in place option was cheapest and most expedient for Atlas. NRC has opined that even a catastrophic failure that washed the whole pile into the river wouldn't be too bad because the tailings would end up buried in Lake Powell.

(continued on page 18)



The tailings pile at the Atlas Minerals uranium ore reduction plant in the flood plain of the Colorado River outside of Moab. Photo courtesy of Bill Hedden.



COLORADO PLATEAU RIVER GUIDES
BYLAWS
(as of April 1994)

ARTICLE I: NAME

SECTION 1. The organizational name shall be COLORADO PLATEAU RIVER GUIDES, hereinafter referred to as CPRG.

ARTICLE II: PURPOSE

SECTION 1. CPRG is organized for the following purposes:

A. To define, promote, and protect the river ecology of the Colorado Plateau through stewardship.
B. To effect changes in agency river management plans that are designed to improve the wilderness quality of the river experience.
C. To provide a forum of communication that will encourage cooperation, professionalism, and a sense of community among river guides of the Colorado Plateau.
D. To participate in studies and programs which will benefit the guides stewardship of the Colorado Plateau.
E. To promote and provide a better understanding of the Colorado Plateau through the education of guides and the public. This will partly be accomplished by a publication called THE CONFLUENCE.

ARTICLE III: BOARD OF DIRECTORS

SECTION 1. The government of CPRG, the direction of its work, and the control of its property and records shall be vested in the Board of Directors, hereinafter called The Board. The Board shall consist of the President, Vice-President, Secretary-Treasurer, and four Directors. The Directors will serve Bluff, Green River, Vernal and Moab areas. No person may serve on The Board in more than one capacity simultaneously, except during a temporary vacancy.

SECTION 2. The Board shall meet prior to the Spring and Fall meetings and additionally as necessary. Special meetings of The Board may be called by the President or by the request of any two members of The Board with notification made within 10 days. At any properly called meeting of The Board, the presence of a majority of all its members shall constitute a quorum. Issues shall be determined by a majority vote.

SECTION 3. When questions arise which require action by The Board, the President may pool The Board individually by mail or telephone and shall be guided by a majority vote. The President and the Secretary-Treasurer shall keep a record of the voting.

SECTION 4. The resignation or vacancy of an Officer shall be temporarily filled by a Board member. At the Spring or Fall meeting (whichever comes first), the GUIDE membership shall nominate and elect a Board member to complete the term of office. The Guide membership shall also nominate and elect a Guide member to fill the vacancy of that Board member (election shall be held as per Article 5, Section 1).

SECTION 5. In matters of policy affecting CPRG, The Board may submit questionnaires to the GUIDE membership for approval or disapproval. The Board shall be guided accordingly.

SECTION 6. The Board shall authorize and define the powers and duties of all committees and their chairmen and make such appointments as necessary.

SECTION 7. The Board shall determine the yearly membership dues for CPRG.

ARTICLE IV: OFFICERS

SECTION 1. The officers of CPRG shall consist of a President, a Vice-President and a Secretary-Treasurer. They shall be members of The Board. They shall be members of CPRG with dues paid.

SECTION 2. The President shall preside at all CPRG meetings and perform all duties incident to this office.

SECTION 3. The Vice-President shall act in the absence of the President. In the absence of both the President and the Vice-President, The Board shall choose one of its members to act temporarily.

SECTION 4. The Secretary-Treasurer shall perform such duties as may be incident to said office, subject to the direction of The Board.

SECTION 5. At the expiration of their terms of office, outgoing Board members shall deliver to the new Board members all books, papers, records, and property pertinent to their offices.

ARTICLE V: ELECTION OF OFFICERS AND DIRECTORS

SECTION 1. Each odd year at the Fall meeting, an election for the President and two Directors (Bluff/Green River) shall be held. Each even year the election for the Vice-President and the two remaining Directors (Moab/Vernal) shall be held.

SECTION 2. The position of CPRG Secretary/Treasurer shall have no set term.

SECTION 3. Nominations for Officers and Directors shall come by absentee mail or from the floor at the Fall membership meeting and must have consent from the said Nominee. Candidates shall be GUIDE members.

SECTION 4. The term of each office shall be two years. New Officers shall take office after election at the Fall meeting. Only two consecutive terms shall be held in any one office, except the Sectretary/Treasurer.

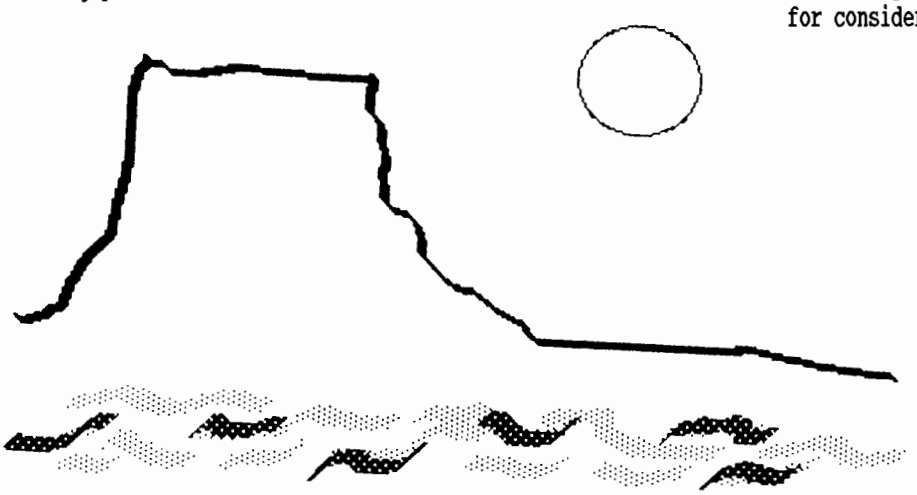
ARTICLE VI: MEMBERSHIP

SECTION 1. CPRG membership classification shall be:

A. GUIDE. To qualify for GUIDE membership, a person must now be or have in the past worked in the river guiding profession of the Colorado Plateau.
B. GENERAL MEMBER. Any person, business, or organization having interest in river running in the Colorado Plateau and who subscribes to the purposes of CPRG (ARTICLE II) may apply to become a GENERAL member.
C. AFFILIATE. CPRG may choose to affiliate itself with other organizations whose purpose are in keeping with its own.
D. HONORARY MEMBER. The title of HONORARY MEMBER may be conferred by The Board upon individuals who have contributed in an exceptional manner to CPRG, its interests and objectives (ARTICLE II), or who have made significant contributions to river running in the Colorado Plateau. HONORARY members shall be nominated and approved by a majority vote of the GUIDE members.

SECTION 2. Membership applications shall be presented to the CPRG Secretary-Treasurer. The application shall include membership classification and a statement of the applicants qualifications and experience. The Board shall designate the form and type of information desired.

SECTION 3. Each individual GUIDE shall have one vote. Only GUIDES whose dues are current may vote in elections for CPRG officers or for other CPRG business which requires the voting process.



SECTION 4. Expulsion from membership shall require the motion of a least five GUIDES at a membership meeting and a majority vote shall be required from The Board. Notification of intent to call for expulsion will be made to the GUIDE membership at least 30 days prior to the meeting at which such action is planned.

SECTION 5. Expulsion from The Board shall require the motion of at least five GUIDES at a membership meeting and a majority vote shall be required from The Board. Notification of intent to call for expulsion will be made to the GUIDE membership at least 30 days prior to the meeting at which such action is planned.

ARTICLE VII: MEETINGS

SECTION 1. The annual membership meeting shall be held each year in the Fall, at a time and place designated by The Board. Notice of the annual meeting shall be given at least 30 days prior to the meeting. The agenda for the Fall meeting will include the election of Board Members.

SECTION 2. A semi-annual membership meeting shall also be held each year in the Spring, at a time and place designated by The Board. Notice of the Spring meeting shall be given at least 30 days prior to the meeting.

SECTION 3. Additional membership meetings may be called by The Board at times and places designated by them.

SECTION 4. The GUIDES present at any membership meeting shall constitute a quorum, provided that written notice of the meeting shall have been mailed to the entire GUIDE membership at least 30 days prior to the meeting.

SECTION 5. Election for The Board and the passing of resolutions will be held at the Fall meeting. Absentee ballots by mail from GUIDE members will be accepted if received before the Fall meeting is convened.

SECTION 6. The Board shall hold meetings in conjunction with but prior to membership meetings to draft resolutions for consideration at the meetings.

ARTICLE VIII: REVISIONS

SECTION 1. These by-laws may be amended or revised by a two-thirds majority from the GUIDE members, provided that the entire CPRG GUIDE membership is notified by mail at least 30 days prior to the meeting where bylaw amendment or revision is on the agenda.

(continued from page 15)

This brought a storm of protest from the Environmental Protection Agency, State of Utah, National Park Service, and the Grand County Council, who all pointed out that the plan met none of the UMTRCA reclamation objectives (i.e. long-term geophysical isolation from the environment without the need for ongoing maintenance) as well as one of the alternatives did. At the insistence of Senator Orrin Hatch, the NRC withdrew the FONSI and agreed to write a full Environmental Impact Statement (EIS).

The process of preparing that document is now underway, and we urge you to become involved. The scoping hearings ended in mid-May, and NRC expects to have a draft ready for internal circulation by mid-July. A public draft is due out in late September. These short time frames are possible because no new information is being generated. Moving the pile is not being seriously considered. NRC is simply going through the motions of writing a document because they have been forced to do so. As Grand County stated in its scoping response, "our comments are aimed at reminding you (NRC) of the difference between a real sham, in which well developed alternatives are honestly compared; and a public relations sham, in which time and money are wasted justifying a decision made before the process ever began". **To be placed on the EIS mailing list and to receive copies of the 1993 EA and/or the EIS Scoping Comments write:**

Allan Mullins
Office of Nuclear Material Safety and Safeguards
Washington, D.C. 20555
(301) 415-6693

Uranium Ore Reduction in Grand County

by John Weisheit

The uranium ore reduction plant outside of Moab was started by Charles Steen's company called UTEX (Utah/Texas) Exploration Company with his lawyer/partner Mitchell Melich. They formed a partnership with Melich's father-in-law E. H. Synder, the president of Combined Metals Reduction Company. This partnership formed a company called the Uranium Reduction Company (URECO).

The method chosen to reduce uranium ore was a resin-in-pulp process that was originally piloted by the Atomic Energy Commission (AEC). Raw ore was first crushed to size and acid-leached into an unfiltered slurry. Tapioca-sized beads of resin in wire-mesh baskets were slowly agitated in a flowing stream of uranium-bearing pulp. The beads became coated with uranium through ion-exchange and then the uranium was stripped from the resins in a chemical bath. With this method, Ureco hoped to handle 1500 tons of ore per day. The necessary permit for the building of the mill was granted by the AEC.

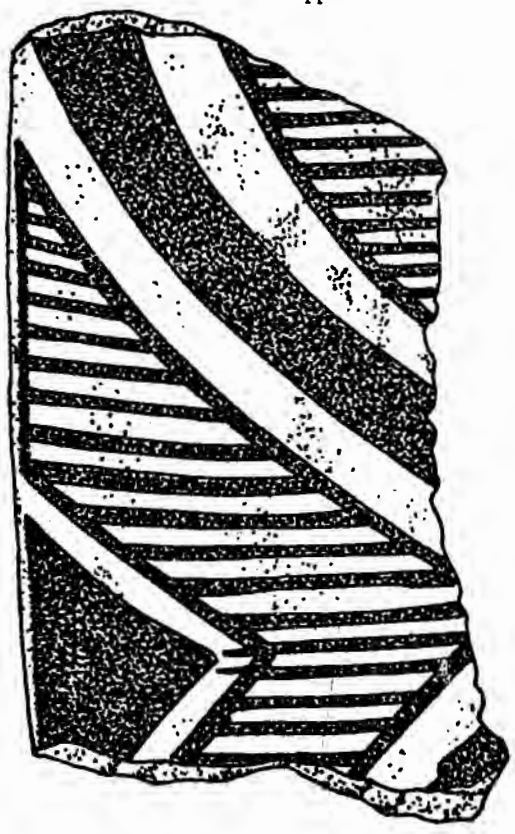
The construction company to build the facility was Foley Brothers Incorporated. Foley was associated with the investment bankers of Kuhn and Loeb and Company. This company agreed to set up the initial financing. Steen and Melich successfully borrowed $3,500,000 from the Chemical Bank of New York. They sold their first mortgage bonds for $6,200,000 to New York Life Insurance Company. Another $2,300,000 was generated from private investors and stockholders. To satisfy investors, The American Lead, Zinc and Smelting Company was contracted to manage the construction and operation of the plant.

During this time a company called the Atlas Corporation, headed by Floyd Odlum, was negotiating with the AEC for a reduction plant in La Sal, Utah. The competitive threat was sufficient for Steen and Melich to sell 30% of Ureco stock to the Atlas Corporation to complete the last hurdle to construction.

The land for the plant was purchased at $40,000 from local farmers (see front cover photo). Groudbreaking for the plant occurred in June of 1955. Dedication for the Ureco facility occurred on September 14, 1957. In 1962, Steen and his partners agreed to sell 85% of Ureco stock for $12,890,000 to the Atlas Corporation.

Demand for uranium oxide dropped when the federal government stockpiled enough concentrate to satisfy their defense objectives. Also, due to the construction costs needed to meet revised federal standards for the safe operation of nuclear power plants, no building permits have been issued since 1978. The price per pound for concentrate dropped from $43 dollars to $17. The Atlas Corporation closed their mines and the reduction mill in 1984.

Reference: Ringholz, Raye C. 1991. Uranium Frenzy. University of New Mexico Press. 310 pp.



From the United States Fish and Wildlife Service

Recovery Programs for the Endangered Fishes of the Upper Colorado River

Hatcheries, Fish Ladder Top Endangered Fish Recovery List

An endangered fish hatchery could be constructed in Colorado and two existing facilities in Utah expanded, following decisions made Sept. 8, in Denver by managers of a multi-agency program to recover rare Colorado River fish.

The Implementation Committee of the Recovery Program for Endangered Fish of the Colorado River Basin approved a 1995 budget authorizing $600,000 for construction of 20 to 30 additional holding ponds at an existing hatchery near Vernal, Utah. The committee approved another $300,000 for developing designs for a proposed new hatchery in Craig, Colo., and for possible expansion of the Wahweap State Fish Hatchery at Big Water, Utah, near the Arizona border.

"The Craig City Council is pleased that we may be able to help recover the fish," said Don Birkner, city manager of Craig. "In the long run, we also hope that the hatchery could provide information and education for the public and become a tourist attraction."

Outdoor ponds constructed at Craig and the other sites would be used to raise endangered fish for future stocking efforts or for use in fields studies. Endangered fish from the wild could be held in these protected settings, preventing them from becoming extinct if there were some type of disaster in the river or in another hatchery.

In 1995, biologists and engineers planning the Craig facility will finalize the proposed hatchery design, acquire necessary permits and complete requirements of the National Environmental Policy Act. Construction would start in 1996 and be completed in 1997.

"Constructing these ponds is one of the several actions in the Recovery Program's 1995 work plan that will provide direct and tangible benefits for endangered fish," said John Hamill, a U.S. Fish and Wildlife Service biologist who directs the Recovery Program.

Currently, there are two endangered fish hatcheries in the upper Colorado River Basin: one at the Ouray National Wildlife Refuge near Vernal. Utah, and one at Horsethief Canyon State Wildlife Area near Fruita, Colo. Two other sites under temporary use are the state Fish Research Hatchery in Bellevue, Colo., and a national hatchery in Valley City, S.D. Available space in these facilities totals six acres. Biologists say another 20 acres are needed if all four fish species -- razorback suckers, bonytail chubs, humpback chubs and Colorado squawfish -- are to be maintained in separate ponds according to species, size and genetic background.

Other projects approved for 1995 include the following:
1) Construction is scheduled to start in spring 1995 on a fish ladder at Redlands Diversion Dam on the Gunnison River in southwest Colorado, following completion and public review of environmental documents to comply with the National Environmental Policy Act. The diversion dam has blocked upstream fish passage since the turn of the century. A ladder will give the fish access to more than 50 miles of their historic range. The project would be completed by 1996 at a total cost of about $1 million.
2) The Colorado River Water Conservation District will develop a plan for protecting Yampa River flows for endangered fish while also providing water for human needs. Current plans call for accomplishing this by expanding Elkhead Reservoir. This reservoir is located on the Elkhead River upstream of endangered fish habitat and therefore could be used to store additional water without directly impacting the fish.

The total 1995 Recovery Program budget is $8.5 million. More than half of that amount will pay for capital projects such as hatchery expansions, construction of the Redlands fish ladder and restoration of wetlands needed by young endangered fish.

"Costs associated with these projects are expensive, but should be considered in context of the billions of dollars spent altering the river to construct water projects for human needs," Recovery Program Director Hamill said. "Many of these projects were done without consideration for their effects on native fish and wildlife. We are now trying to reverse some of those developments today."

Once abundant in the Colorado River Basin, the four species of endangered fish are now at the risk of extinction, because of habitat changes caused primarily by construction of dams and introductions of exotic fish. Biologists believe the decline in native fish is an indicator of the overall health of the river environment.

U.S. Fish and Wildlife Service
Connie Young
P.O. Box 25486
Denver Federal Center
Denver, CO 80225
(303) 236-2985

Question: Should you dump food scraps into the river?

Answer: No! It is a violation of prescribed river management plans and encourages the exotic fish population.

So: You brought the food into the canyon - you should take it out.

Information and News

Professional River Guides of West Virginia

Professional River Guides of West Virginia (PRGWV) has contacted CPRG in order to create a dialogue of communication with the professional guides who work in the West. If you would like more information on PRGWV or care to join the organization, please write to:

Contact: Charley Friddell
Professional River Guides of West Virginia
P.O. Box 281
Fayetteville, WV 25840-0281

New Book!

Luna Leopold is a geologist and civil engineering known for his studies in fluvial processes and geomorphology. He has been a member of the United States Geological Survey and of the National Academy of Sciences. While a doctoral student at Harvard, Luna Leopold edited the draft essays of his father, Aldo Leopold, and published *A Sand County Almanac.*

His new book, **A View of the River**, is a must read for anybody associated with the river industry. The book is 298 pages with charts, graphs and photos.

Luna B. Leopold. Harvard University Press, 1994. $39.95 plus $3.50 postage and shipping; Customer Service Dept., Harvard University Press, Cambridge, Mass. 02138 (800) 448-2242.

Friends of the Animas River

Friends of the Animas River is a spirited group committed to the environmental well-being of the Animas River, its watershed and riparian zones. It dispenses information through a newsletter and facilitates discourse with the various agencies. General membership is $25.00.

Contact: Friends of the Animas River
P.O. Box 3685
Durango, Co 81301
(303) 259-3209

Colorado Rivers Alliance is Formed

After six months of research, consultation and assessment, and with the support and cooperation of River Network and the Colorado White Water Association, Colorado Rivers Alliance was founded March 1, 1994.

Colorado Rivers Alliance pledges to protect, restore, and enhance the natural character and responsible enjoyment of the rivers in the state of Colorado, through communication, cooperation and policy.

Contact: Nancy C. Jacques
Colorado Rivers Alliance
P.O. Box 4054
Durango, CO 81302

From: Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

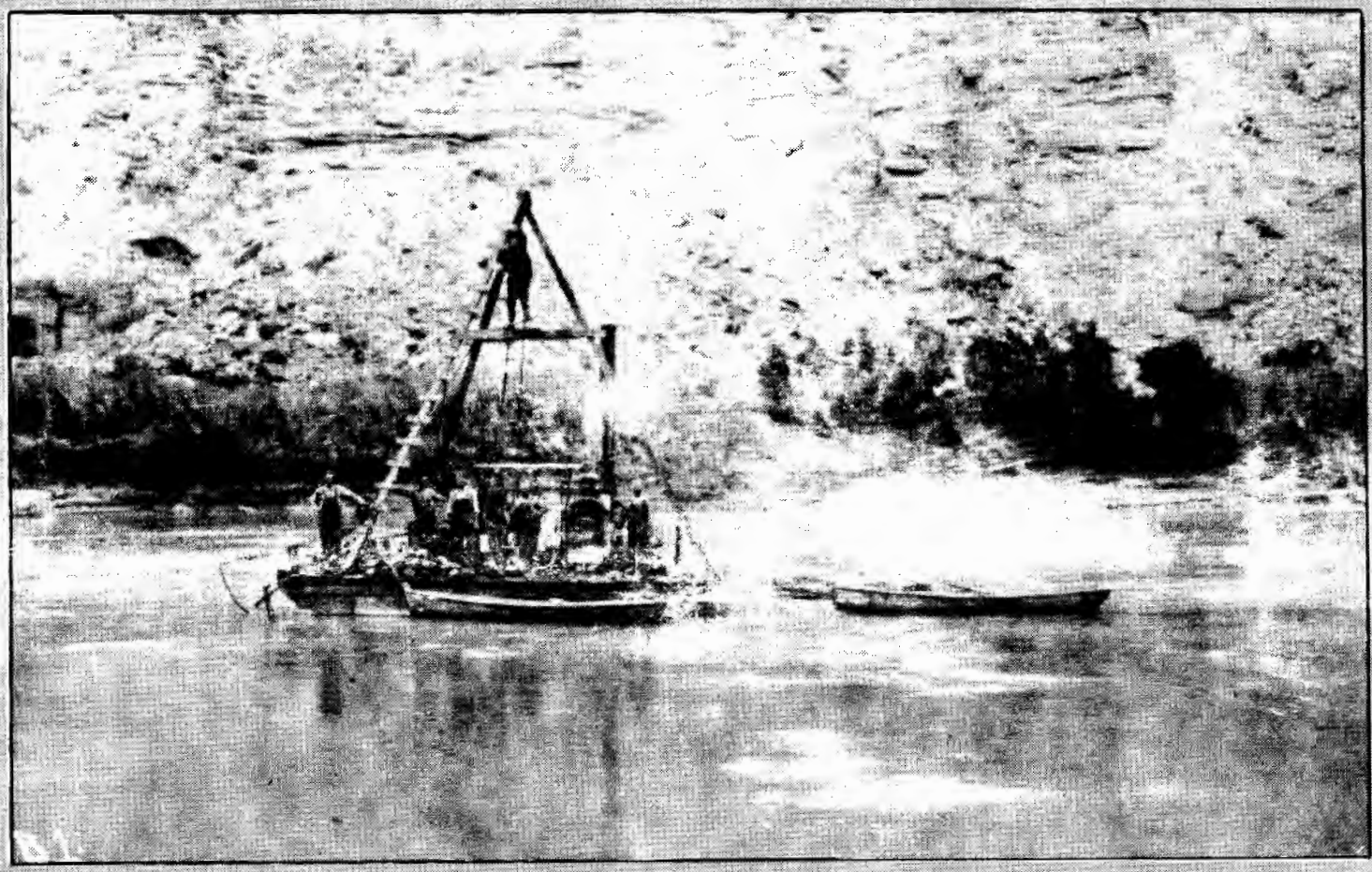
THE CONFLUENCE

The Journal of Colorado Plateau River Guides
Volume 1, Number 4 Fall 1994



San Juan RMP
SUWA
Recycling
River of Lost Souls
Uncompahgre & Unaweep
Tamarisk
UGO

The Board Sezs
Professional Courses
Yogie Yokey
Radiation Control Board
Recycle
Town Hall
Discounts



This photo was taken in 1914 by Eugene LaRue of the United States Reclamation Service 1/2 mile below The Confluence. This floating, steam-powered drilling rig is searching for bedrock to determine the feasibility of a dam. The crew drilled 124 feet without reaching bedrock when rising flood waters forced abandonment of the project. If built, this dam would have flooded the communities of Green River and Moab. Pictured third from left is Bert Loper. Photo courtesy of USGS Library, Denver.

The Confluence

...is the quarterly journal of Colorado Plateau River Guides.

Colorado Plateau River Guides is a non-profit organization dedicated to:

* Protecting the rivers of the Colorado Plateau.
* Setting the highest standards for the river profession.
* Providing the best possible river experience.

Guide Membership is open to anyone who has worked in the river industry.

General Membership is open to everybody.

Membership dues:

$20 per year.
$100 for 6 years.
$195 for life.
$295 Benefactor.

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Susette DeCoster-Weisheit
Vice President	Tim Thomas
Secretary/Treasurer	John Weisheit

Directors

Bluff	Tom Rice
Green River	Sean Brown
Moab	Steve Young
Vernal	Penny Elder

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077

We need articles, artwork, poetry, stories, and opinions. If you use a computer, please send text for an IBM PC with WP 5.1 on a 5 1/4" floppy.

ISSN # 1078-425X

Disclaimer

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership nor the board of Colorado Plateau River Guides. If you have an opposing viewpoint please send your comments to:

Editor, CPRG
P.O. Box 344
Moab, Ut 84532

Minutes of Meetings Available

If any member would like transcripts of the Spring or Fall meetings, please send with your request, an enclosed self-addressed stamped envelop.

Special Thanks to:

Don and Denise Oblak for funding eats at the Fall Meeting.

Jacque Ledbetter for a generous donation that was given at the conception of CPRG in November of 1993.

Dave Mackay for a Life Membership.

Shannon DeMuth for a Benefactor Membership.

Membership Cards

We will be issuing membership cards very soon. Thanks for your patience.

CPRG Decals

Anne Carter's drawing of a sacred datura has been chosen as the official CPRG logo. The illustration appeared on the front cover of the first issue of The Confluence. We'll try to have them printed and mailed to the membership before the season starts.

Announcing: Plateau Restoration, Inc.

Plateau Restoration Inc.,(PRI), is a newly formed non-profit incorporation dedicated to performing service projects: trail building, fencing, revegetation, design and long-term monitoring and care of public lands on the Colorado Plateau - especially along river corridors. PRI achieves these goals through grants and donations gained from the private sectors. All field work is performed by dedicated volunteers from the river community. Current projects are: Kachina Panel Area - San Juan River, Ranger Station - Westwater Canyon. For more information call or write Michael Smith at: PRI * P.O. Box 1363 * Moab * Ut * 84532 * (801) 259-7733.

CPRG - So What's In It For Me?

by Tim Thomas, Vice Chair

Over the past year, CPRG has evolved from an idea, to discussion, to formation, to an 150+ member organization. During this time, I've tried to spread the good word about CPRG and its mission:

*Protecting the rivers of the Colorado Plateau.
*Setting the highest standards for the river profession.
*Providing the best possible river experience.

However, often as not, I'm posed with the vexing question: "What's in it for me?" At this point, I realize that professionalism and environmental altruism is out, and its a question of what do I get for my dues. Granted, not everyone is a joiner, and money is money, so why join CPRG? So far, here is what we have to offer: The Confluence, CPRG's quarterly journal, our primary expenditure (70% of the annual dues) and means of communication. In short, The Confluence is an educational journal and an open forum for communication. Herein lies the ability to share knowledge, to revisit and learn from the past, to question and explore the present, and hopefully to envision and shape some of the future. How? Sharing our experiences, opinions, ideas, knowledge, enthusiasm, observations, and oneself. So, what will that do? Inform, educate, draw attention, promote advocacy, raise questions, work toward solutions, find answers, build consensus, and bring action. Why? Because there are over 500 river guides, working on some half-dozen rivers, on over 1,000 miles of waterways, and all within the Colorado Plateau. These same rivers encompass multiple habitats, elevations, land and water use designations, managing agencies, recreational and developmental demands; with no recognizable or unified voice from the professional guides regarding the rivers condition, use, abuse, operation and protection. So? So, we're missing our own boat! Shit is happening! Life is in session, so are you present and part of the problem, or the solution? The rivers are flowing: most toward money, some through dams, but there is still a lot to lose! For example: a water project on the Animas, loss of endangered species in the Yampa, gas wells near the Green, failed Wild and Scenic/Wilderness River protection in Utah, and unstable uranium tailings stored 100 yards from the Colorado River. Plus, a host of devastating but never-the-less dangerous precedent setting issues like: upstream jet-ski use, water skiing on the Colorado, increasing noise pollution from scenic over-flights in Canyonlands National Park, vandalism, abuse of cultural resources, and restricted or sensitive areas on the San Juan etc., etc., etc.

And how does it affect me? It affects your access, your enjoyment, your privacy, your health -- and yes -- even your job and pay. So what do my CPRG dues do? They give you first and foremost, a voice as a professional river guide (or river runner), and a part in a professional guides organization. They give you a chance to learn, an ability to act, and to be an effective part of the areas only professional guides organization. It gives you an option you've never had before! Oh, and if the following stuff even matters after all that's been said (couldn't hurt though!), heres the rest of what CPRG has to offer so far: membership discounts at local boating stores, updated guide training and certification information, bi-annual (or more) meetings and parties, pull-out boating aids, information, classic river quotes and artwork, good stories and bad lies (or was it bad stories and good lies?), and last but not least, your own CPRG membership card! So spread the good word about CPRG! Recruit a new member, become one, give one as a gift, recycle and pass on The Confluence.

The Prez Says

by Susette Decoster-Weisheit

HAPPY ANNIVERSARY! Colorado Plateau River Guides celebrated one year in November. Through the efforts of some dedicated people and some hard work, CPRG has become an established organization.

Our fall meeting on October 28th brought a few changes and some new people into CPRG. Elections were held for the Presidency and two Board of Directors. I was re-elected for my second and final term as President. I am happy to say that this time I did not "bite the bullet." I fully volunteered, got some competition, and had to campaign for the position. This speaks loudly for CPRG. Welcome Steve (T-Berry) Young who was elected as Moab Director and we look forward to his involvement as a Board Member. Not everything went as planned. We were unable to elect a Director for Green River and left the position to be filled by a Board appointed person until the Spring Meeting. Sean Brown has accepted the appointment and responsibilities until spring when an election can be held. Thank you Sean! And a thank you goes to Rebecca Martin and Serena Supplee for there efforts as last years Board of Directors in Moab and Green River.

At this point I would like to continue to bestow a few well deserved thanks. A big thank you goes to Canyon Voyages for their generous donation of the chili dinner we enjoyed after the meeting. They brought beer, bought beer, and numerous stories rounded-out the evening. For a few of us, there were late night showings of first descents and other exciting white water videos. I would like to give a thanks to Jose Tejada, a legendary story teller. I don't remember having been so enthralled, entertained, and amused. Thanks to Tim Thomas for his efforts to clean up the house in the early hours of the morning before he left. And last, but not least, a thanks to John Weisheit for putting up with another one of my cooking frenzies and helping me to clean up the mess.

This has been a busy fall for meetings and plans. With winter and the Holiday Season coming on fast, I look forward to a deserved rest and visit with family and friends. Travel safely and we'll see you at the Spring Meeting.

River of Lost Souls

by Michael Black

By 1899, the people of Durango knew they had a problem. This town, founded only 20 years before, had become the metropolis of southwest Colorado. Located along the banks of the Rio de Las Animas Perdidas, the River of Lost Souls, and in the center of vast coal deposits, Durango was ideally situated to prosper. But, the river that gave the town life was becoming polluted.

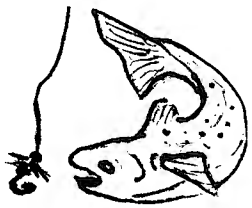
Durango could see the problem coming; in November, 1899, the Durango Democrat reported:

"The Animas is impregnated with deposits of mineral waste, sloughed from the San Juan Mills down to Rockwood. Every year the lie of concentrate deposits on the river comes a little nearer to Durango. We are not suggesting anything at this time, but the question of change in water supply must come up before long. The danger is not here yet but is getting closer every day." And in December: *"The question that is crowding upon Durango thick and fast is one of water. The mill slime from Silverton are now reaching us."*

There are many indications that the water quality in the Animas was very good prior to this time. In July of 1899, it was reported:

"It may be a source of comfort to those who have gone to distant streams to fish to know that 'Curly' Knight landed a 4 1/2 pound trout from a pool near the ice house yesterday noon and missed one equally large. The Democrat received the catch with the following attached:

Grasshoppers are roosting mightily low
Mosquitoes were flying high
But the nicest thing I found on the roost
Was this on my blue bottle fly



The trout was a native and it was most elegantly broiled and served."

The fact that the fish were identified as native trout is of great importance. Trout are very susceptible to contaminated water and native trout the least tolerant. The fact that native trout were living and reproducing in the Animas indicates that the water was of very high quality. As the Durango Democrat stated:

"We haven't noticed the trout abandoning the Animas River and a trout demands a pure article of water. If there was a particle of mineral or acid in solution we would not be hatching or fishing the Animas waters."

The problem with water quality was occurring because of the boom in mining upstream near the town of Silverton. Silverton, founded in 1875 in the center of Baker's Park, a vast mountain valley surrounded on all sides by highly mineralized mountains, served as the population and transportation center for the mining district.

The area was first explored by Americans in 1860 with an expedition led by Captain Baker. The inaccessible location, lack of easily mined placer gold, as well as the excitement of the up-coming Civil War, led to the abandonment of the district until the 1870s. Further development was discouraged by the Ute Indians; who did not appreciate miners trespassing on their reservation. This problem was resolved by the Brunot Treaty of 1873, which ceded the high country to the federal government and the miners. This treaty and the Mining Act of 1872 allowed the miners to patent their claims and the boom was on.

The first successful mine in Baker's Park was the Little Giant located up Arrastra Gulch. Milling equipment was hauled in by wagons, in an arduous journey from the railroads, and up the Rio Grande. While the Little Giant soon played out, the mine was a clear example of the problems of the Silverton District: lack of transportation and the presence of low grade ore, which required extensive milling.

The transportation problems were partly solved by the arrival of the Denver and Rio Grande Railroad in 1882, which founded the town of Durango downstream in 1880.

The Silverton District, unlike many mining communities of Colorado, weathered the depression and silver collapse of 1893. While not as famous as the neighboring camps, Telluride and Creed, Silverton got by on its base metal production of lead, zinc, and copper; which supplemented the relatively less gold found in the ore. Increasing investment in a railroad system to service the far corners of Baker's Park, and the general reliance on a extensive system of tramways, allowed the mine to produce years-round. The low grade ores, as well as the high tariffs of the railroads, forced a great investment in mills to concentrate those ores to lower the cost of shipment. And those mills, with their inadequate disposal methods, created the problems for Durango's water supply.

By August 1900, the problem became critical enough that it came before the City Council:

"The council discussing at length new source of water supply. All members are alive to the situation and none dispute the fact that soon we must abandon the Animas River which mills above Silverton are polluting with dangerous health destroying mineral poisons."

A suggestion other than a change of water source was made by the Democrat that spring:

"The water question is the most serious problem the city has to face but the proposition must be met in some form. A strict enforcement of the law as to polluting streams will benefit conditions."

In a short time, the problem became more acute. Along with the mineral wastes, Durango had serious concerns about disease. It was a time before antibiotics were discovered, and infectious disease held a horror for everyone. Smallpox, diphtheria, and cholera could only be treated by confining patients in pest houses and hoping for the best. Durango was well aware of the effects Silverton's sewage were having on their health. From the Durango Wage Earner in April 1901:

"Silverton will soon have her exhaust sewage line belching into the Animas so that Durango will not have to wait for the old fashioned and slower process of pollution. Kind of wrap-up the chunks of bread and meat so the fish won't spoil them and put a string around them like a Christmas gift."

And a practical suggestion from 1902:

"If you contemplate suicide don't overlook the Animas as a means to the end. You won't have to drown yourself in it. You just drink some of it's water and you'll get there with both feet.

This comment is in contrast to: the "clear sparkling water" that the Animas was a few short years before.

By August, 1902, the problem had become acute enough for the city council to investigate the source of pollution around Silverton.

"CITY COUNCIL PROCEEDINGS ... VISITING COMMITTEE OF ALDERMEN FIND DEPLORABLE CONDITIONS IN SILVERTON AND SURROUNDINGS ... Mr. Darlington was asked for a report...He said in part: 'We went to the Silverton mills and were permitted to go up Cement Creek to the Gold King. We found that the tailings were run into the creek which empties into the Animas. All the water closets [toilets] stand over the stream and the cook house refuse is dumped into the stream. I talked with Mr. Kinney (the Gold King manager) and he said that the tailings did not injure the water and gave me to understand that if it wasn't for the San Juan mills there would be no Durango, which at present times owes its existence to the mills. If they were made to impound the tailings there would be no ore from that section shipped to Durango as it would be cheaper to build a [rail] road to Lake City than to impound the tailings and that is what they would do."

They investigated other mines and mills, Silver Lake, Eureka, the Iowa, and the Little Dora, and found similar situations.

"But the worst sight that met our gaze was the Silverton dump. There we found a dead horse, a dead cow, and manure galore, some of the refuse lies in the water at its present low stage. If the river was to raise two feet the whole dumping ground refuse would come our way.

Darlington made a motion the when city attorney Miller returns that he start an injunction suit against all the mills in San Juan County that pollute the waters of the Animas River and adjacent streams and including the City of Silverton."

The editor of the Democrat did not think much of Mr. Kinney's threat to build a railroad to Lake City. He questioned:

"The propriety of soliciting Silverton's permit to remain on the earth, at least until Bill Z. Kinney gets his aerial route ballasted with hot air." And: *"Bill Kinney was down from Silverton yesterday to see about ties for his Lake City road but he couldn't exactly figure out what he wanted with the ties and finally decided to price a pile driver and get estimates for his aerial route. Bill has all the requirements essential to success in the newspaper business - and then some."*

Apparently the city attorney disappeared, and since the council could not find him, they could not to file for an injunction. The district attorney claimed it was a civil rather than a criminal affair, and therefore outside of his jurisdiction, but went on to say that an injunction would only cause strife between the two communities and would do no good as the river would continued to be polluted from other sources.

In the meantime, chemical tests were done on the water, and *"a considerable quantity of lead and arsenic had been found."* It was clear to everyone that something needed to be done but just exactly what was hard to tell.

The editor of the Democrat favored pursuing the injunction: *"We are against any and all pollution of streams and dead against a reckless and premeditated practice that is ruining human health and damaging the property of the hundreds of residents who reside along the Animas River. It is clearly criminal and under the law cannot be tolerated by the people."* As well as: *"Every hour that injunction proceedings is delayed is an hour devoted to a compromise with crime."*

"Cooler heads" at another Durango paper suggested caution. From a Silverton newspaper: *"But in striking contrast to the agitation of the Democrat the (Durango) Herald shows the futility of attempting to purify the waters of the Animas without shutting down the mills. The alleged wanton pollution of the waters of the Animas by the mill owners of San Juan County and the people of Silverton is only in the jaundiced vision of the editor of the Durango Democrat. [...] Local physicians who have given thought to sanitary engineering inform us that even if the mill tailings were impounded, the waters ... would still carry objectionable impurities to the main stream and pollute it practically as much as the tailings do."*

A more chilling analysis was also made by the Herald: *"If the real question to be discussed and settled is, which is of more importance to this western section of the state, the mills which form the industry of the little northern towns of the acres of land under cultivation for miles down the Animas Valley."*

The Wage Earner was not impressed with the Silverton arguments: *"Wonder how the Silverton people took to the Silverton sewage during the (county) fair? Bet they turned up their noses at it and never touched a drop. It is pretty hard sometimes to take your own medicine."*

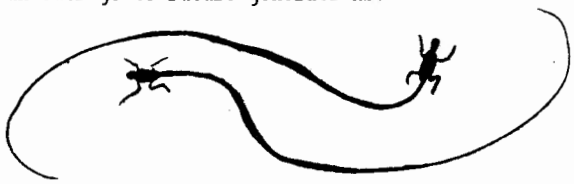
In 1903, giving in to economic pressure from the north, Durango moved its water supply to the nearby Florida River. This system had much to recommend it; the Florida was at a higher elevation than Durango and the water could be obtained by gravity flow. Also, very little mining or any other human activity had occurred in its headwaters. Today, the area is in the Weminuche Wilderness.

Of course, the movement of the city water supply did nothing about the pollution of the Animas River. It is clear from the old accounts, that while contamination of the water was the main problem, the people of that time were concerned about the health of the river.

From the Durango Wage Earner, October 1903, after the bond issue passed: *"Only a few years ago and those who had occasion to cross the Animas River over the bridge separating North and South Durango will recall what a clear stream it was. One could stand on the bridge and gazing down into the pellucid waters watch the innumerable fishes on the bottom. Go now and see what a change has been wrought by the mills above. Sluggish and thick impurities - no fish of decent habits can exist in it. The Wage Earner believes that the mills should be compelled to stop their pollution of the grand old Animas and that its waters should be restored to their original beauty and purity."*

Now, 92 years later, while the river has been cleaned up to a considerable degree, we still have much that needs to be done to restore the "grand old Animas".

As the editor of the Democrat put it: *"The Almighty never intended that mankind should destroy so beautiful a stream, willfully and recklessly destroy it. It is an outrage upon the residents of Durango and the valley to permit it."* And one might add, an outrage to future generations.



Yogie Yokey, Green River Captain

by John Weisheit

The following are excerpts from the Marston Collection at the Huntington Library about Captain H. T. Yokey. I would like to thank Rosalyn Jirge for the discovery of this ancestral boat yogie. [Brackets indicate editorial comment.]

[From an obituary in the DAILY SENTINEL of Grand Junction, CO., dated Tuesday, October 15, 1957:]

Captain Harry T. Yokey, age 86, who had become something of a legend in the Green River area, died about 12.30 p.m. Monday [which would have been October 14th] at the V. A. Hospital in Grand Junction. Captain Yokey was the man who built the "Cliff Dweller", a deluxe two-decker pleasure boat in 1905, to run on the Green and Colorado Rivers between Green River and Moab. It was through this and his interest in boats and early-day river running that he acquired the title of Captain.

The "Cliff Dweller" was run by steam, but the coal gave out on its maiden voyage and it had to be towed back to Green River. It was later rebuilt and named the "City of Moab", but proved impractical and was taken by rail to the Great Salt Lake. It was used there for many years ferrying passengers from shore to island.

Captain Yokey was born in Atumwa, Iowa, October 4, 1869. He was involved in the border raids along the Mexican border in 1892 and then reenlisted in the Spanish-American War. He was discharged from the Army while still in the Philippines.

Captain Yokey came to Green River in 1904 to operate the Rio Grande Pumping Station. He was a bachelor and had no known relatives.

The colorful retired railroader lived in a small home about three miles from Green River. He was noted for his frequent trips into the town afoot to pick up copies of the Congressional Record at the post office and also to secure groceries and supplies.

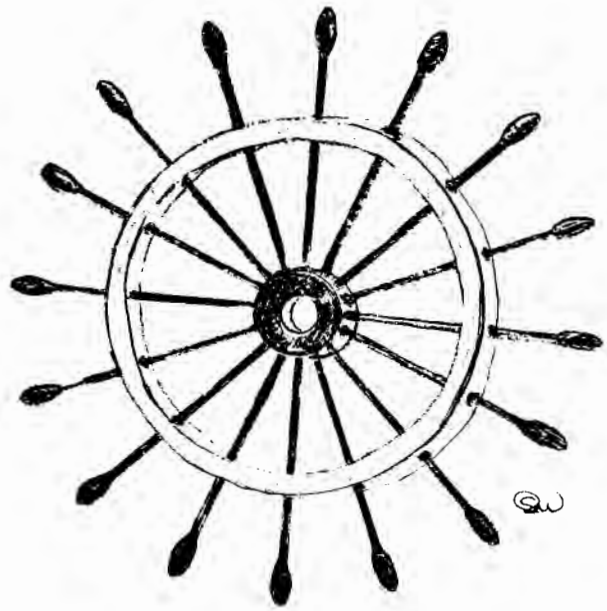
Captain Yokey was admitted to the V. A. Hospital in Grand Junction September 18. The Callahan-Edfast Mortuary of Grand Junction is handling arrangements and the body will be sent to Denver for burial in the National Cemetery.

A man named William Davis frequently corresponded with Otis Marston; helping to locate historic inscriptions. Davis made several inscriptions himself in Cataract Canyon from river trips completed by a ten-man raft back in the early 1950s. In 1952, Davis and his daughter Mildred ran Westwater Canyon; Mildred was probably the first female to ride through Westwater Canyon and at the age of fifteen. Davis wrote a letter to Cap Yokey concerning a trip in a boat referred to as the **Black Eagle**. The following letter is from Yokey, postmarked from Elgin, Utah, and dated October 4, 1952:

Friend Davis,

I have finally got around to replying to your two epistles of late date; so pull down yer vest; wipe off yer chinn; & on following begin.

Yes; we had a steamboat blow-up or blow-out some years back on lower River Green; I was builder, owner, commander, and pilot of craft (BLACK EAGLE - of Elgin), J. A. Ross, fireman; E. J. Cook, engineer; when I did not have time to monkey with the engine & a cap, us four & no more.



Fortunately or unfortunately; we had a water tube boiler & flood of mud for water; A couple of tubes got plugged with mud; naturally blowed themselfs killing the fire. Thus we had no power other than arm-strong rowboat. Plenty of wild meat and scenery for desert. Naturally no rush about getting out.

However, if it had been a flue-type boiler, we would be overdue to this day; just another mysterious disappearance on high seas of time or destiny in vast port of missing men.

However, later we were picked up by a boat bound for San Rafel. There I secured a team and wagon, thus landing my surviving men in their home ports of Elgin and Green River.

Some years back, in canyon of the Lower Green, while searching shelter from the elements under a ledge, I noted the following:
(D. JULIEN MAI 1836)

Did you meet this guy during your trip; Also did you note evidences of river cutting down through solid rock to its present location. [Questions probably asked by Davis in a previous letter.]

This is the biggest hunk of geological bolonga on Earth. Some years back I was employed by U.S.R.S. to transport MEN, GRUB & TOOLS down into the canyon of Lower Green to search for Bedrock for proposed power dam site in many cases. The workers discovered the bed of river was on a vast mass of slide rock (like you seen on both sides of river in Cataract Canyon & many other places along the waterway across the desert). [see front cover photo]

I have infested the Earth for over 80 years. Been awake most of the time, too. Noting what has been done & its affect on will be done. I am the man on the ground, seas and Rivers. Thus know what I am talking about.

I have seen enough to know, old Mother Earth has had other fixed axis of rotation; other than she now has & two great unbalancing factors now accumulating & have been for some millions of years. It's absolutely necessary for Earth to Delouse & ReNew itself. New continents, new Islands, Seas, Rivers, & Sea.

After a period of erratic unbalanced rotation, during which no part of Earth's surface has enough regular exposure to Sun to prevent freezing, yea Bo; be tougher than old Billy Bedamned, damn few survivors.

Signed: Yours as she looks - Captain H. T. Yokey" [sic]

Can You Manage That?
San Juan Resource Management Plan

by Tom Rice

Here it is - Fall 1994. There was gridlock on the river, battles for camps heated up, and there is still no Resource Management Plan (RMP) for the San Juan River.

Paper Ho! Out on the bureaucratic horizon floats a ship holding a River Management Plan due to arrive next year. According to folks at the San Juan Resource Area BLM office, it is next in line after the Cedar Mesa Resource Management Plan.

However, we can get the ball rolling on our side of the river bank with a little discussion and communication. There are several tools we can utilize in order to create a successful RMP. One such tool is the Federal Land Policy and Management Act (FLPMA). The FLPMA provides the BLM with the general authority to manage public lands: "to protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values...". It boils down to protecting, "where appropriate", certain lands in their natural condition. The "where appropriate" phrase will be very important when deciphering the type and amount of management proposed. Although the plans deal with a river corridor, it is surrounded by the ever-present multiple-use land rationale.

Another possible tool is the Wilderness Act. Roadless areas which have wilderness characteristics, as defined by the Wilderness Act, have the potential of being protected. If an area meets those characteristics, the BLM would be required to manage those areas in a manner that would not impair its wilderness value until Congress made a decision whether, or not to, designate such an area as wilderness. If applicable, the Wilderness Act could be one of our strongest preservation tools.

The Endangered Species Act states that no federal action can be taken, which will destroy or harm critical habitat of an endangered species. Presently, the Animas-La Plata project near Durango, Colorado, is being fought with, among other things, the presence of endangered squawfish and humpback chub in the San Juan. This act could be one of the most important tools in maintaining the present flow release pattern on the San Juan River.

A final tool for the successful creation of a San Juan River RMP could be the use of the National Historic Landmark designation. Not only is the prehistory rich along the San Juan, the Mormon pioneer history and the contemporary indigenous history, abounds among the banks of the river.

Now you know about all of the important governmental legalese, acts, etc., that can be used in the creation of a RMP. They look good on the desk, but don't necessarily make it on paper, as we would like to see them. Therefore, it is necessary to look directly at the San Juan River and the conditions which effect it.

The San Juan is in the midst of rich oil and mineral country. This past spring welcomed us with a limestone quarry visibly perched above the river west of Comb Ridge. Unfortunately, the site is on state land, which is notoriously lax on permitting environmental assessments, visual corridor consideration, and well, ahh, common sense. A RMP could have blocked this. One possible route could have been the acquisition of state lands through sales, trade, or scenic easement. Years ago, the BLM acquired state land along Deso/Gray, protecting that corridor from development and possible harm. Including a similar rationale in a San Juan RMP could protect it from any further visual or physical harm due to mineral or oil extraction.

Moooo! You want a steak? Come run the San Juan from Bluff to Mexican hat! There are plenty of cows along the river to keep Billy Bob's Beef and Buckaroux House (sic) open for an eternity! If management objectives include maintaining the natural character of a canyon environment, there is a ton-of-work ahead when it comes to the bovine population on the mighty San Juan. An outright ban would be the best possible solution. However, remember this is Utah and I, unfortunately admittedly so, can eat only so much tofu. Restrictions would be the best compromise.

There is a conflict between cows and the dwindling number of desert bighorn sheep in the canyon. Cows can transmit deadly viruses to sheep. Therefore, cows should be restricted from area where sheep live. Overgrazing on certain sections of the corridor have heavily impacted the vegetation. Those areas need a little rest and revegetation. Further solutions to the cow problem are: closer monitoring of livestock, decreasing the number of livestock in the river corridor, and as a last resort, the construction of livestock barriers, which would blend in with the surrounding environment.

The Anasazi left behind a legacy of cultural materials, rock art, artifacts, and dwellings that cover much of the country surrounding the river. Antiquities legislation not only protect the scientific value of archaeological sights, but also provides public access to the sights in a manner which does not harm or detract from their informational value. Preservation is a key term regarding archaeological features. Sights visited often, such as River House Ruin, need to be stabilized, organized in a manner that would preserve its scientific integrity, and at the same time, remain as natural looking as possible. Vandalism, both intentional and out of ignorance, could be reduced through patrols and education. Finally, an extensive inventory of archaeological sites along the river corridor needs to be accomplished.

Water projects never die. Currently, the Animas-La Plata Project threatens the San Juan. A RMP should state an opposition to such a project, because it threatens endangered species and critical habitat protected by the Endangered Species Act. Certainly federal opposition to such a project is not simple, so public opposition must be vocal.

A RMP rolls together smoothly when you are an outsider looking in on the bureaucratic process. There are

however many possible headaches. To begin with, the lack of San Juan Resource Area recreational money, which funds river management programs, throws a serious monkey wrench into the RMP process. A river, which gets as much use as the San Juan, should never be without rangers at the ramp, nor with rangers on patrol.

One bureaucracy creates havoc and headaches. What about three! Joining the BLM creation of a RMP will be the Park Service and the Navajo Nation. The river ahead looks low, barred out, with an up-channel wind for these three entities.

There are many other issues to be discussed in a RMP. To name a few: user days, airplanes, party size, bathroom systems, roads, and camp designations. River Resource Management Plan becomes very important. This is a fabulous opportunity for BLM to create a fresh and functional approach to one of its most heavily used area.

To become involved with the San Juan River Management Plan please write:

Bureau of Land Management
San Juan Resource Area
P.O. Box 7
Monticello, UT 84535

Radiation Control Board in Moab

A meeting of the Utah Radiation Control Board was held at Star Hall in Moab, December 1, 1994. Besides attendance by CPRG were peoples of the Navajo and Ute nation, Ken Sleight, Walt Dabney of Canyonlands National Park, Noel Poe of Arches National Park, and other concerned citizens of Grand and San Juan Counties. The 11 member board traveled to southeast Utah to visit sites of uranium ore reduction facilities, their tailing ponds, and to interact with public comment.

Native Americans were concerned about their heritage to the land and the quality of their ground water. CPRG was concerned about the threat uranium tailings produce to a healthy ecology of the Colorado River, the unsightliness of the tailings pond (which usually starts the tour for daily jet-boat trips and Cataract Canyon trips) and the lack of scientific information available to the public.

Some citizens were concerned about wasting taxpayer money by moving tailings to better geophysical areas and preferring to cap the pile in place. Others mentioned the traffic problems and the ecological impacts that quarrying and transporting rip-rap from Round Mountain would cause to residents of Castle Valley. Motorists who use Highway 128 are concerned for their safety when considering tractor-trailers using a highway that is not designed for such loads.

Walt Dabney offered what may be the best solution: use the existing railway to transport the pile and rip-rap, build a spur into the geophysically safer Mancos shale, and cap it there.

I think more than anything there is a principle that needs to be followed here. The ignorance of the past is no reason to continue in like ignorance. These minerals are unsafe to all living creatures and need to be geologically contained. I for one am tired of this legacy of cold war newspeak. John Weisheit, Secretary/Treasurer, CPRG.

Letter

Hello Boaters:

I am not against fun, but...this note, a mix of common facts and observations and several uncommon opinions, will add little new to the known peculiar human circumstance(s) of alcohol, drug and dope use and abuse.

The recent high waves of historical ENFORCEMENT mentality arise from a green and grey perceived problem of substance use/abuse. There is an underlying tenet that management by itself can look good or earn its considerably more than river folk wage, salary, and benefits if they take on and solve the drug problem. Alcohol, drugs and dope have no visible constituency, no voting block, no demonstrating masses. The FIRST question: with the some 120,000 annual river days/nights, exactly how many incidents, verified reports of separately, here say renderings are listed with the stipulation that alcohol, drugs or dope use/abuse were a factor? One, ten, one hundred?

Let us not kid ourselves; wrecking your boat in hateful low/high water, or dumping a boat in any water can not be attributed to the operator or crew being in impaired or altered states. Stupidity, inexperience, unfamiliarity, marginal equipment (When and how were your straps sewn anyway; who rigged this mess?) and just random luck (...the wave just broke on me 'mates) all are factors in boating incidents and mishaps on the river. The number of on-off river incidents exceeds the reported number of river incidents. BUT, friends, in any incident, anywhere, here are the question(s): "Had you been DRINKING?" ...and..."Were you CLEAN and SOBER?"

Alcohol (a drug) and its altered state is legal; drugs and dope (why do you think they call it dope?) are not. All are available. Both cause impairment of the body, mind and cosmetic function (at 8:00 a.m. who has blood shot eyes from the bright sun?) You know this.

CREDIBILITY: Even after many years of refinement, HEAVY guillotine measures, RULES, LAWS, policies, screening and scare tactics have not apparently significantly reduced the RATE of alcohol/drug/dope incidents in the motor vehicle driving - DWI. Yes, in the typical NRA (Lake Powell/Mead) and elsewhere, BWI is the most prevalent cause of recreational boater incidents. This is known. Is the same true for commercial boating/guiding? YES or NO? Both commercial and amateur/private boating have a vacation mentality index (boater wants to have fun in the sun) that among the participants makes what is called: a set stage. For boat folks too, alcohol, drugs and dope are part of vacation; in life as on the river? or on the river as in life? It depends upon personal perspective. If drug, dope and alcohol problem(s) exist, and the laws/enforcement are not credible, what to do?

COMPLIANCE: the fun, the hazards, effects of drugs, dope and alcohol are known: you know them, I know them; but we are human and ignore the eventualities. For us, then, to

be effective as a cadre of professional river guides, not in foot dragging submission to management dicta or laws/rules but in rational thought, here are a few basic ideas and commandments:

1. IF YOU DRINK, DON'T DRIVE: on the job, the hot day beer is OUT; have a designated driver at the end of the day or trip if party mentality abounds. Throttle to bottle/bottle to throttle time spans aren't impossible in length, but reasonable. COMMUNICATE: when you are wasted, asking your friend to drive is smart, but you may not be reasoning well. Friends don't let friends work impaired.

2. ANYBODY WITH HALF A BRAIN can easily hide alcohol and drug use. The Classic Coke may easily be 1/3 rum from a water bottle of private stash; the pipe or rollyourown can be other than the usual and a large coffee mug easily holds a 12 oz. can of barley pop.

3. INTELLIGENCE, FORESIGHT, HUMANNESS: we are dealing with our very own group of sharp, quick to learn, articulate and knowledgeable boaters and friends. The hazards, CONSEQUENCES of known impairment from alcohol, drugs and dope are the THING we have to get across to our peers. A private harumf or eye roll can communicate: our peers are not dumb. The most important elements for removing the danger of accidents/incidence from BWI/WWI are individual and group peer knowledge, communication and individual action: IF YOU USE/DON"T WORK. We are not paid to drink on the job, but our clients want to have a FUN trip, does Miller-time mean fun?

YOU DON'T SELL ANYBODY ANYTHING BY CRITICIZING THEM. The current laws against use/abuse anywhere are not very effective. We know that, but will higher waves of enforcement or hyperlexis eliminate use and abuse of alcohol, drugs and dope? You answer. IF we guides accept the what-ever CONSEQUENCES of alcohol/drug/dope use/abuse/dependence, are we co-dependent or just enabling? SILENCE IS A POSITIVE RESPONSE. IF YOU CAN TOO GET IT RIGHT, YOU CAN HAVE THE JOB. Thanks to the many who have helped. Nels Niemi.



Announcing:
Colorado Plateau Town Hall
March 3-4, 1995

Economy and environment in the U.S. have been treated historically as an either/or proposition. To protect the environment, many believe, economic opportunity has to be sacrificed, or vice versa. Over the past few decades, both our understanding of this relationship and the public values surrounding it have been shifting in the U.S. The country has moved slowly towards a preference and a mandate to find ways to achieve a sustainable balance between economic development and environmental quality.

This change in public knowledge and values has had, and will continue to have, sweeping implications throughout the nation. The Colorado Plateau has not been immune from these changes; in fact, much of the social, cultural, and economic fabric of society on the Plateau has felt the impact. How we as a region choose to respond to these changes will be primarily determinant to the future quality of life, economy, and environment in this unique and grand area that we call home.

The Future of the Colorado Plateau: Choice or Chance?

The future of communities, landscapes, and resources of the Plateau, hangs in the balance. Currently, innumerable laws, regulations, institutions and processes govern a great deal of what is proposed and what happens on the Plateau.

Meanwhile, many of these processes have contributed greatly to making adversaries and enemies out of the people who live here. They have been expensive, complex, and time-consuming. Worst of all, the solutions that emerge often don't please anybody. The quality of life on the Plateau has been negatively affected by present decision-making processes, their contentiousness, and polarization.

New Approaches

The last decade has seen development of a number of collaborative approaches to decision-making processes, methods for addressing disputes, and conflicts. More recently, there has been an increased interest in reexamining older methods used by ancient care givers and indigenous peoples. Listening techniques, visioning, meditation, facilitated negotiation, negotiated rule making, single-issue collaborative and other alternatives, have evolved from more traditional dispute resolution processes like litigation. Forums, partnerships, listening circles, cooperatives, and councils have been created and experimented with to provide new mechanisms for communication and problem-solving. Many of these methods, techniques, and processes can significantly aid decision-making and problem-solving by helping people find common ground instead of fostering acrimony and defensiveness. They offer an environment in which creativity, new approaches, and solutions can evolve from collective and

collaborative efforts. They hold great potential for helping people find new ways of approaching difficult issues on the Colorado Plateau.

Colorado Plateau Forum

Can we do better at finding solutions to the problems associated with the environment-economy interface on the Plateau? A key will be bringing together diverse interests to begin face-to-face dialogue, examine specific goals, needs and positions together, rethink strategies and creatively imagine and develop a future where multiple objectives can be met simultaneously.

If we do not seize the initiative, work to resolve our own problems with broadly acceptable solutions, we can rest assured that others will decide for us. And it is likely that we will not be pleased with the outcome.

Collaboration: The 20% Solution

There are numerous economic and environmental issues on-and-around the Colorado Plateau that demonstrate the time-consuming and contentious nature of present decision processes. Whether they be endangered species in our rivers or forests, the problems of maintaining infrastructure in a period of rapid population growth, or the demands and effects of a booming recreational industry, the resolution of these issues has often characterized by acrimonious debate, litigation, congressional legislation, expensive research, and a general mistrust among organizations and individuals involved. Based on our differences, these processes have, as often as not, produced train wrecks whose solutions have pleased on one.

To many of the participants who have lived with these processes, it is evident in hindsight that a different process could have been less costly in time, money, and human resources. The Plateau is made up of diverse people and interests that share a common place. Many believe we disagree as much as 80 percent with respect to natural resources and economic issues. If that is true, it also means we probably agree on the remaining 20 percent. That is the bridge the Colorado Plateau Forum builds upon, a process based upon collaboration and shared efforts toward a solution. It begins with our 20 percent in common.

Will such a process lead to solutions? Sometimes yes, but often we may still resort to more traditional methods. Each effort will be unique and determined by the participants themselves. However, a collaborative process may increase our common ground from 20% to 30%, or 50% or 70%. Each increment gained can save us tremendous time, energy, and money. There is much to gain, and little to lose. For more information contact:

Organizational Steering Committee
Colorado Plateau Forum
c/o 331 East Mohawk
Flagstaff, AZ 86001
(602) 774-1178

The Organizational Steering Committee for Town Hall is:

Colorado Plateau Forum, Bureau of Land Management, City of Farmington, Colorado River Energy Distributors Association, Economic Development District of Southwest Colorado, Five County Association of Governments, Grand Canyon River Guides, Grand County Commission, Hopi Tribe, National Park Service, Northern Arizona University, Northwest New Mexico Council of Governments, San Juan Forum, Southeastern Utah Association of Governments, U.S. Forest Service, Upper Colorado River Commission, Western Area Power Administration, Western Network.

Southern Utah Wilderness Alliance

Eco-Challenge Lifestyles, Inc. of Universal City, California, wants to run a race for up to 250 contestants across 300 miles of southeastern Utah in April of 1995. MTV would air the race, as would CNN, ESPN, and the network news, according to race promoters.

The race course would include narrow slot canyons, such as the Black Box on the San Rafael River, and the Black Hole in White Canyon. Contestants would travel through cryptobiotic soils in Emery, Grand, and San Juan Counties. They would run, ride horses, mountain bike, rappel, and raft their way along a route which includes wilderness study areas and congressionally proposed wilderness.

SUWA, along with the Sierra Club, and the Wilderness Society, offered to work with the Eco-Challenge promoters to identify a race course which would avid sensitive areas, but the promoters refused to cooperate.

Still, race promoters are trying to cash in on the public's concern for the environment by latching onto the "eco" title and claiming they will send a pro-environment message, but actions speak louder than words. Eco-Challenge refuses to stay out of wilderness study areas and congressionally proposed wilderness.

By the time you read this article, the comment period for this proposal will be over, which was December 20, 1994. Still, it is important to be aware of the situation should problems stall the proposal for more public comment.

For more information please write or call:

Ms. Kate Kitchell
Moab District, BLM
P.O. Box 970
Moab, UT 84532
(801) 259-6111

SUWA Moab Office
Scott Groene
(801) 259-5440

SUWA Main Office
1471 South 1100 East
Salt Lake City, UT
84105-2423

The Ugo Meeting

CPRG was in attendance at the UGO meeting the first week of November at the Moab District BLM Office. We would like to thank UGO members and president Richard Jones for accepting CPRG attendance.

Discussion was considered for incidents while conducting a river trip. It was suggested that bombproof documentation is the best way to avoid tangled legal problems down the road. A journal should immediately be started to document as many facts and observations as is possible; this would include your coverage of safety lectures and warnings made during the trip. It was also suggested that all first-aid kits should include a waterproof disposable camera to document incidents with photography; remembering to photo terrain and weather conditions.

Kate Kitchell was introduced to the group as the new Moab District Director. Kate is a familiar face to Canyonlands: "I've had red sand in my shoes since 1975." Kate invited all guides and outfitters to talk with her about their concerns.

We discussed our high rates with the Workmans Compensation Fund (WC) here in Utah. It was interesting to find out that the fund is not a state agency but rather a non-profit organization that handles 51% of WC policies in the state of Utah. We shared our concerns with WC about Utah rates that are three times higher than other states. It was explained to us that our rate was classified according to national and state insurance board standards. We basically insisted for a reclassification and WC seemed willing to investigate the matter. If a savings to the outfitter becomes a reality, CPRG hopes that the outfitters will budget the savings to equipment and payroll.

Bonnie from Redtail Aviation addressed the meeting to inform us that flights into Mineral Bottom could be closed for reasons of not acquiring an operation permit and for impacts to wildlife which include peregrine falcons and bighorn sheep. Redtail is willing to change flight patterns over Canyonlands National Park due to public concerns about noise pollution. Meetings with the Park Service are pending.

Larry Lake from Western River Expeditions spoke about the S-208 legislation concerning concession reform in National Parks. The bill died as a result of a filibuster by an Alabama senator. The advocacy group, National Parks and Conservation, will reintroduce the bill for the 104th Congress for their reasons that: concessions contribute to the degradation of the resource and the wilderness experience. They hope that revenues incurred from these reforms will help finance park service operations. This legislation could increase the price of services offered to the public by concessions. It may also affect employment of guides and curtail the investment of the outfitter.

Walt Dabney, superintendent of Canyonlands National Park, introduced some of his new staff and procedures for the coming season. He also introduced the new superintendent of Glen Canyon National Recreation Area, Joe Austin. Dave Wood has been transferred to CNP from the Philadelphia Regional Office as a park planner for the upcoming River Management Plan. Walt also informed us of a meeting in Price on January 5, 1995 in Price, Utah, for the Canyon Country Partnership. CCP is an interagency partnership that manages 15 million regional acres and will be involved with the river management plans that are occurring in the Park Service and BLM.

CPRG informed Superintendent Joe Austin about the proposal by the Bureau of Reclamation to increase the height of the spillway gates at Glen Canyon Dam. We expressed our concern as river guides that we do not want to lose rapids and camps in Cataract Canyon and the San Juan due to modified operations at Glen Canyon Dam.

River management issues were also discussed with the BLM. Banning dogs from the river corridors was strongly encouraged. Ruby Canyon will have regulations for 1995. Trip populations and motor use were also discussed.

Tamarisk

by David Williams

In Death Comes to the Archbishop, Willa Cather wrote, "They [were] . . . miraculously endowed with the power to burst into delicate foliage and flowers, to cover themselves with long brooms of lavender-pink blossom. Father Joseph had come to love the tamarisk above all trees. It had been the companion of his wanderings." Although this is a fictitious account (tamarisk were not recorded in New Mexico at the time this story occurs), these three sentences address two of the problems with tamarisk: to many people they are beautiful and they grow throughout the southwest, at least in riparian areas. Botanists, ecologists and river runners think less well of tamarisk. It is commonly viewed as a nuisance, a killer of native plants, a colonizer of beaches, and a generally useless shrub.

Nurseries on the east coast introduced tamarisk into this country from the Middle East in the early 1800s. The Old American Nursery in New York City offered tamarisk as early as 1823 and several eastern nurseries listed in them in the 1830s. A California nursery, representing the Highland Nursery of New York, listed three species in 1854. By 1861, other nurseries based in California had begun to offer tamarisk.

The United States Department of Agriculture soon began growing the plant and by 1868 listed six species in their Annual Report. These plants grew in the Department's Arboretum and contributed to the growing distribution channels.

At present, botanists have separated tamarisk into two common species, although, like many aspects of tamarisk, this is controversial. The evergreen variety, Tamarix aphylla, can grow to 60 feet in height and generally has one trunk. The deciduous variety, Tamarix chinensis, is the one that has spread throughout the west. However, some botanists believe that another species exists: Tamarix

ramossisima. This confusion arises because these two species may interbreed and because of variation within plants of the same community.

Tamarisk escaped from cultivation sometime in the 1870s. The earliest collection outside of a nursery occurred in Galveston, Texas, in 1877. Wild tamarisk appeared in Utah in 1880. By the 1920s, California, New Mexico, and Arizona also reported tamarisk. It spread widely and quickly as people introduced the plant for erosion control, as we altered river banks through the removal of native vegetation, and by the construction of dams.

We are fortunate that an excellent record of the tamarisk invasion of the Colorado and Green Rivers exists. E. O. Beaman's photographs of Powell's 1871 expedition reveal what the river looked like before tamarisk. A Kolb brothers photograph shows tamarisk at the head of Marble Canyon in 1911. Photographs taken by the Bureau of Reclamation for potential dam sites in Cataract Canyon in 1914 and 1921 do not show tamarisk, but they do appear in a 1927 C. Eddy picture of the confluence. One geographer estimates that tamarisk moved up the rivers at a rate of 12 miles per year.

Comparing Powell's photos with modern photos shows how tamarisk has affected the riparian shoreline. In most cases, the only difference is that tamarisk now dominate the shoreline. They have colonized and stabilized ephemeral sand bars, creating river channels that are an average of 27% narrower (see illustration on page 13). River islands have also become larger and some are now attached to the shoreline creating new river bottoms (for instance, Junes Bottom was an island in 1951). These changes have resulted in increased overbank flooding and a river less able to adapt to changing flows.

Less obvious changes have also occurred. Tamarisk has contributed to a lowering of the water table, due to its extremely high transpiration rate; mature plants can use 200 gallons of water per day. In one case study in Death Valley National Monument, a tamarisk removal project begun in 1972 helped return a dried marsh back to a wet, healthy ecosystem.

Tamarisk have several adaptations that have helped the plants spread so far, so quickly. A single mature plant can produce 500,000 seeds a year, which can germinate within 24 hours of becoming wet. Tamarisk flower from April through October and seeds can establish themselves in fall when other species' seeds are not present. Seedlings can tolerate desiccation at an earlier stage than willow or cottonwood, and mature shrubs are more drought resistant than native plants. One study also found that tamarisk can survive up to tnree years in cold, well-oxygenated water.

One author summarized the tamarisk predicament: "Under optimum conditions, a desert riparian area containing only a few tamarisk trees can be converted to an impenetrable thicket in less than a decade." Once they become established, tamarisk have further adaptations to resist invasion by other species. A dense thicket has little bare soil underneath for other plants to set seed and tamarisk exudes salt from leaf openings, which fall to the ground, creating a hypersaline condition that kills other grasses and seedlings. The closely spaced trees also allow little sunlight to reach other species seedlings, further preventing invasion. Tamarisk also redevelop quickly after burning or cutting.

Despite all these adaptations, the tamarisk picture may not be as bleak as it has been painted. Some researchers now believe that tamarisk has reached its maximum distribution. Land managers have started to realize the deleterious effects of tamarisk and in some areas, successful efforts are under way to remove the plant. More importantly, further establishment is being discouraged; we are attacking the plant before it gets out of control.

Although most people think that tamarisk is bad for wildlife, some success stories have been reported. The willow flycatcher, a de facto endangered species, has shown an increase correlated to its use of tamarisk for nesting. Beekeepers in Texas report that they can charge more for honey produced from bees that use tamarisk.

At this point though, we only have about fifty years of data on tamarisk, much of it conjectural. Ecologists are just starting to learn about the tamarisk lifecycle and its place in the riparian ecosystem. We know that the tamarisk invasion occurred at a time when humans were significantly altering western waterways. Will it continue to thrive in its present state or will native species reestablish themselves? Fifty years is not a long time in the natural world.

Bibliography

Christensen, Earl, 1962, The Rate of Naturalization of Tamarix in Utah, American Midland Naturalist, v. 68, p. 51-57.

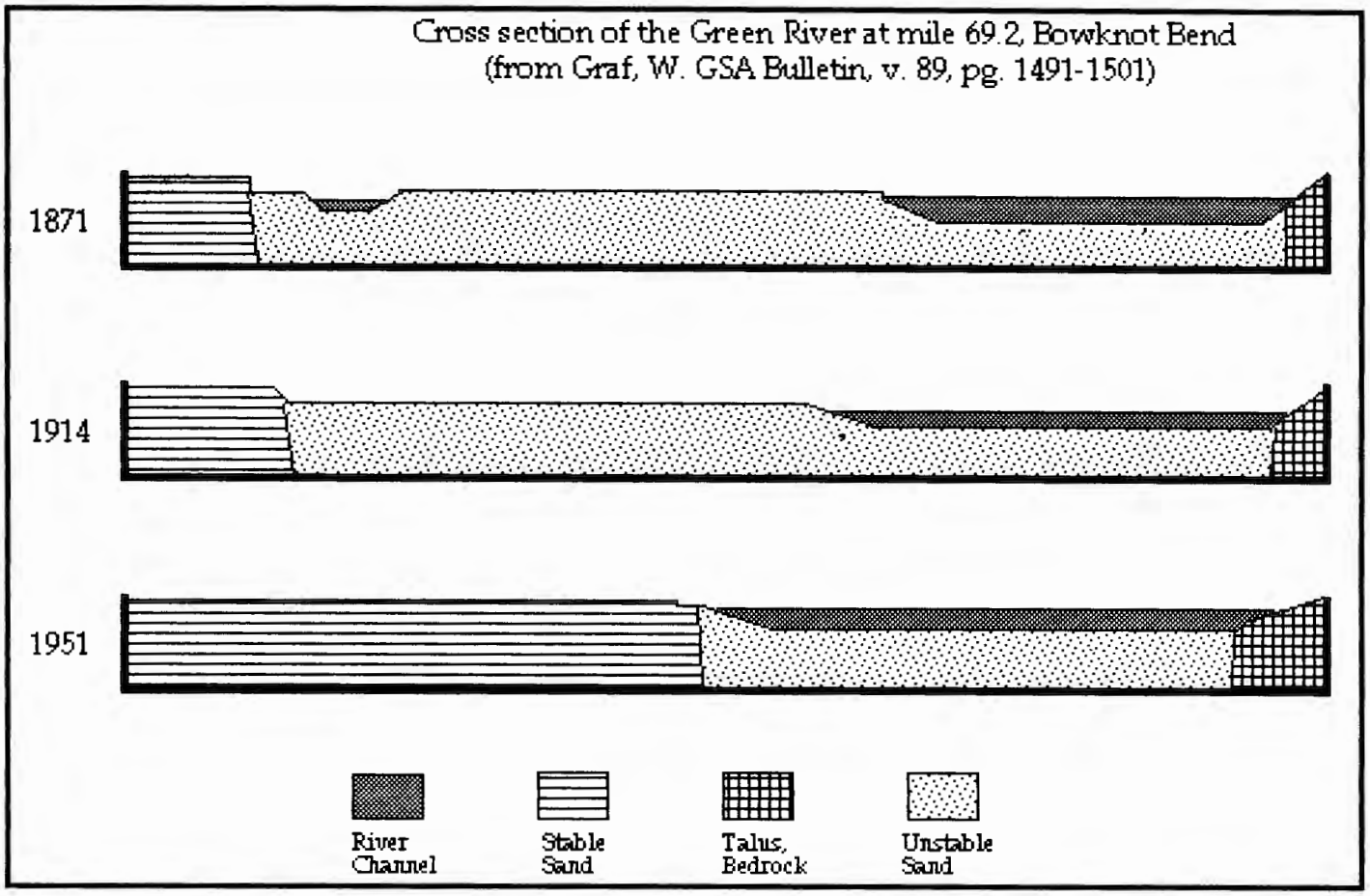
Everitt, Benjamin, 1980, Ecology of Saltcedar - A Plea for Research, Environmental Geology 3, pg. 77-84.

Graf, William, 1978, Fluvial Adjustments to the Spread of Tamarisk in the Colorado Plateau Region, Geological Society of America Bulletin, v. 89, p. 1491-1501.

Horton, Jerome, 1977, The Development and Perpetuation of the Permanent Tamarisk Type in the Phreatophyte Zone of the Southwest, Symposium on the Importance, Preservation and Management of the Riparian Habitat, Tucson, Arizona.

Robinson, T.W., 1965, Introduction, Spread and Areal Extent of Saltcedar (Tamarix) in the Western States, U.S. Geological Survey Professional Paper 491-A, 12 p.

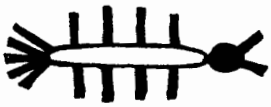
Stevens, Lawrence, 1987, The status of Ecological Research on Tamarisk (Tamaricaceae: Tamarix ramosissima) in Arizona, in Proceedings of Tamarisk Conference, Tucson, Arizona, National Park Service.



CPRG Membership Discounts

The following tabled businesses will honor discounts for CPRG members. Since this service is in the infancy stage, store personnel may be unfamiliar with their protocols. If difficulties entail, please ask the store manager directly for verification. We have made phone verifications ourselves before going to press. Happy spending!

Aspen Glow Mountain Sport Chris Cremer 885 Lupine #B Golden, CO 80401 (303) 277-0133	Colorado Kayak Supply P.O. Box 3059 Doug Ragan Buena Vista, CO 81211 800 535-3565	Four Corners River Sports P.O. Box 379 Chuck Whales Durango, CO 81302 800 4CORNERS	Boulder Outdoor Center 2510 North 47th Street Boulder, CO 80301 303 444-8420
	Poison Spider Bicycles 497 North Main Moab, UT 84532 (801) 259-7882	Kaibab Bicycles 391 South Main Moab, UT 84532 (801) 259-7423	River Runner Sports 401 North Main Moab, UT 84532 (801) 259-4121



Professional Guide Training Programs
Canyonlands Field Institute

P.O. Box 68 * Moab * UT * 84532 * (801) 259-7750



Wilderness First Responder. January 21-29.....Cost: $375
(Deposit: $125)

This 10-day course, designed for outdoor educators, is built upon the national pre-hospital care standards of the American Heart Association CPR, American Red Cross First-Aid, Wilderness Medical Society, and Department of Transportation First Responder, and EMT courses. Emphasis is placed on topics pertinent to the backcountry, prolonged transport context. Program format includes lecture/discussion, skills practice, simulated drills, and critiques based on videotapes of the drills. Certification is for 3 years. Instructor Steve Lyons, president of Wilderness Professional Training/EMSED, has more than 20 years experience coordinating and instructing EMS courses in addition to an extensive background in backcountry guiding.

American Red Cross Emergency Response.....Cost: $195
March 20-25 and April 21-26 (Deposit: $65)

May also be scheduled in early February. Call for further information.

This new 43+ hour course provides the first responder with knowledge and skills essential in an emergency to sustain life, reduce pain, and minimize the consequences of injury or sudden illness while waiting for more advanced medical assistance to arrive. Certifications upon successful completion of this course are: American Red Cross Emergency Response, and American Red Cross CPR. Instructors are American Red Cross/Emergency Response. Hours are 8:00 a.m. to 5:00 P.M. during the 10 day course.

Colorado Plateau Professional Guide Institute.....Cost: TBA

[CPRG is on the steering committee for this program and highly endorses this program through compliance with its mission statement.]

Level I - April 8-9 & May 13-14

For first-year guides, this workshop covers basic lessons in natural and cultural history, and geology of the Colorado Plateau. Based at Professor Valley Field Camp, participants also learn interpretive techniques. Recommended for river, bike, jeep, and other guides.

Level I - Basic River Ecology and River Skills
April 14-16 & May 19 - 21

For experienced river guides, this workshop improves skills in rowing, safety and rescue techniques, and adds to knowledge of camp routines, land and river ethics. Includes an overnight on the Colorado River in April and on the Dolores River in May; depending on river flow.

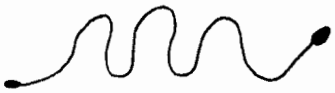
Level II - May 5 - 7

For trip leaders and guides with 2 to 5 years of experience. This workshop deals with special topics and issues of concern to guiding professionals of the Colorado Plateau area. Topics ranging from ecology, geology, cultural history, interpretive and leadership techniques, and public land ethics and management. Based at Professor Valley Field camp.

Sign up now! Address and phone number at the top of the page.

Wilderness Medicine Institute, Inc.

P.O. Box 9 * Pitkin * CO * 81241 * (303) 641-3572



Wilderness Medicine Seminars
December 1994 - August 1995



A) Wilderness Emergency Medical Technician

This course is designed for outdoor leaders, search and rescue members, backcountry rangers, rural ambulance attendants, and other individuals who provide emergency care in remote settings. While fulfilling the DOT requirements for certification, this 180 hour program significantly expands the required topics to address the issues involved in extended care and introduces backcountry rescue techniques.

Classes are held in Pitkin, Colorado: January 2 to 27
Cost: $1,395* May 22 to June 16
Phone: (303) 641-3572 July 31 to August 25
*Price includes tuition, lodging and meals.

B) Wilderness First Responder

This course is designed to provide outdoor leaders, guides, rangers, and travelers with the knowledge needed to deal with emergencies in remote settings. It is an 80 hour curriculum, meeting all the DOT national standards for First Responder with additional protocols for extended care situations. Emphasis is placed on prevention and decision-making.

Classes are held throughout the West from California to Montana; on dates from January to June, at prices from $350 to $665*
Please call (303) 641-3572 for more information.
*Price varies due to lodging and meal packages.

C) Wilderness First Aid: May be used as a WFR Refresher

Offered since 1975, this two or three day course is used by many organizations to introduce first aid and long-term patient care to trip leaders, camp counselors, guides, and rescue team members. In addition, it is often used for recertification by those with previous training.

Classes are held throughout the West from Washington to New Mexico; on dates from January to June, at prices from $90 to $250*.
Please call (303) 641-3572 for more information.
*Price varies due to lodging and meal packages.

Sign up now! Address are Phone number at the top of the page.

Canyon Country Partnership

The Canyon Country Partnership (CCP) will mark its first anniversary on January 5 at its quarterly meeting in Price, Utah. The meeting will begin at 10:30 a.m. at the offices of the Southeast Utah Association of Local Governments at 375 South Carbon Avenue. CCP was established by the County Commission members of the four SE Utah Counties, and three state and three federal land management agencies. CPRG will see you there!

The Uncompahgre Plateau and Unaweep Canyon

by John Weisheit

Introduction

The geologic chronology associated with the Uncompahgre Plateau indicates vigorous tectonic activity for over a third of the earths history. The metamorphic rocks viewed within Westwater Canyon have a radiometric date of 1800 to 1400 million years. Besides this obvious record of tectonic activity in the Proterozoic Era, it has also experienced uplift in the Paleozoic, Mesozoic, and Cenozoic Eras. No other uplift on the Colorado Plateau seems to record such periodic sub-surface displacement.

Bisecting the Uncompahgre Plateau is an abandoned river gorge called Unaweep Canyon. It is has been speculated that this canyon was cut by either the ancestral Colorado River or the Gunnison River. The abandonment of this ancestral canyon is suspect to renewed uplift of the Uncompahgre that occurred as little as 1 to 2 million years ago (mya).

Background

Presently, the Uncompahgre Plateau is a northwest-trending anticlinal uplift 25 to 30 miles wide and 95 miles long and is located in east central Utah and west central Colorado. The Colorado River traverses through it seeming to defy its structure. The metamorphic complexes of the Uncompahgre basement formed in the Proterozoic during a history of continental addition by colliding volcanic island arcs, stress-related folding, and subsequent mountain building. These Alp-like mountains eventually eroded to sea level well before the start of the Paleozoic Era. A period of intermittent deposition occurred on these rocks until the early Pennsylvanian Period, and the platform was again uplifted into a set of mountains referred to as the Ancestral Rocky Mountains. These mountains were the source materials for the Colorado Plateau's red-colored shales and sandstones such as: the Supai, Halgaito, Hermit, Organ Rock, and the undifferentiated Cutler. These mountains were eroded to sea level by the early Triassic Period of the Mesozoic Era. With sea level equilibrium established, deposition started with the formation of the Chinle, which caps the metamorphic complexes, and is best observed today on the Colorado River at the head of Westwater Canyon. The Chinle formation is 220 million years old and the division between these two rock units chronicles at least 1200 million years of missing strata. This missing volume in the geologic library is called a "*great unconformity*".

Navajo sandstone, which is one of the most extensive formations on the Colorado Plateau, is also missing from the geologic stratigraphy of the Uncompahgre Plateau, and represents a missing chapter that is called an "*unconformity*". This would indicate a period of renewed uplift for the platform during the Jurassic Period; the Navajo was either not deposited, or was eroded off the feature by consequent drainage. However, Entrada sandstone is present and indicates renewed deposition, and burial of the Uncompahgre Uplift probably until the Laramide orogeny. This famous tectonic event started about 80 million years ago and formed the present-day Rocky Mountains and the surface bulges of the Colorado Plateau -- sisters to the Uncompahgre with names like Monument, Zuni, and Defiance. About 65 mya, the Colorado Plateau area was uplifted from its sea level basin, by what is called an *epeirogenic* (crustal deformation) event, with an amazing vertical displacement of many thousands of feet.

Things changed in-and-around the Oligocene Epoch (38 to 26 mya) of the Cenozoic Era with extensional rifting breaking the highlands to the west and south of the Colorado Plateau area, and forming the Basin and Range Province. However, periods of uplift can even occur today on the Colorado Plateau. In the Pliocene Epoch (12 to 2 mya), the Kaibab Plateau, the Uncompahgre Plateau, and the Uinta Mountains indicate renewed uplift. If uplifting continued today, river systems on the Colorado Plateau would deepen their gorges.

Antecedence - Superposition - Anteposition

The term *antecedence* was described by John Wesley Powell in his report of 1875. This theory relates to the activity of rivers that cut perpendicularly through major uplifts such as: the Colorado River through the Uncompahgre, the San Rafael River traversing the Swell, and the San Juan River crossing the Monument Upwarp. Logic would dictate that a river would simply flow around an elevated land platform. Powell may have scratched his head and concluded these drainages were emplaced before uplifting, that the erosive forces of these rivers kept pace with the uplift, and resulted in their subsequent river gorges. This has been described as a saw (the river) working on a log (the uplift). In this scenario the saw remains in place and the force for cutting is applied by moving the log. What if this process were reversed? That is the log remains stationary and the saw moves. This theory was also describe by Powell and is called *superposition*.

With superposition, the uplift occurred first and then the structure was buried by sediments. This could happen in a desert of wind blowing sand, in an oceanic delta, or in a continental lake. The river, suspended on the sediments that buried the uplift, will eventually erode into the structure from above. A good example of this scenario occurred recently on Lake Powell on the San Juan River Arm forming Paiute Falls. [*See article by Gene Stevenson and Donald Baars in Issue I of The Confluence.*]

Laramide structures were in place and receiving sedimentation in a Cretaceous Sea even before epeirogenic forces uplifted the entire area from its below sea level basin. This activity was progressive, working from the southwest towards the northeast. The subsequent tilt created a natural dam to contain run-off, forming a continental lake that prevailed for at least 45

Geologic History of the Colorado River

According to Hunt, 1969

[Tabular summary of the interpretation, much of it conjectural, presented in USGS Professional Paper 669C. Sequence within time intervals arranged with earliest event at bottom.]

Time interval and approximate age of boundaries (in millions of years)	Geographic regions			
	Basin and Range province	Colorado Plateau		Rocky Mountains Colorado and Gunnison Rivers above Grand Junction
		Southern section Below mouth of Green River	Northern section Green and upper Colorado Rivers	
0				
Quaternary	Colorado River canyon in Black Mountains deepened by renewed uplift (antecedence).	Grand Canyon of Colorado River deepened very little since mid-Pleistocene time. River in Grand Canyon within about 50 feet of present depth about 1.2 million years ago. Uplift and (or) northeast tilting of plateau probably continued intermittently throughout the Quaternary and probably is still continuing.	Canyons of Green and Yampa Rivers deepened about 500 feet.	Main river valleys and canyons depened about 500 feet in glacial Pleistocene time; headwater stretches deepened 1,000–1,500 feet. Unaweep Canyon abandoned in late Pliocene or earliest Pleistocene time.
2				
Pliocene	Colorado River discharges to Hualapai Lake and it overflows westward across Black Mountains. Limestone (Hualapai) deposited in fresh-water spring-fed lake centering at mouth of Colorado River canyon in Grand Wash Cliffs. Alluvial and playa beds (Muddy Creek Formation) deposited in Lake Mead area. Colorado River not there. Estuary along lower Colorado River (below The Needles) throughout much of Pliocene time.	Colorado River discharges at mouth of Grand Canyon. Ancestral Colorado River joins the Little Colorado and San Juan Rivers; overflows through arched ancestral Grand Canyon. Uplift and northeast tilting of plateau probably continued intermittently throughout the Pliocene. Renewed uplift at Kaibab Plateau ponds ancestral Colorado and Little Colorado Rivers; begin deposition of Bidahochi Formation (earliest Pliocene). Ancestral drainage, ponded at Peach Springs, discharged at Grand Wash Cliffs as big springs fed by pipes enlarged in the now cavernous limestone formations dipping down axis of present lower Granite Gorge.	Renewed uplift at Uinta Mountains (or downfaulting of adjoining basins) deepens the canyons by perhaps 1,000 feet (antecedence). Green and Yampa Rivers superimposed in southward courses across the Uinta Mountains, probably when the mountains were structurally lower relative to adjacent basins than now and were buried by Browns Park Formation. This superposition probably took place in early Pliocene time, perhaps in the late Miocene.	Canyons of the Colorado River through uplifted blocks such as the Gore Range or White River Plateau deepened 2,000–3,000 feet during Pliocene time (antecedence); Black Canyon of the Gunnison River. Colorado and Gunnison Rivers cross Uncompahgre Plateau and cut Unaweep Canyon.
12				
Miocene	Estuary along lower Colorado River (below The Needles); Colorado River apparently flowed into it by way of canyon at Peach Springs, Ariz. Accumulation of lavas, dated radiometrically at 16–17 million years old, in gap at Kingman, Ariz., between Hualapai and Cerbat Mountains; the gap may be segment of canyon at Peach Springs, Ariz., faulted off plateau. Deposition of alluvial and playa beds, lower part of Muddy Creek Formation(?), in Lake Mead area; most movement along faults near Grand Wash Cliffs by middle Miocene time.	Canyon at Peach Springs partly filled with deposits dated radiometrically at about 18.3 million years old; renewed uplift at Kaibab Plateau. Gravel deposits on Kaibito Plateau, derived in part from San Juan Mountains, indicate that by late Miocene time, San Juan River flowed across Monument upwarp to within 80 miles of Grand Canyon; probably crossed ancestral Kaibab uplift in canyon and joined ancestral Little Colorado River west of there. By middle Miocene time the Little Colorado River had course south of Kaibab upwarp and left plateau by way of canyon near Peach Springs, Ariz. Plateau uplifted and tilted northeastward intermittently throughout the Miocene.	Doming of laccolithic mountains by intrusions about 25 million years ago caused drainage to be diverted around mountains (La Sal, Ute, Henry, Abajo, Navajo Mountains). White River follows a westward, essentially consequent course down axis of Uinta basin. Ancestral Green and Yampa Rivers discharge into Wyoming basin north of Uinta Mountains. Northern part of main Colorado River drainage is assumed to have ended in playas in Henry Mountains and (or) Kaiparowits basins.	Present course of main stem of Colorado River largely established by overflowing structural barriers by end of Miocene time; Gunnison River superimposed across Precambrian rocks at Black Canyon. Headward part of Colorado River disrupted by formation of structural basins at head of Yampa River, near State Bridge, and in Middle Park; and by uplift of White River Plateau and Gore Range. Ancestral Colorado River continues consequent westward course to Uinta basin; continued outpouring of lava in Gunnison River valley.
26				
Oligocene	Breakup of highlands into basins and ranges, block faulting; probably faulting began at Grand Wash and at the basins downstream along the Colorado River.	Plateau continues to be uplifted and tilted northeast; San Juan River basin probably overflowed west; drainage history obscure because datable deposits are scarce; probably playas in Henry Mountains and Kaiparowits basins.	Plateau tilted northeast. Filling of playa exceeds rate of tilting, and Uinta basin overflows southward; ancestral Green and Yampa Rivers ponded in Wyoming basin. Lakes filled and converted to playas.	Gunnison River valley tilted eastward and begins to fill with volcanic rocks. Ancestral Colorado River had consequent course at about the position of present White River to Uinta basin; ancestral Gunnison River valley eroded into Precambrian rocks.
38				
Eocene and Paleocene	Highlands draining eastward and northeastward; folding, faulting.	Plateau uplifted and tilted northeast; drainage probably northward to lakes because of northward tilting.	Area low lying, close to sea level; large lakes (Flagstaff and Green-river Lakes).	Consequent streams flowing west supplied sediment to lakes.
65				
Cretaceous	Highlands draining eastward and northeastward.	Flooded by seas.	Flooded by seas.	Flooded by seas.

million years; more than enough time to continue the burial of Laramide structures. Due to the breakup of the highlands from extensional rifting, the lake began to drain, forming rivers which started to incise themselves into lake sediments, often forming the river meanders that are with us to this day. These rivers, entrenched as they were, eventually cut down into the buried Laramide structures and created our scenic canyons.

Powell favored antecedence, but many geologists have favored superposition; some a combination of the two, which is called *anteposition* and described by Charles B. Hunt in 1956. Anteposition is explained as an already existing river that has superimposed itself into a structure; the structure later renews its uplift, and the river cuts a deeper gorge by antecedence. This has occurred on structures such as the Kaibab Plateau and resulted in the deepening of Marble and Grand Canyons by many thousands of feet. However, in Unaweep Canyon, anteposition occurred for awhile until another geologic force known as *stream capture* developed. Powell's USGS associate, Grove K. Gilbert, defined stream capture well:

"A stream which for any reason is able to corrode its bottom more rapidly than do its neighbors, expands its valley at their expense, and eventually 'abstracts' them. And conversely, a stream which for any reason is able to corrode its bottom less rapidly than its neighbor, has its valley contracted by their encroachments and is eventually 'abstracted' by one or the other."

Unaweep Canyon

Evidence indicates an ancestral river superimposed itself into the Uncompahgre Uplift and formed the canyon we call Unaweep. However, at some point in time, this canyon was abandoned by stream capture. As on the Kaibab Plateau, anteposition should have occurred, but didn't due to differences in the hardness of the rock. An appropriate metaphor is that "water takes the course of least resistance." Well before the time of the renewed uplift for the Uncompahgre Uplift, the ancestral river in Unaweep Canyon had cut into the very hard metamorphic complexes of the Uncompahgre. The rate of renewed uplift that occurred 1 to 2 mya, was greater than what the river could cut by anteposition, and so the river began to pool before the structure.

It has been proposed that both the Colorado and the Gunnison rivers met at a confluence upstream of the Uncompahgre Uplift and that the combined flow traveled through Unaweep Canyon. This theory has recently lost support. It is now believed that the Colorado River has basically maintained its present course; that the Gunnison River flowed through Unaweep Canyon; and the confluence was downstream of Unaweep Canyon. So, the Colorado River maintained its valley while the Gunnison became stagnant, pooling before the raising Uncompahgre. Eventually, that lake over-spilled into the Colorado River; finding an easier channel to corrode in rocks that were softer than those of Unaweep Canyon. With the Colorado River maintaining its channel as the master stream, the Gunnison was captured above the Uncompahgre. With this piracy, the Colorado River increased its flow and either superimposed itself into the Uncompahgre or was able to keep up with the rate of uplift and maintained its course through antecedence, or both, which again is defined as anteposition.

The Colorado River of the Future

Westwater Canyon begins at Mile 124.3 with metamorphic bedrock riffles. Just before these riffles, the river is abraided into four channels over gravels that are held in repose. Also, one mile upstream, there is an extensive flood plain the river has eroded into -- leaving a steep cut-bank. Could these features indicate renewed uplift of the Uncompahgre in very recent geological times? Did the Colorado River momentarily pool before the uplift to deposit this fluvial plain? Did anteposition pace itself with the uplift, so that the Colorado River maintained its course through Westwater Canyon? Will uplifting someday exceed anteposition, so that the Colorado River will abandon Westwater Canyon, flood the Cisco Desert and over-spill into Cottonwood Wash? Such questions help us to realize that our planet's clockwork is ever ticking.

Bibliography:

Cater, Fred W. 1966. Age of the Uncompahgre Uplift and Unaweep Canyon, West-Central Colorado. United States Geologic Survey. Professional Paper 550C. U.S. Printing Office. Washington D.C.

Doelling, H. H., et. al. 1987. Geology and Grand County. State of Utah. Department of Natural Resources. Utah Geological and Mineral Survey. Artistic Printing.

Hunt, Charles B. 1969. Geologic History of the Colorado River. United States Geologic Survey. Professional Paper 669C. U.S. Printing Office. Washington D.C.

Lohman, S. W. 1961. Abandonment of Unaweep Canyon, Mesa County, by capture of the Colorado and Gunnison Rivers. United States Geologic Survey. Professional Paper 424. U.S. Printing Office. Washington D.C.

Perry, Thomas W. and David Annis. Pleistocene History of the Gunnison River in Unaweep Canyon, Colorado, and Implications for Colorado Plateau Uplift. Arizona Department of Water Resources. Phoenix, AZ.



RECYCLE?

by Susette DeCoster-Weisheit

Do you recycle? Do you recycle while on the river? Does your river office recycle? Is recycling the answer? These are questions to contemplate as we enjoy the winter. Recycling has become fashionable, has become the law in some places, and has even been preached as duty. However, we must go beyond fashion, law, or duty to understand the responsibility of recycling.

Convenience has taught our parents generation, and our generation, to be wasteful; such habits have been established into our very lifestyles. Ever heard of preventative medicine? We can limit much of the process and responsibility of recycling by non-use. Non-use is going one step back and changing wasteful habits. Asking yourself if the products you are using are a necessity for the home, office, or river (paper plates, plastic forks, drinks sold in plastic, etc.). Are they really just convenient? On the river, and even in our homes, it is often because of convenience we use products that either cannot or must be recycled. But, at what expense to our convenience? This brings us back to the understanding of responsibility. If you help to create the problem don't you think it is your responsibility to help reduce its growth?

Did you know...

* The lifetime garbage of the typical American will equal at least 600 times his or her adult weight.
* Throwing away an aluminum beverage container wastes as much energy as dumping a soda can half-filled with gasoline.
* The energy saved from recycling a glass bottle will light a 100 watt bulb for hours.
* The energy saved from each recycled aluminum can will operate a television set for 3 hours.
* Two weeks of daily newspapers equals one full grown tree.
* Glass produced from recycled glass instead of raw material reduces related air pollution by 20 percent and water pollution by 50 percent.
* In the U.S. almost one ton of solid waste per person is collected annually from residential, commercial and institutional sources. At the present rate of disposal, about 500 new dumping locations must be found each year.
* Americans use 50 million tons of paper each year, consuming over 850 million trees.
* Recycling half of the paper used throughout the world today would free 20 million acres of forest land from paper production.
* One person uses and discards 2 pine trees in paper products each year.
* Americans comprise about 5 percent of the world's population, and annually produce between 15 and 38 percent of the world's garbage.

With these facts digested, we can considered the problems created. In our generation of plastic wrappers and multiple packaging, it is often difficult not to be wasteful. Can you change the whole system? Probably not. However, each individual can help the evolution of such a change by altering their own habits, thus limiting industry demands. Most of us want to aid in reducing environmental deterioration -- and want to contribute to a changing lifestyle -- so we recycle. There are three steps to change habits: non-use, re-use, and recycle.

There are different types of recyclable materials: aluminum cans, glass, tin, paper, cardboard, and plastic. Grand County Recycling (GCR), will not take plastic at this time; however, they will soon be taking plastic milk jugs on an experimental basis. There are some guidelines for recycling both tin and paper, but both can be dealt with easily. Tin needs to be rinsed and smashed flat, of course if you're on the river, you would probably do this anyhow to cut down on smell and trash size. Paper needs to be separated into newsprint and white paper (currently glossy paper is not excepted for recycling and must be thrown in the trash). Cardboard boxes need to be flattened for easy transportation and storage.

In your home, it is easy to recycle with cardboard boxes, paper grocery bags, or trash barrels depending on available space. If you live in a small neighborhood, trailer court, or apartment complex it may be easier to establish a group recycling area. More often than not, even those of us who do recycle faithfully in the home, find it difficult in the office or on the river. To recycle in the office there are several people that have to be taught separation and have to be encouraged regularly. This may seem bothersome unless we explain the effectiveness of recycling, and further encourage these people to recycle in their homes as well. On the river, burlap sacks or rice bags provide an excellent recycling system. The bags provide a compact system for transportation, and are easy to set on the beach at camp for use by all. By encouraging trip participants to separate their trash, an education on environmental ethics is established that will hopefully be carried back to the participants home.

One of the complaints often heard at the river office and warehouse is: that recyclable materials pile-up and are not transported to the recycling center. If the river company does not have a person that can be assigned to the duty, GCR will provide a pick-up service. The cost of each pick-up is $2.30 and $.10 per minute while on the premises. Pick-ups can be arranged bi-weekly, or monthly, by calling GCR at 259-8640. Not only is recycling easy, but doing so helps counteract a part of your contribution to a growing problem. We don't need to save the world, we need to save ourselves from the problems we create.



Book Review

Raven's Exile:
A Season On the Green River

by Ellen Meloy

"Each summer, Meloy, a freelance writer, and her husband, a river ranger with the U.S. Bureau of Land Management, raft Utah's Green River through the 84 mile long gorge at Desolation Canyon. In this scintillating account of one season on the river, she uses rich and sensuous language to convey the breathtaking beauty of the region - the play of color and light on steep canyon walls, the force of spring windstorms and the mystery of abandoned Indian granaries. Although Desolation Canyon is relatively unspoiled the threat of human meddling is ever present; Meloy considers ravens, wily birds whose absence from Desolation Canyon she has never been able to explain and which became a symbol of everything that is, and should remain, beyond human comprehension and control. This paean to the beauty of desert wilderness includes the author's drawings of ancient petroglyphs found on the canyon walls." Publishers Weekly.

Ellen Meloy is a writer, artist, and river ranger. She has contributed to Outside, Men's Journal, Travel and Leisure, Utne Reader, harper's, and the anthology, Montana Spaces. She lives in Montana and Utah. This is her first book. Cost: $22.50. For further information, contact Ruth Weiner at (212) 886-9271.

The Last Page and the Last Column
Poetry by Bessie Haley-Hyde

Impatient Waves

Sometimes:
Impatient waves
Break too far out.
And come to shore -- Unnoticed.

The Model

The model sat mid cherub clothes
And thought about her many beaux
The party where she'd go that night
With cocktails, jazz and blazing light.

The artist stopped in deep despair
And almost tore his graying hair
How could he paint an angel's face
From a girl who thought of a dancing place?

Fall Frost

The first fall frost
In shining silver
Comes at night.

And soon beguiles
The fluttering trees
With jewels.

At dawn ...
The barren ground
Is carpeted with brown,
Who can no longer whisper
Soft, low songs;
For they --
Are dead.

[Courtesy of the Marston Collection, Huntington Library.]

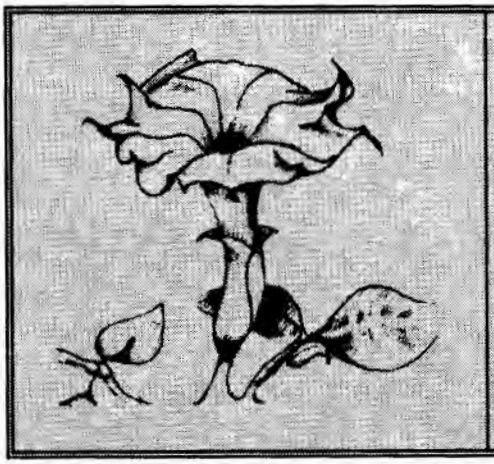
From: Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077



FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

THE CONFLUENCE

The Journal of Colorado Plateau River Guides
Volume 2, Number 1 Winter 1995



I Can Fix That!
Where the Hell Am I?
A Fish Out of Water
Fitz-Bew
Lecture Series
R.I.P. Denis Julien
The Prez Says
Whiskers
Quartzite
Atlas DEIS
SUWA

This is one of the several drawings provided by Anne Carter for the official CPRG logo, which will grace the issues of THE CONFLUENCE, our stationary and decals.

The Confluence

...is the quarterly journal of Colorado Plateau River Guides.

Colorado Plateau River Guides is a non-profit organization dedicated to:

* Protecting the rivers of the Colorado Plateau.
* Setting the highest standards for the river profession.
* Providing the best possible river experience.

Guide Membership is open to anyone who has worked in the river industry.

General Membership is open to everybody.

Membership dues:

$20 per year.
$100 for 6 years.
$195 for life.
$295 Benefactor.

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Susette DeCoster-Weisheit
Vice President	Tim Thomas
Secretary/Treasurer	John Weisheit

Directors

Bluff	Tom Rice
Green River	Sean Brown
Moab	Steve Young
Vernal	Penny Elder

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077

We need articles, artwork, poetry, stories, and opinions. If you use a computer, please send text for an IBM PC with WP 5.1 on a 5 1/4" floppy.

ISSN # 1078-425X

Disclaimer

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing viewpoint please send your comments to:

Editor, CPRG
P.O. Box 344
Moab, Ut 84532

Special Thanks to:

Bego for a six year membership.
Earle Spamer for a Lifetime membership.
Mary Richards for a Lifetime membership.
Teva Sports Sandals for a Benefactor Membership

Also, to Jose Tejada for contributing his $100 prize money from Comical American Road Stories (CARS) for the funniest story of the month contest. CARS attended our Spring Meeting to record boatman tales.

Suggestion:

If you move, be sure to send us a notification of address change.

New CPRG Membership Discount

Shrewsbury Photography (Westlight) offers a discount to CPRG members. The address is 750 South Main, Moab, Ut 84532 (801) 259-7943.

Centerfold Special

Useful rope tricks for river rescue decorate the centerfold of this issue. This document would have been a lot easier if we had a Windows program, desk-top publishing software, a scanner and a laser printer. This is our most urgent growth problem -- computer upgrades. We wish to extend our appreciation to Dave Lyle for the use of his computer and laser printer needed to squeeze all of the text into four pages. We feel this issue is valuable to the guiding community and have printed extra copies to initiate a CPRG membership campaign. If you know anyone who would enjoy a copy of this issue, please send the enclosed form on the back cover.

SPRING MEETING

We will be holding this years meeting on April 23. For those of you who want to meet for breakfast we will be at Fat City Smoke House at 9:00 a.m. Following breakfast at approximately 10:00 a.m. we will determine a business meeting location depending on weather conditions.

THE PREZ SAYS

by Susette Decoster-Weisheit

Here in Moab, the new year has brought plenty of sunshine, a smidgen of snow, some rain and many a worried guide checking the Colorado and Wyoming snowpack statistics. The statistics for February are looking well; however, under these 70 degree skies, I can't help but think of last years low and wonder if we'll have enough water to float.

In business news, I am glad to say that CPRG memberships and renewals are still arriving and we have taken a big step in our potential growth. After much discussion and the transferring of book work, CPRG is nestled under the Non-profit 501 (c) (3) umbrella of Canyonlands Natural History Association (CNHA) -- an umbrella called Canyon Country Volunteers (CCV). This partnership allows CPRG to write and accept grants with a tax exempt status. CNHA acts as the non-profit "clearing house" for this money. There are many advantages to this partnership including: bulk mailing, accounting, computer use and assistance, cost printing, etc. Why would CNHA do this for us? It is the goal of CNHA to assist in the growth of smaller organizations who will in turn positively affect CNHA's mission statement.

During the CPRG Fall Meeting, members questioned the possible limitations CPRG might encounter with this partnership. The following is an example of one concern: What if CPRG opposed an issue or regulation enforced by an agency of which CNHA is supportive? CPRG can oppose, write articles and give written and/or public comment regarding such issues. However, if CPRG wishes to take legal action or support legal action against such an agency, CPRG and CNHA would have to dissolve their partnership. As the partnership could be absolved in approximately three working days, such an action would not impact our effectiveness on the issue or regulation. In January, I held a meeting to discuss this and any other possible conflicts with CNHA's executive director, Jeanne Treadway. We agreed that if a conflict did arise, either a resolve would be reached with the Board Members of each organization, or the partnership could be dissolved on the request of either organization.

In February, a quorum of the CPRG Board of Directors met to discuss the outcome of my meeting with CNHA. Taking into consideration our mission statement and the mission statement of CNHA, it was decided that we would continue with the original plan and join CCV under the CNHA umbrella. I am confident that any question regarding this joining have been dealt with satisfactorily and that CPRG can look forward to a long partnership with CNHA and its staff. If you are interested in grant writing or if you have any questions please feel free to write me at CPRG.

As I sit through my first aid course I find myself anxious to be back on the river -- outdoors. From letters and conversations with the boating community, it is apparent that our season is fast approaching. So grab your straps, ropes and personal gear and get ready, the first trip is not far off. If I don't see you at the spring meeting next month, here's to a safe season on the water.

Letter

March 9, 1995

Honorable Earl Carroll
230 N. 15th Avenue, 6th Fl.
Phoenix, AZ, 85025

Dear Judge Carroll,

This letter is in response to the case you are presiding over concerning the individuals responsible for the destruction of Quartzite Falls on the Salt River. I'm contacting you as an individual to express my personal opinion on this wanton act of vandalism and disrespect. I feel qualified to comment on this matter as I've run rivers for over fifteen years both privately and commercially, I'm currently employed as a River Program Coordinator, and I'm an active officer in a non-profit river guides organization with hundreds of members.

The crime which was committed occurred in an area which was Federally protected under the Wilderness Protection Act in 1984 for its unique wilderness qualities. I feel the severity of the punishment should merit equally special consideration. The defendants in this case, primarily Mr. Stoner and Mr. Scott, systematically and deliberately altered the physical, biological, and aesthetic character of not just one particular location, but that of an entire section of river over sixty miles long. Regardless of their intent in pursuing such an act, the fact remains that what they did is illegal, permanent and occurred in an area specifically designated to preserve the character of the river in its natural state.

Defense was given that the destruction of Quartzite Falls was done with others safety in mind. Please consider that the Salt River was previously recognized as a Class VI river (requiring mandatory portaging) because of Quartzite Falls. With the falls gone, less experienced boaters may be lured into believing a Class VI river no longer holds whitewater safety risks. Additionally, this action has opened up the river corridor to new management problems with an ever increasing public and private interest in wilderness river trips, evidenced by a new regulatory permit system on the river. If safety was the issue, why choose permanent destruction over construction? Why didn't the defendants better sign the danger or make more efficient or safe passage around the falls? Most likely because their true intent was not in removing a danger, but an obstacle.

Areas such as the Salt River wilderness are unique and irreplaceable. It would be a dangerous precedent to not prosecute the main offenders to the full extent of the law. A first offense for the defendants is a last offense on the river when such thorough and deliberate vandalism occurs. I would encourage you Judge Carroll to make the punishment fit the crime and at least not allow the prime offenders to take away so much, and in return pay so little.

Sincerely, Tim Thomas

A FISH OUT OF WATER IS ... NOT A FISH

Proposal to Modify Operation of McPhee Reservoir and Acquire Additional Water for Fish and Wildlife Purposes.

By Tom Rice

The Bureau of Reclamation (BuRec) proposes to modify McPhee Dam release in order to provide an adequate volume of cold water to conserve one of Colorado's top four cold water fisheries created when McPhee Dam banged it's gates shut. The area in question is between the dam and a point twelve miles down river near Bradfield bridge.

The proposed action is being considered because in low water years, such as in 1990, minimal release flows degraded the fish habitat. These minimal flows are released before and after the peak spring runoff. If you are familiar with the Dolores River, "natural" runoff patterns occur for about three to six weeks in May and June. After that point, year round regulated flows have ranged from 78 cubic feet per second (cfs) during wet years, 50 cfs for normal years and 20 cfs during a dry year.

The regulated water release criteria was based on a study of monthly river flows from 1928 to 1973. However, there was a discrepancy in the manner which these monthly flows were analyzed by BuRec. This allowed for flows of 20 cfs to trickle down the river during winter and spring months which provided for inadequate fish and wildlife habitat.

The 20 cfs flow of 1990 caused a significant decline in the number of trout living in the twelve mile section of the river. Organizations such as Trout Unlimited and the Colorado Division of Wildlife pointed out that low flows damaged an established trout fishery. The organizations established that a new plan had to be formalized. Meetings between BuRec and environmental organizations achieved increases in flows to minimize impacts on the trout population. Low end releases during dry years were raised to 31 cfs allowing a bit more of a suitable flow. High end wet year flows continue to be 78 cfs. These releases currently operate on a monthly extension until an operating plan is finalized.

After almost five years of biological assessments, coordination by water users, environmental organizations, Colorado Division of Wildlife, U.S. Fish and Wildlife, Bureau of Land Management, and a host of others, an Environmental Assessment (EA) has been issued.

The draft environmental assessment has four alternatives. Alternative I, which the BuRec wants, proposes to modify reservoir release patterns. A team of biologists would direct the use of the McPhee reservoir pool specifying fluctuating releases for conservation of the downstream trout fishery. In addition, BuRec hopes to acquire an additional 7,200 acre feet (af) of water for release. This addition would be a healthy bump for the fishery.

Now it gets complicated. Alternative I calls for an additional 7,200 af of release; 3,900 af would be acquired directly by BuRec leaving 3,300 af to be acquired from donations, grants, cost sharing with other governmental agencies, private entities, water/irrigation districts, or better yet, a work of God on a Blue Moon.

The interesting problem which arises here is not addressed in the EA. Where will the water come from? Water in irrigated hay farming southwestern Colorado isn't acquired quickly and cheaply. Acquiring the water is a difficult task. Municipal water could be purchased outright from Cortez, Colorado. However, how will the city quench a thirsty growth? Regardless of that fact, this route may be the most viable. Dove Creek, Colorado, also has excess water. They fought long and hard for their water; thus, they will probably not sell. The Dolores Water Conservancy District could practice some innovative water conservation tactics such as lining their ditches. This would limit water loss and provide water which could be put back into the system to satisfy the fishery needs. Irrigators could be approached for the water acquisition. However, they would have to be in dire straits to sell any of their water considering the land they farm and the economics of water in this part of Colorado. Needless to say, water acquisition is, if not bleak, very challenging.

Another drawback to Alternative I is that during dry years, the impact of the drought would be shared with other water users such as local irrigators, thus diminishing suitable flows to the trout fishery. In other words, less water would be released for fish in order to satiate irrigation needs. Such practices could place the flows back to the point which caused the habitat concerns in the beginning.

Alternative II is almost identical to Alternative I except it does not share water shortages with other water users during dry years. This means that during a dry year the fishery receives sustainable flows. This would be the most biologically and ecologically sound alternative. However, it does not sit well with traditional water users, irrigating companies or with Reclamation's mandate. No one expects them to take it sitting down. Therefore, make them stand up. Public comment may help or hinder their alternative.

Alternative III would only acquire an additional 3,900 af and dismiss any attempt to acquire the additional 3,300 af. This alternative does little to advance the trout fishery. Furthermore, it would share water shortages with other water projects users offering the fish habitat less water in what would already be a slim water year.

The final alternative, Alternative IV, is the no action alternative. This plan would release water based on the operation of the dam when the gates were closed in 1983. Such a plan would put low end flows at 20 cfs possibly creating inadequate flows for proper fish habitat. This alternative negates the current month-to-month arrangement already in use.

continued on page 18, Column 2

The Denis Julien Inscriptions

by James Knipmeyer

Note: Edited from a full length article that will appear in the Utah Historical Quarterly.

Introduction

To the student of Western Americana, the name Denis Julien may not be known, but to devotees of Utah history, especially river runners, his name is very familiar. What is noteworthy about Julien was his inclination to carve name, initials, and/or dates into rocks and canyon walls.

In Utah, there are at least eight known inscriptions attributed to Julien. An additional two, reliably reported, have never been fully documented for the general public. There are another seven signatures that have some connection with Julien, but hover in speculation and debate.

Of the ten writings largely accredited to Julien, two are not fully accepted by discriminating historians.

The Inscriptions

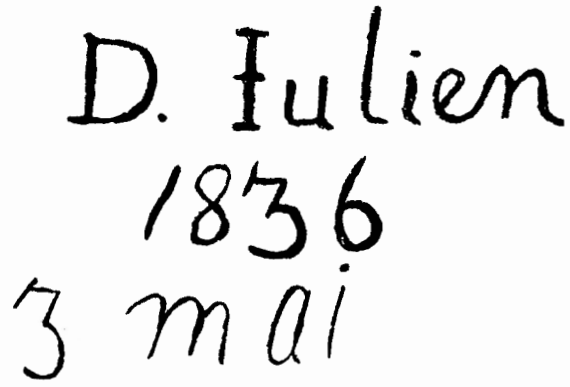
Ute Indian oral traditions from the Uinta Basin area of Utah claim that in 1828 four men, including Julien, established a small trading post near the junction of the Whiterocks and Uinta rivers. Lending support to this story is the location of the earliest known Julien inscription which reads, "Denis Julien 1831."

This inscription was first noted by Dr. Julian H. Steward in 1931 when he attended the annual Sun Dance of the Ute Indians. A few days later he showed it to Charles Kelly, who recognized the name and its implications. It was Kelly who first contacted the Missouri Historical Society and accumulated the early life of Denis Julien.

The incised inscription is printed in individual capital-style letters. For the last name, only the "J" is capitalized, and the "en" is in fashioned in script, a typical Julien signature.

In chronological order, the next inscription dated 1832, is the least known, and has not been seen in recent times. Grove K. Gilbert, a geologist, recorded the inscription in his 1875 field notebook; the entry reads, "D Julien 10 Mai 1832." Charles B. Hunt, who edited Gilbert's work for a publication of the Geological Society of America, had no explanation for this particular entry. However, Steven Reneau of Los Alamos, New Mexico, read the publication and connected a memory from a raft trip he completed in 1975 down the Green River in Labyrinth Canyon. Reneau contacted Hunt to share his conclusions, who then phoned Gary Topping of the Utah Historical Society, who then wrote to me, thus completing the chain of events. Hunt narrowed down the probable location of this inscription to a mile stretch within Ivie Creek Canyon, where a search proved unsuccessful. Later, searches by Topping and myself too were unsuccessful, but a good campsite was located where inscriptions dating back to 1875 were found. If the Julien inscription was included here, it has since been eroded away and remains a mystery. Gilbert's original entry renders the inscription as: "D Eulien." This was obviously a misreading of the old-style block-letter French "J," which is written "I."

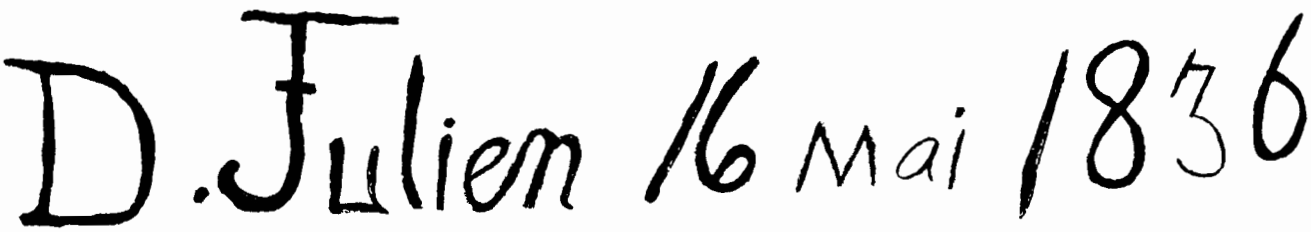
The most often seen Julien inscription is located near the mouth of Hell Roaring Canyon. This inscription reads, "D. Julien 3 Mai 1836." It is accompanied with a cutting of a boat with a mast, and by what is described as a flying sun or bird.



Hell Roaring Canyon inscription.

In 1893, the steamboat MAJOR POWELL made a trial voyage from Green River, Utah, to Spanish Bottom and back. William H. Edwards, captain of the steamer, was the first person to report this finding to the public. There are two particular characteristics to be noted in the Hell Roaring inscription. One, the capital letter "J" is carved in the old-style block letter, looking like a combination of "I" and "E" [I]. The letters "j,u,l," and "i" are incised separately, while the "e" and "n" are joined together in script.

Thirteen days later, Julien carved his next inscription upstream of Hell Roaring which reads, "D. Julien 16 Mai 1836." For this inscription, the "J" has a modern appearance and the J, u, l," and "i" are printed, while the "e" and the "n" are in script. Charles Kelly corresponded



The Julien inscription on the Green River, Labyrinth Canyon, near Hey Joe Canyon.

with river historian Frederick Dellenbaugh, who indicated that this inscription was found by prospectors, probably between 1893 and 1895. In March of 1895, William Edwards was interviewed by the ROCKY MOUNTAIN NEWS, and reported that there were a total of three Julien inscriptions on the lower Green River.

This third inscription has probably not been seen in this century. Its exact wording is not known, and its supposed location has been the subject of much debate. In a letter written to river historian Robert B. Stanton in 1907, William Edwards stated that the location of this inscription was four to five miles above The Confluence. In a letter written to Charles Kelly, Dellenbaugh indicated that this inscription read, "D. Julien 1836." Recent searches for this inscription, on both sides of the river, have not been successful The next Julien inscription is one for which the authenticity is debated. Located just above the rapids of Cataract Canyon, the faint inscription reads, "Denis Ju___ 1836." In Dellenbaugh's book A Canyon Voyage, the first mention of this inscription is made. River runner Harry L. Aleson also saw it in 1951. One of the reasons this inscription is questioned by historians is that the name is entirely done in script and that it is not deeply incised, a Julien trademark. One might argue that Julien was in a hurry.

The next inscription was the first to be discovered, by Robert B. Stanton during a railroad survey in 1889. It read simply, "D. Julien 1836. Evidently, it was seen only twice after that time, in 1891 during the Best Expedition and in 1921 during the USGS Expedition. It was not subsequently relocated and photographed until April 3, 1964 by Otis Marston and Bill Belknap. This inscription was located on the east bank of the Colorado River at the mouth of Cove Canyon and is now under the waters of Lake Powell in lower Cataract Canyon. The photograph shows the old-fashioned "I" for the capital "J," and the ending "en" is done in script. As Stanton conducted his trip in high water, the inscription was incised without a perch, so Stanton theorized that it was carved from a boat. However, when Marston relocated the inscription on his trip (pre-snow melt), a sandbar turned up with an adequate campsite and perch.

Two of the remaining Julien inscriptions are all located higher up in the Green River drainage. One, in Desolation Canyon, has been cut into the face of a large boulder near the mouth of Chandler Canyon. It was first described to Otis Marston in a 1967 letter from George E. Stewart of Roosevelt, Utah. This inscription has no date and consists only of the initials, "D.J." It has been attributed to Julien because of the similarities found in the writing style: i.e., the "J" is inscribed in the old-style "I."

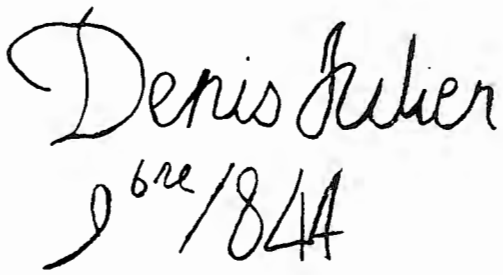
The highest upstream inscription to be found is in Whirlpool Canyon of the Green River, just a couple miles below Echo Park in Dinosaur National Monument. Presently, it is completely screened by the exotic plant tamarisk, but the alcove site made for a pleasant campsite prior to tamarisk invasion. The discovery was first noted by a



The Chandler Canyon inscription.

worker on the proposed Echo Park Dam in the 1950s, but it was not until 1975 that two National Park Service employees, Glade Ross and Steve Petersburg, found the marking by utilizing the worker's field notes. The inscriptions consist of the initials "D J," and about two feet away -- the date "1838." Once again, the "J" is carved in the old-fashioned manner, "I."

Chronologically, the last Julien inscription is located in the Devil's Garden section of Arches National Park. This inscription gives the full name "Denis Julien" and a date reading "9 6re 1844."



The inscription in Arches N.P.

It was seen and reported by then Park Service employee Jim Stiles in July of 1977. This is a hotly debated inscription because it is not in close proximity to a river and is styled in script. Some think this inscription is a modern fake, but comparing shades of desert varnish on other nearby etchings leads one to conclude it is authentic.

Other Possible Inscriptions

In 1938, a party sponsored by Julius F. Stone and Dr. Russell G. Frazier descended Glen Canyon by boat with five other men, including Charles Kelly. At the mouth of Lake Canyon a possible French inscription was discovered by the group. The carving read, "Ian ce. 1837 V. Lay." The first word appears to be an abbreviation for January, connotating Julien's use of the "I" for "J." The "V. Lay" is possibly a person's name. The French appearance and the date are all that possibly associate this inscription with Julien.

Lute Johnson, a newspaper man who was a member of the 1893 voyage with William Edwards, reported a Julien inscription located on Foote Bottom, a few miles below the junction of the Green and San Rafael rivers. This inscription supposedly read, "De Julien 5 Mai 1836." There are several problems associated with this inscription. First, Foote Bottom is known today as Tidwell Bottom and is 45 miles below the mouth of the San Rafael River. Secondly, no other crew member of the MAJOR POWELL mentions this inscription. Third, another published author searched Tidwell Bottom for the inscription without success. Lute Johnson probably confused this Julien inscription with the one dated "3 Mai" at Hell Roaring Canyon.

Another Julien inscription was supposedly located at the mouth of Dark Canyon, and was looked for by the previously mentioned Stone/Frazier Expedition of 1938. No such inscription was ever found here and was likely confused with the Cove Canyon locality. However, Royce "Cap" Mowrey of Vernal, Utah, said in 1948, that he saw a D. Julien inscription at the mouth of Dark Canyon. As this locality is now flooded by Lake Powell, we may never solve this mysterious Julien inscription.

Captain Harry T. Yokey reportedly told a fellow-townsman of Green River, Bert J. Silliman of Nequoia Oil Company, that there was a Julien inscription on the east side a few miles below the mouth of the San Rafael River. Stories conflict about this location, one including that the location is actually three miles below the mouth of Ten Mile Wash. P.T. Reilly searched for this inscription in 1961 to no avail. Conclusions have since been drawn that Yokey confused this inscription with the "16 Mai" locality above Bowknot Bend. Yet another possible inscription was reported by Yokey at the mouth of Spring Canyon, a locality too where Reilly failed to find anything.

The last two "possible" Julien inscriptions were found by Clair Bird of Fruita, Utah (Capitol Reef Lodge), sometime around 1952. One was in Silver Falls Canyon, a tributary of the Escalante River, and another at the so-called "Moqui Fort," below the mouth of White Canyon. Close examination of the inscriptions in Silver Falls Canyon revealed that it was not Julien's. The White Canyon inscription was very lightly incised. The White Canyon stone was removed by Otis Marston before inundation of Lake Powell in 1967 and was curated at the John Wesley Powell Museum in Page, Arizona. It was noted that the "J" was done dissimilar to other Julien inscriptions. That it was a fake was virtually confirmed by the spelling of Julien with an "a" rather than an "e." The inscription completely faded within a year after this analysis.

Conclusion

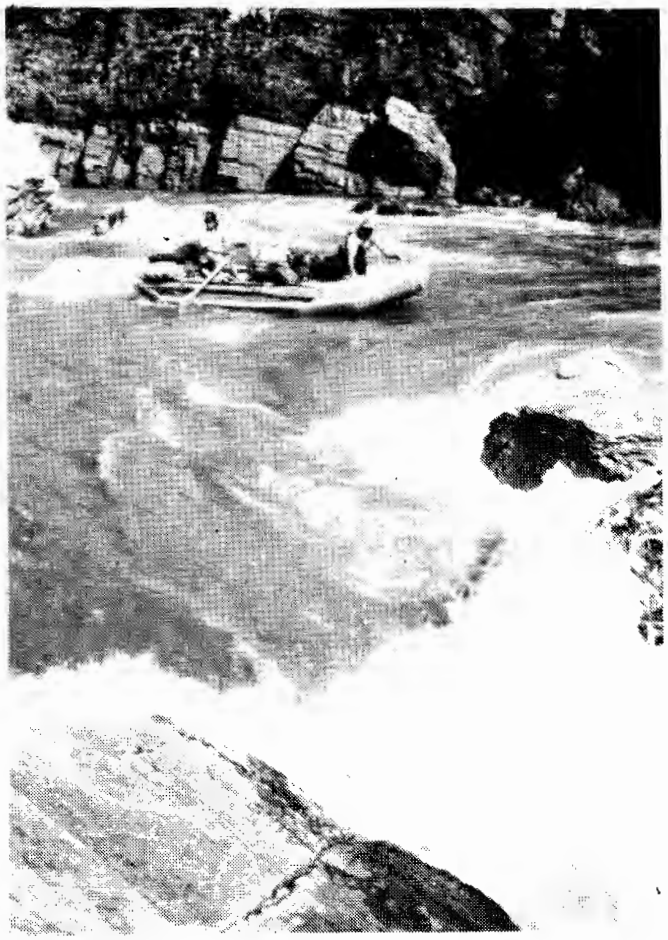
What happened to Denis Julien after his last recorded inscription dated in 1844 at Arches? In 1976, Otis Marston was interviewed by John Hoffman and the Utah State Historical Society. Hoffman made a comment that newspaperman Lute Johnson reported Julien became a California pioneer, died, and was buried there. However, Hoffman went on to say that he was unable to find documentation about Julien ever being in California.

So, where and when Julien was born and where and when he died, are not known. It is hoped that somewhere, somebody carved for him a suitable inscription. "R.I.P. D. Julien."

QUARTZITE FALLS, BUT DO THE CULPRITS?

The letter on page 3 to Judge Carroll, the sentencing judge in the Quartzite Falls demolition case, expresses my personal views on the case and the defendants actions. My thanks to Shane Murphy, G.C.R.G.'s Prez, for his eloquent words on the topic. It spurred me to similar action. Perhaps one small benefit of the destruction of Quartzite Falls will be to gather consensus and take action to protect the rivers we love both individually and as collective members of a professional guides organization.

If this case needs any introduction at all, here's a brief synopsis: William Stoner (leader), Rich Scott (demo expert), and six other men from the Phoenix area made five trips in 1993 to Quartzite Falls in the Salt River Wilderness Area and dynamited the falls. They now await final sentencing March 27th by Judge Carroll on charges of Conspiracy and Destruction of Federal Property. Plea bargaining is of course under way and it's doubtful the maximum penalty of $250,000. each in fines, and 25 years in prison will be handed down. So there's my thoughts -- and yours?



Here is the new right side run of Quartzite Falls at 1000 cfs. Photo by Tim Thomas.

A Citizens' Guide to Protect Utah Rivers

From the steep clear streams that drain the high alpine cirques of the Unita Mountains, to the lazy silty creeks of the San Rafael Swell, Utah's rivers flow through a fantastic array of landscapes which support numerous wildlife species. yet, although more than 10,000 miles of rivers in the United States now enjoy Wild and Scenic River recognition, Utah is one of just 12 states that lack any permanent river protection.

Designation of utah's remaining free-flowing rivers as wild and scenic is the most efective tool available to river conservationists. The Southern Utah Wilderness Alliance (SUWA) has just produced A Citizen's Proposal to Protect the Wild Rivers of Utah. The book, edited by Zach Frankel, highlights the wild streams in Utah which deserve congressionally designated Wild and Scenic River status. This guide describes the process whereby citizens can become advocates in wild and scenic river decision-making. To take your own direct action to protect a stream you love from incremental destruction for water development.

Contact: SUWA at 1471 South 1100 East, Salt lake City, UT, 84105. Copies of the Citizens's Proposal are $14.00 each.

THE NEXT FOUR PAGES

"I can hardly wait for my next flip," said John Weisheit after reading the manuscript. "SHEESH," said I.

What it is: Two old men and a girl pumping fliplines. A review of some stuff out there. A partial outline that has evolved from 10 years of river rescue courses taught by the master, one Barry Miller. Cliff Notes for the 90's boating/risk/rescue scene. The stuff your company's insurance people want to see. It's theory/systems/process more than a step-by-step manual. It's an approach style. Stuff YOU ought to have in mind for any adventure travel.

It's dangerous out there so stack the odds in your favor. Accidents lead to regulations (boo, hiss) but more regulations will not prevent accidents. Get a brain, some tools and PRACTICE. RIP THIS OUT OF HERE AND PUT IT IN YOUR AMMO CAN. Pop quiz Friday. Study up.

Bego.



This photo was taken by Eugene LaRue in 1914 at The Confluence. We do not know who all these people are. We are sure that Bert Loper is second from left, top row. Albert I. Anderson (Anderson Bottom fame) should also be in this picture. Let us know if you recognize any of these folks. Photo courtesy of the USGS Library, Denver.

RISK MANAGEMENT - is a full time job.

** I can fix that. Let me get my tools. You can never answer all the questions. **

RISK MANAGEMENT TRIANGLE - identify, evaluate and deal with risks.

PREPARATION - training, skills, experience and collective knowledge both as an individual and as a group, good equip.

PREVENTION - learn from experience, orientation talks, demos, altered states of consciousness, thinking ahead.

CRISIS MANAGEMENT - preplans, problem solving and decision making through an incident, debriefing.

INCIDENT COMMAND SYSTEM - National EMS and SAR people have designed the ICS as a management framework for the control of an incident. Even the most simple river rescue has all these parts:



PR — INCIDENT LEADER - person best able to see the big picture and make decisions. Not always the trip leader.

PLAN	LOGISTICS	OPERATIONS
We can fix that	1st boat..	Leadership
	2nd boat..	skills, kit

PREPLAN — DEBRIEF

-- CONTINUOUS ASSESSMENT THROUGHOUT -- FINANCE

TIME.... ..... A few minutes, hours, days .....>

PREPLAN - At some very specific stages in the development of an adventure you, your crew, your company and your clients must go over the major what ifs, the risks and responsibilities, emergency procedures, each other's skill levels and lack thereof, expectations...many things, so that the next 6 items can happen smoothly if an incident happens.

PLAN - Developed at the instant of need, depends on where you are. Most likely: each boat in each eddy, those on shore, the swimmers and those on the flipped boat will have to develop their own plans, ready to change as the process unfolds. Shore based rescues better for smaller rivers. In flow rescues: downstream boat waits, up boat sweeps. Ideally: get together, assess, develop plans A and B, delegate jobs, communicate. Keep track of your lines of escape if your plan goes awry.

LOGISTICS - Getting the right people and stuff to the right place at the right times. Plan ahead to shorten this time.

OPERATIONS - Concentrated awareness: accuracy is more important than speed. Dynamic judgement: things can change fast.

DEBRIEF - Afterwards, go over the strong and weak points. Goes into the preplan and collective knowledge.

FINANCE - Some equipment got used/abused. Who pays? To an outfitter equipment wrecked because of lack of training is badly spent money. Maybe outfitters should spend more time and money on guide training?

PUBLIC RELATIONS - The explainer: On a commercial trip when an incident happens, someone on 'the staff' becomes the explainer to 'the group' about what's up, why and how to fix it. This is a delicate job - you are coordinating the group psyche. What is said and not said can be held against you.

PRIORITIES - A good, clean recovery takes a lot of skill and is just as satisfying as a good run.

SELF RESCUE - Go for the nearest safe/warm place and fix yourself first. Then you are ready to help others. Most hypothermia happens by lack of self-care. Your stamina will determine how much you can do so start out in good shape.

SAFETY OF OTHER RESCUERS - First, do no harm. Do not go from rescuer to victim in your zeal to be a hero.

PEOPLE FIRST, EQUIPMENT SECOND - Yup. Everybody counts heads, keep absolute track of swimmers.

YOUR FIRST DECISION - Your moment and extent of interaction must be evaluated. Don't jump to soon - hard to do with all that adrenaline. Maybe you should wait a bit to see what else develops, then jump in.

VARIABLES - Everything at first. Time of day. What are the objective dangers? Where is everybody and what condition are they in? How far and how long to external help? The outcome is very sensitive to the first things you do.

EMOTIONAL STUFF - When your train goes off the track, everybody gets pumped up in some direction. Each person and the group develops an emotional curve that must be attenuated accurately and soon. This is done with leadership and skill. The imagination, creativity and logic of a person under pressure can disappear. Too much anxiety WILL cause bad decisions.

ORIENTATION TALKS - The content and presentation of OT's is important in this litigious society. It's a Catch 22: The guide is supposed to explain risk to people who do not have enough experience to evaluate risk. OT's must meld three disparate mind-sets. The tour agency wants to paint a rosy picture so as not to lose the sale. The client does not know what is ahead (part of the attraction) but wants something safe and thrilling. The guides, with varying degrees of expertise, have to deal with the occasional situation that is neither rosy nor safe. Stuff happens! Tour companies are product orientated and so are the clients. When this orientation is put in a PROCESS setting (the outdoors), the product may not be delivered as advertised every time. Chance and luck are not under guide control. OT's are equally as important on private trips.

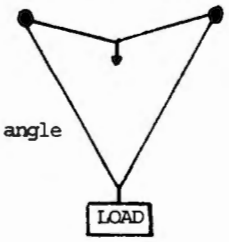
OT's must be carefully planned and delivered -- use a checklist. Foreign PAX will have a language problem. The adult has a SHORT attention span, especially in the excitement of the put-in environment. How do people learn? The client must learn a lot of new vocabulary, so the guide must not overload him with too much, too fast. Several OT's should be given at the appropriate times; do them in a logical order for what will happen next. Be concise. Invite questions. Have the whole crew participate. Be sure everyone is paying attention. Do your OT's away from distractions. Most important: you must convince your people that their safety is, in fact, mostly in their own hands and they must accept that responsibility!

ROPE SYSTEMS - Use the Acronym SLACK: Strength of materials - Lines of force - Anchors - Complexity and chaos - Knots

STRENGTH OF MATERIALS - The tensile strength of rope and sling degrades rapidly in the boating environment due especially to sand, water and neglect (attitude). This can reduce a 4000 pound rope to less than 1000 pounds in a week. How strong is that favorite old boat rope of yours? Throw bag ropes should not be used for anything but throw bags. They are not bow lines, utility ropes or rescue ropes. Many types of rope out there - study up and use the correct type for the task.

LINES OF FORCE - Vector analysis: Can change fast as in throwlines and when the boat comes loose. Can your anchors handle the change, who will be in the way?

ANCHORS - Points of attachment are the easiest place to have system failure. A note on equalizing: if you equalize 2 or more anchors and one of the anchors fails, you are shock loading a system NOT built to shock load. Consider pseudo-equalizing.

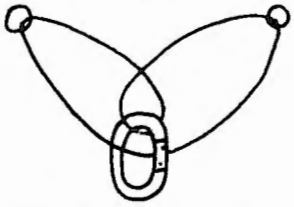


2 POINT ANCHORS- Larger interior angles create larger loads on each anchor.

For a 1000 lb load:

Angle	Tension on each anchor	
30	517 lbs	good
120	1000 lbs	bad
170	5700 lbs	Vector pull

Equalizing 2 anchors so that the load line can change directions.

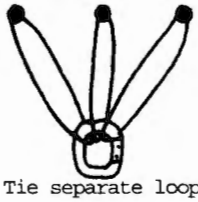


2 points with loop of rope or sling. Put a twist in one side before clipping biner.



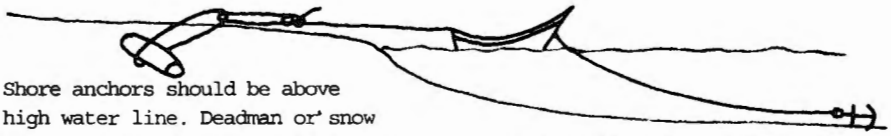
Using a Bowline ON a Bight.

Pseudoequalizing is another choice but load line must not change direction.



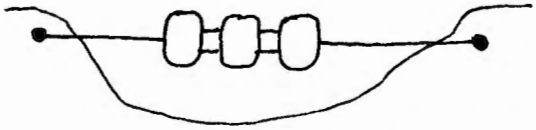
Tie separate loops from anchors as evenly as possible.

Harboring- tie boats up with hitches only



Shore anchors should be above high water line. Deadman or snow flukes work well in sand if you pour water on to dig area to compact sand.

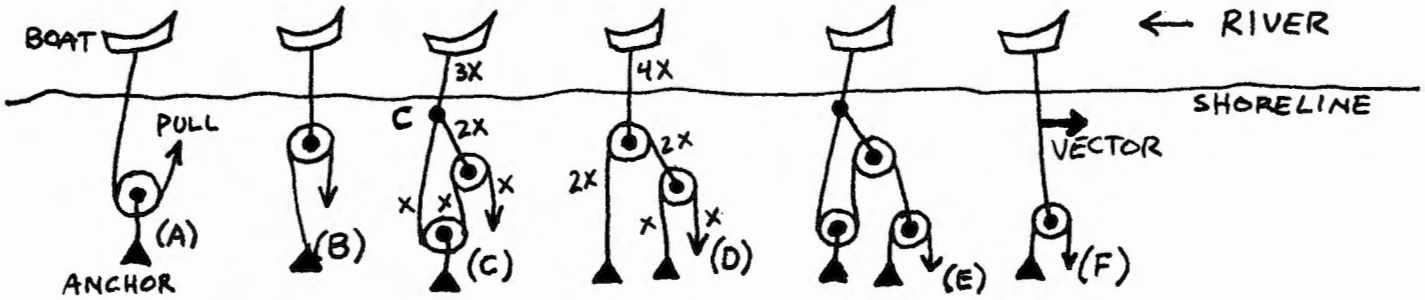
Boat anchors should be 7X the depth away from boat.



To 'soft tie' your fleet in an eddy put enough tension in the system to keep boats apart and afloat regardless of water level.

COMPLEXITY AND CHAOS -

Mechanical Advantage and Pulleys- can be applied in the horizontal or vertical

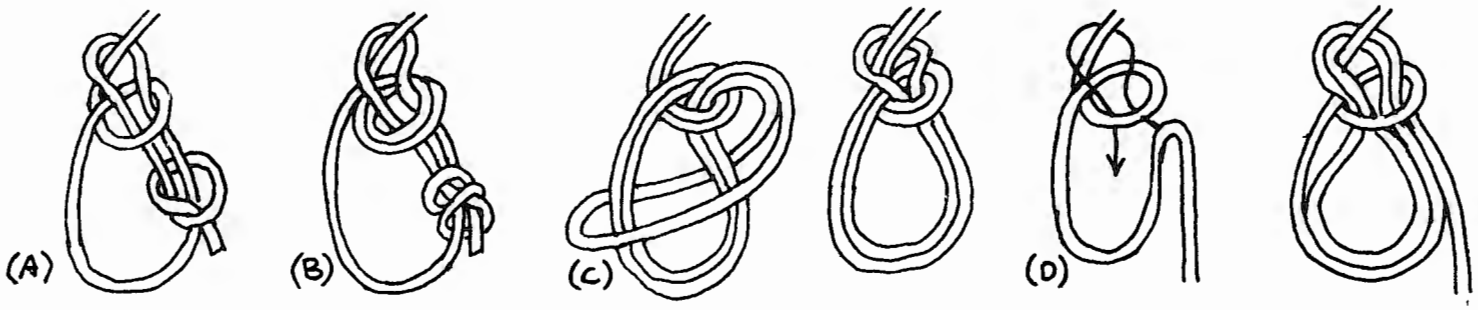


For a single pulley there are two choices: If the pulley is fixed it is only a direction change (A). If the pulley travels, it does work giving a 2:1 advantage (B). The famous Z-drag (C) gives 3:1 advantage. How to figure it: First, know that the sum of the forces on each side of each pulley must be zero. The pullers can input X pounds. The other side of the first pulley then has X pounds. The rope attached to the axle must then have 2X pounds on it. Do the next pulley. Add up the X's that act directly on the boat to get 3:1. If connection at C is a Prusik Knot it will slip at about 1800 pounds, a built-in circuit breaker you may want, so the rig will pull about 2700 pounds at best. A loop knot here will hold what? A mechanical device will hold what? (D) If you have 2 pulleys, make them both do work, getting 4:1. (E) Add a 2:1 to a Z-drag and get 6:1. That's a lot of force so are your materials strong enough? (F) The Vector Pull. Use mechanical advantage to get the highline taut. When you first pull on the Vector enormous forces are applied to the boat tie and the anchors, but these forces fall off rapidly the further you pull. Pullers should have one leg behind them in case something breaks and they should be placed 'outside' the system. FRICTION - You do want friction in belaying, rappelling, prusik knots, etc. You don't want friction in pulleys. Depending on the type of pulleys used, subtract 10 - 25% from the theoretical advantage for each pulley used. Roller bearing, 3" pulleys are a good choice.

CHAOS - Where is the weak link in the chain? No leadership, too many egos, no 'tools' and YOU are good places to look. 'I'll jump out of the way if something breaks' is not a valid concept.

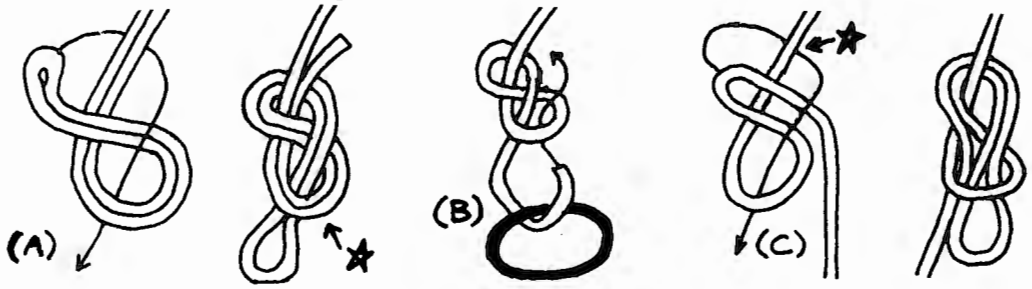
KNOTS - No practice, know not. Many knots have more than one name and/or application depending on the user group and/or the knot book author. There will be safety gained if all boaters have the same names for the same knots. The knots you use should be strong and secure. They should be easy to tie with cold hands and easy to untie after loading. Generally, for knots you should be using, subtract 1/3 from the tensile strength of the rope. Application is important: Boats should be tied up with hitches, not Bowlines, and litters should be tied up with Bowlines, not hitches. No knot is useful if it bobs in and out of the water all night. Load axis orientation is important: Many people tie a 'sideways Bowline' which is not a Bowline and the load axis is 90 degrees off. After casting a knot, it must be worked into shape and tightened. Neatness counts. Knowing the final shape of the intended knot is imperative. A knot is never nearly correct.

BOWLINES - Classic, strong, easy to untie after loading.

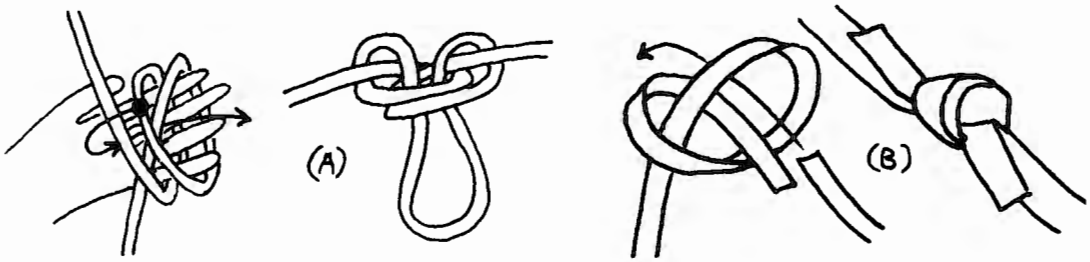


(A) Bowline with an Overhand safety knot which should be snug against the main knot. (B) Round turn Bowline with a Grapevine safety. This is more SECURE than (A) and is one of two ways to tie into a climbing harness. (C) Bowline ON a Bight, good for equalizing mulit-point anchors. (D) Bowline WITH a Bight forms a mid-line, directional, double loop for Z-drags and trucker's hitch.

FIGURE 8's - Strong also but much harder to untie after loading. Some rescue books say to use only 8's, never Bowlines. Rubbish. Take your pick.

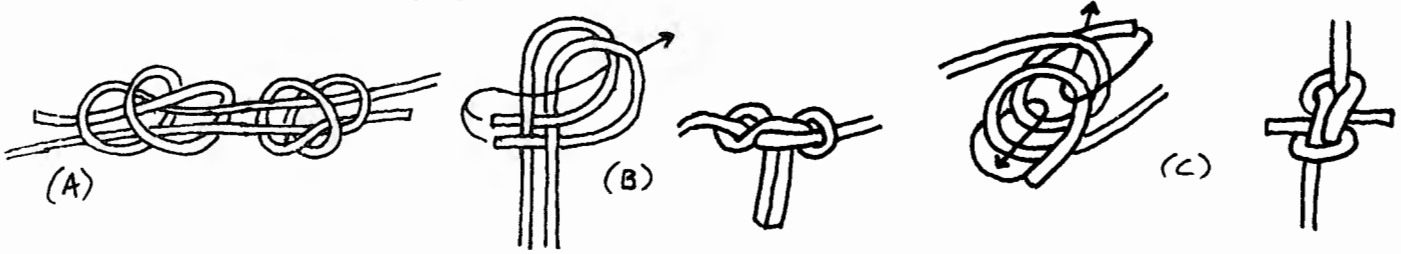


(A) Figure 8 loop - The load line should be on the outside of the first turn in the knot*. (B) Figure 8 Retrace - the other way to tie into a climbing harness. Tie an 8 in the line with 30" of tail, put the tail through the harness and carefully weave the tail back through the 8. Then tie a Grapevine safety. (C) IN LINE 8 - Midline directional loop for Z-drags and trucker's hitch. To make it easier to untie, at * take another turn or two around the standing part.



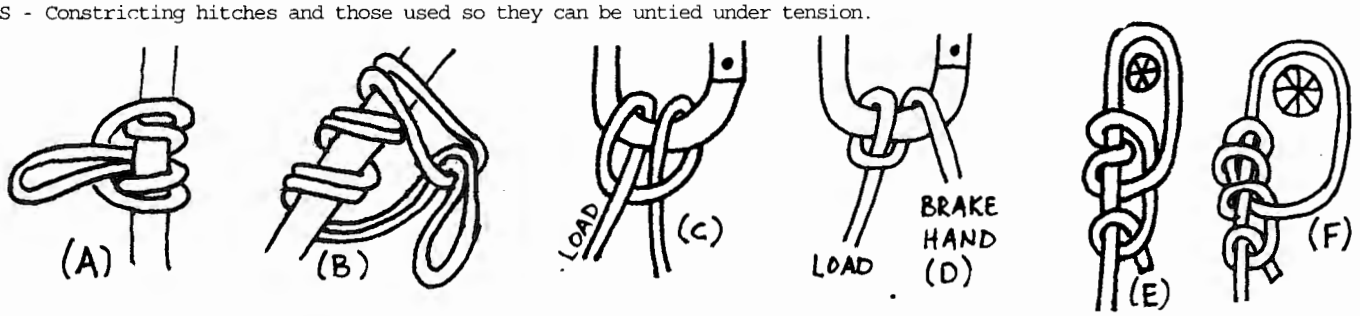
(A) BUTTERFLY - A midline loop that can be loaded in any direction. (B) OVERHAND BEND - aka Water knot, Ring bend. The knot for flat material. Leave 3" tails and pre-load before using.

BENDS - The 3 best BENDS for bending ropes together.

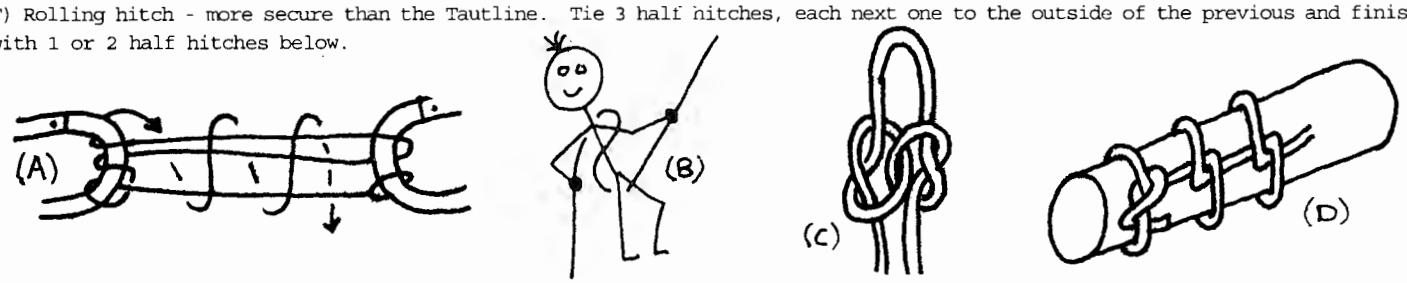


(A) Grapevine Bend - Low profile, difficult to untie after loading. Common rappel rope bend. Aka Double Fisherman's. (B) Ashley Bend - from the master, The Ashley Book of Knots. (C) Rigger's Bend - not a Hunter's. Easy to untie.

HITCHES - Constricting hitches and those used so they can be untied under tension.



(A) Prusik hitch - The connection in a Z-drag; the way to ascend ropes before mechanical ascenders. Usually will slip at 1800 pounds, depends. Use 6 or 7 mm prusiks on 7/16" rope, 7 or 8 mm on 1/2" rope. Sometimes take a third turn through for added friction = 3 loop Prusik. (B) Klemheist - Works with 1/2 - 1" webbing. As with the Prusik, more wraps is more friction. (C) Clove hitch - quick adjustment, will likely slip at 1000 pounds. Important to have load line on spine side of biner. (D) Munter hitch - for belaying and rappelling. Use only with large, locking biner. (E) Tautline hitch - basic, adjustable. (F) Rolling hitch - more secure than the Tautline. Tie 3 half hitches, each next one to the outside of the previous and finish with 1 or 2 half hitches below.



(A) LOAD RELEASING hitch - to release a tensioned system quickly; sometimes helpful resetting the systems; this and a Klemheist will get the weight of a fallen climber off your belay rope. (B) DULFURSITZ, the body rappel - basic really, pad the right places. Very useful in canyoneering. (C) TRUE LOVERS'S Knot - elegant. Caution - the false lover's knot is just as easy to tie. (D) Marling hitching - more secure than half hitching.

RESCUE STRATEGIES- preplan, thinking ahead, plan, spacing, timing, kit...

Boat based rescues- position and timing of boats-takes good rowing skills. Never let a swimmer pass the downstream boat.

Rope based rescues- thrown ropes are not a panacea and in some places can add to the problem. A swimmer needs only one rope (not 4 or 9) thrown at him at a time. Dispense only the amt. of rope needed- to prevent entanglement. Never tie off a thrown rope. Belay it and make sure the belayer is stable. For coiled ropes, throw half the coil, let the other half feed off your other hand. Load considerations: 1) boat and person in same current = min. load. 2) boat and person in different currents = some to lots of load. 3) shore to person in current = max. loads. Props and ropes don't mix.

SWIMMING- If you can swim aggressively, act like a kayak. Float shallow water feet first but dangle sideways in big waves.

FLIPLINES: Rig them at the put-in, period. Larger rafts need 2 even 3 so all the necessary people can fit. Fishing for a bow line to use as a flipline takes too much time.

PULL PEOPLE INTO BOATS by grabbing the lifejacket, not their arms. Many techniques, learn them all.

KITS - Skills, experience and attitude, the ability to read water and the adjacent landscape, good judgement (which comes from bad judgement),helmet and PFD are all part of your kit. OWN YOUR OWN kit so it has a known history. Inspect it and keep it dry. Tools on your PFD are job/craft dependent and a hazard to self-safety. Evaluate this. Kit size is proportional to trip size: 2 kayaks, 2 motor rigs, 16' boats and 18' boats all need different kits. Kit placement- you may want to standardize this across the trip; can you get to it if the boat is over? It doesn't take much stuff to do a lot of work: Fliplines, throw bag, long rope, 2 prusiks, 2 pulleys and 2 large, locking biners can do A LOT. But, only if you practice. CARE FOR YOUR TOOLS.

----------write important telephone numbers, radio freqs., and notes below ----------

READ: professionals read, professionals practice.

* All the Risk Management stuff from your company.
* RIVER RESCUE- Bechdel/Ray
* KNOTS FOR CLIMBERS- Leubben
* WILDERNESS SEARCH AND RESCUE- Setnicka
* TAO OF LEADERSHIP- Heider
* TRACKER- Brown,Jr.

One final sheesh: silt happens.

FAIR WARNING- This document could lead you, by your own decisions, into big trouble. Seek instruction. Find an experienced mentor. When in doubt, believe it. By Bego, Barry Miller and Rachel Schmidt. Comments to Bego, Box 255, Moab, UT, 84532

>>> THE SEASONS OF APPRENTICESHIP, THE ACQUISITION OF TECHNIQUE, THE PASSING DOWN OF KNOWLEDGE <<<

Where the Hell Am I?

by John Weisheit

Note: *The numbers I use for Cataract Canyon rapids in this text are based on the 1921 USGS maps.*

Once upon a summer evening, I was camped at Rapid #5, which means it was crowded that particular day in Cataract Canyon, as it is not my favorite place to be on a hot sunny day. A private comes into camp during the social hour and informs me that I am parked in his designated camp. I pleasantly asked him what he signed up for at the register box above Spanish Bottom. He pleasantly informed me that he registered for the camp called Lower #5. I explained to him that Lower #5 was downstream about 1/4 a mile on the right and I was in Upper #5. He said, "*But this camp is <u>below</u> Rapid #5*". Thinking to myself -- *this makes sense* -- I explained that the designation has nothing to do with whether the camp is above or below Rapid #5; there are two designated camps for Rapid #5, an upper and a lower. I am in the upper and you belong in the lower, which is downstream. "*Thank you*" ... "*Your welcome.*" Fortunately, no one was camped at Lower #5, otherwise this particular encounter could have soured into another private/commercial grovel.

Was I correct in my assessment of Rapid #5 camps in Cataract Canyon? Yes -- this time anyway -- for I confess past mistakes in similar encounters. In fact, the embarrassment has inspired me never again to -- insert foot into mouth. Throughout river running history, almost every river runner gets confused during the course of their first few trips through Cataract Canyon. I call this syndrome: "Confused in Cataract Canyon". This phenomenon is well documented for my theme.

Powell Expedition - 1869

Powell Report, July 21: We start this morning on the Colorado ... two hard portages ... the Emma Dean is swamped ... in the first quiet water below she is righted ... three oars are lost ... the larger boats land above the dangerous place ... we camp at night on the rocks on the left bank ... no driftwood along the banks.

Where are they? Popular opinion says Rapid #5.

Problem: lots of driftwood where the big boats are supposedly parked "*above the dangerous place*".

Theory: don't trust Powell's Report.

Solution: read diaries of Powell, Bradley and Sumner as published in John Cooley's book <u>The Great Unknown</u>.

Bradley, July 21: ... made 8 1/2 miles today ... rapids commenced about 2 miles from junction ... start four portages ... sleeping ground by piling up rocks ... made two portages within 100 yds. above and there is another waiting not a hundred yds. below ... a trail had to be made over rocks ...

According to modern maps, a distance of 8 1/2 miles from The Confluence would put their camp just below Rapid #10, where there are only riffles and small beaches. Let's suppose they are camped above Rapid #10 in Tilted Park and the Emma Dean capsized in #10, which could happen in July's low water.

Problem: There are driftwood piles on the left bank and an eddy with a shaded cottonwood camp.

Afterthought: Bradley says they did a total of four portages before making camp. It would be reasonable for the crew to portage #1 and #2. In low, medium, or high flows, #3 is not a rapid that requires portaging. If they portaged #4 and #5, this still puts them below #5 anyway.

Sumner, July 21: ... commenced the real work of exploration [classic statement] ... smooth channel for 5 miles ... came to a very bad rapid, but ran it all right ... came to a worse one 200 yards below ... made 8 1/2 miles, four portages ... swamped the small boat and lost oars ... camped on south side among the rocks.

Statement: They are definitely below #5.

Powell diary, July 21: Came down river 8 1/4 miles. Bad rapids. 3 portages. Lost 3 oars ... the floodplain is 18 to 20 ft. higher than river is now ... camped among rocks on the left bank. No. 11.

Statement: All three men agree to completing at least 8 miles from The Confluence that day, that they are camped in the rocks on the left side above a rapid that capsized the Emma Dean, and oars are to be fashioned from natural resources, where none are to be found. They are definitely above Tilted Park because there are camps and driftwood there.

Theory: They are camped between the top of #6 and the top of #8. The left side of the river between these two points is without camps nor driftwood. However, if they were camped above #8, they could simply row across the plunge pool of #7 to the right shore where there are more reasonable camps and driftwood piles. Logically, the Emma Dean capsized in either #6 or #7. If this was my first trip into Cataract canyon in low water, my vote would be #6, because it is choked with boulders and harder to read. If so, their distance covered for the day was 7 miles.

Question: Can boats pull to the left shore above #6? In my opinion, yes.

Problem: Rapids change.

Best conclusion: Contrary to popular opinion, Powell did not capsize in #5; possibly flipped in #6, and maybe #7. I think they portaged #1, #2, and definitely #5.

Afterthought: It is possible that they portaged #4. There is a record by Bert Loper about #4 being a bad rapid. It is possible that Bert confused #4 with #5 because he also mentions camping on the right side of this particular rapid. There is a small beach on the right side of lower #4, but it is not a desirable camp as is what is now called upper #5. Also of interest, the USGS recently found a hackberry tree at #4 that is almost two hundred years old. Also, in 1993, a large rock in #4 has rolled over. Perhaps this rapid has changed since Powell's day.

Brown Expedition (DCC & PRR) - 1889

The most interesting thing about the Frank M. Brown trip is that it was done at a flow over 60,000 cfs. For Brown, the success rate for traversing Cataract Canyon was very poor. Brown's fleet left Cataract Canyon minus two

boats. Becoming lost in Cataract at flows above 60,000 cfs is assured. However, Brown and his crew were surveying the canyon for a railroad bed and notes by his chief engineer, Robert B. Stanton, are a reliable reference guide for concluding their exact location.

June 4: ... In Rapid No. 10 ... line our cook boat the Brown Betty ... caught on rock under water ... tried every way to save the boat but she broke up and was a total loss ... went into Camp. 10 just 3000 feet beyond Camp No. 9.

The station number at Camp No. 9 is noted in Stanton's diary as #8828. At The Confluence, Stanton's survey tied into Frank Kendrick's survey line, which was completed from Grand Junction to The Confluence one month previous. Kendrick's station number was chiseled onto a large boulder at The Confluence and reads: 8489 + 50. Each station was marked at intervals of 100 feet. So, 8489 x 100 + 50 = 848950 feet, or 160.78 miles, which is Kendrick's estimated mileage from Grand Junction to The Confluence and remarkably accurate.

Brown's Camp No. 10 was at Station 8828 + 3000 which would be Mile 167.76 or 6.98 miles downstream of The Confluence.

Surprise: The Brown Betty was destroyed while lining Rapid #6. Brown's Camp No. 9 was probably what we now call camp Lower #5, which is approximately 3000 feet upstream of Rapid #6, which makes sense to me because it is the only reasonable high water camp in the vicinity.

Problem: Yes, for Brown and crew. Camp No. 10 was no picnic.

Conclusion: Brown lost the cook boat at Rapid #6 not #10.

The Best Expedition - 1891

This expedition was not lost in Cataract Canyon -- they only lost one of two boats. [see article in The Confluence, Volume 1, Issue 2].

William Hirams Edwards, July 21: In No. 13 rapid -- the rapids of Cataract Canyon are rock rapids, caused by the wash from the side canyon that comes in and washes the boulders and rocks out into the river ...

Statement: Edwards is absolutely correct. Range Canyon is the side canyon whose outwash forms the rapids of "Mile Long", which starts at Rapid #13. The loss of boat #1 occurred at Rapid #15.

George Flavell - 1896

September 30: ... after running eight rapids in succession, we camped ...

Statement: I think Flavell is camped in Tilted Park, 8 miles below The Confluence, which means he has done nine rapids.

October 1: ... in coming through shout, "Whoops! Aha! ... progress made: 6 miles.

October 2: [Layover]

October 3 ... made about 12 miles, running 18 rapids.

October 4 ... Cataract, with its 73 rapids (though 25 are not worthy of the name) ... progress made: 20 miles.

Comment: Flavell's estimated mileage is 46 miles. If you deduct the 25 rapids he considered unworthy from the 73, you have 48 rapids. The official USGS mileage is 39 and the official rapid count is 49. Very impressive diary keeping for Mr. Flavell!

Julius Stone Expedition - 1909

Stone's record is quite accurate. It was a low water trip in October. Stone mentions lining Rapid #6, but I think it was Rapid #5 because they had lunch afterwards at a "*ledge of calcite on the left bank*", which is between Rapid #5 and Rapid #6. Seymour Dubendorff flipped in Rapid #18, which is a common outcome in levels above 20,000 cfs; this is where the "Button Hole" is located. It was recorded that he was doing a left run in #18 and hit a rock, got turned around, hit another rock, and then flipped. This is very plausible thing to do in Rapid #18. But the next entry pinpoints the Dubendorff's event occurring definitively in #18: "*We run ... Number Nineteen then come to a bad one which is divided by a rocky island.*" True to Stone's words, Rapid #20 is divided by a rock island; a place we call "Been Hurt", but that is another story.

Emery and Ellsworth Kolb - 1911

The Kolb Brothers left an inscription on the wall above the talus slope between Rapids #22 and #23. They used white paint from a can that was left behind by the Stone Expedition. The Kolb's had a layover here on October 28th and 29th. I had a problem with this in my first years as a Cataract boatman, because I never saw a camping beach here worthy of a layover. After the high water of 1993, a gorgeous beach appeared between Rapids #22 and #23.

Clyde Eddy Expedition - 1927

When Eddy went through Cataract Canyon the flow was 54,000 cfs. Eddy, bless his heart, was probably confused because he read too many books about low water trips.

All the men walked down with me and looked at No.5, and every one of them appreciated its dangers. Few rocks were showing on account of the height of the water but there were many giant waves, such as I had never seen before except in the gorge below Niagara.

Rapid #5 is a low water rapid worthy of respect. However, in high water it is washed out and does not fit the above description. I think Eddy and his men were scouting Rapid #7, which at flows of 54,000 would better remind one of the rapids below Niagara Falls. In the spring run-off of 1993, I encountered these waves for the first time and found them to give the best whitewater ride I have ever experienced on the Colorado River. A certain "old man" I know said Mile Long in the 100,000 cfs range is the best ride.

Nevills - 1938 and 1940

Incidents beyond Norman Nevills control made his Cataract Canyon trip with Elzada Clover and Lois Jotter a

harrowing experience, but again that is another story. Nevills became more cautious as a result and spent a night deciding whether to line Mile Long Rapids or not. According to a recently published biography, said references considered Rapid #11 to be the start of Mile Long Rapid. As we have already discussed, Mile Long begins with Rapid #13. But, this incident opens a point more worthy of my discussion. Rapid #11 is the most curious rapid in Cataract Canyon. Actually, it is best described as a vortex. This rapid is not caused by a debris flow from a tributary canyon; there is no boulder outwash associated with this locality. However, there is a high water plunge pool above Rapid #11 and ejected gravels have formed a large bar that converges the eddy flow into the mainstream.

Rapid #12 is caused by a debris flow and the plunge pool behind #12 is the deepest in Cataract Canyon, which is 80 feet. The area between #12 and #13 is referred to as "Lake Cataract". About a half mile above #13, there is a place worthy of having a rapid number, but for some reason the USGS did not designate one, despite a tributary canyon on river right. Perhaps it is a new rapid. If not, I don't fully understand why the USGS designated #11 as a rapid and ignored what I call Rapid #12 1/2.

In 1940, Barry Goldwater completed a trip with Nevills. In Goldwater's book, he describes an incident occurring at Rapid #24, but it really happened at Rapid #23, and there is an inscription there to document this locality. The inscription reads in such a way as to indicate a capsize. But this is only half of the story. A boat called the WEN became pinned on a rock while attempting a low water run through "Satan's Gut" (recently proclaimed the "Leap of Faith"). Such an incident happens a lot to this day. It took almost three hours to free the boat which immediately capsized once freed from its rocky perch.

Cataract Canyon - "The Graveyard of the Colorado"

I am not sure how this quote became associated with Cataract Canyon. It is my opinion that it's origin started with the placer miner's of Glen Canyon and spread through the river community via Bert Loper. In 1969, river runner and historian P.T. Reilly published an article for the Utah Historical Quarterly entitled How Deadly is Big Red. By Reilly's count, more people have died in the Grand Canyon than in Cataract Canyon. To my knowledge, at least nine Cataract Canyon deaths can be added to this unfortunate count. Big Drop II was the common denominator for four individuals in 1993.

"A nasty place," is how many boatmen describe Big Drop II at flows above 60,000 cfs. The USGS estimated "The Wall" to be 25 feet high, which is a wave that explodes upon itself every five seconds. The Wall only shows its beastly face every 10 years or so and I'll leave it to the reader to decide whether this is good or bad. For 1993, the National Park Service calculated the success rate for rowing rigs in Big Drop II above 60,000 cfs to be 20%. Even at flows of 30,000 cfs, more flips per hour occur in BD II than any other rapid in Cataract Canyon. In 1991, in a period of one hour, gathering crowds witnessed five boats flipping in BD II. But what does this have to do with my article about Cataract Canyon confusion? Popular opinion has it that Big Drop III, or Satan's Gut, is one of the 10 biggest drops in the United States. Please don't succumb to the Cataract Canyon Confusion Syndrome, better known as "Where the Hell am I?"

From The Nuclear Regulatory Commission

Over the past several months, the Nuclear Regulatory Commission has received many requests for a copy of the Draft Environmental Impact Statement (DEIS), which is in preparation on the Atlas Corporation's (Atlas') onsite reclamation plan for the Moab, Utah uranium mill. The schedule for publication of the DEIS has changed over time. At present, we plan to publish the DEIS for comment on the same schedule as that for the Technical Evaluation Report (TER). The TER provides documentation for compliance of the reclamation plan with the Criteria in Appendix A to 10 CFR Part 40. The DEIS contains references to the TER for discussion of technical details which support the references to the TER for discussion of technical details which support the environmental evaluation. Providing the two documents for comment on the same schedule will supply the maximum amount of information for the thorough review.

We expect the assessments to be published and available for comment by the end of the summer of 1995. The extended schedule is necessary to acquire additional data which has been requested of Atlas. This information is in the form of additional Colorado River sediment and water analyses, a more in-depth analysis for effects of potential seismic events, a determination of the capability of Moab fault which may underlie the disposal site, and as assessment of the potential of the Colorado River to encroach on the disposal site through normal river erosion. Atlas is still in the process of developing the requested data.

This is an interim report on the status of the project. You will receive copies of the DEIS and draft TER for comment when they are published. Any comments or questions should be addressed to me at (301) 415-6693.

Sincerely, Allan T. Mullins

Project Manager
Uranium Recovery Projects Section
High-Level Waste and Uranium Recovery Projects Branch
Division of Waste Management
Office of Nuclear Material Safety and Safeguards

United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

THE SOUTHWESTERN WILLOW FLYCATCHER

by Damian Fagan

In February of 1995 the southwestern willow flycatcher (Empidonax traillii extimus) was designated as an Endangered Species by the United States Fish and Wildlife Service (USFWS). Population declines, habitat loss and brood parasitism by brown-headed cowbirds were the reasons why this small flycatcher was added to the list. Estimates list the population at only 300 to 500 breeding pairs, but as further inventories for breeding pairs are completed this number could increase.

The five Empidonax species that are found in southern Utah are best distinguished during the breeding season by habitat, habits and territorial song. This genus of flycatchers represents one of the most difficult groups of birds to identify in the field. Little gray birds (tinged with olive, gray or yellow) with eye rings and wing bars; subtle characteristics, that may be more pronounced within a species than between species, does not make the task easier. Look for field marks as: bill shape, color pattern of the lower mandible, shape of the wing tip, presence/absence of an eye ring, shape and location of nest, song, and habitat. The songs of the different species are perhaps the best field mark with the southwestern willow flycatcher's fitz-bew or fitz-be-yew being distinct. The call note is a sharp whit!

The southwestern willow flycatcher is one of four subspecies of the willow flycatcher. A small (5.75 inches) bird in length, the best field marks, other than the song, are : grayish-green to olive-brown back and wings, pale yellowish belly, white throat, two faint wing bars, an often indistinct eye-ring, a long primary extension and a wide bill with a contrasting pale lower mandible. Sexes are similar in plumage. When perched the bird often flicks its tail upwards.

The southwestern willow flycatcher's breeding range includes southern California, Arizona, southern portions of Nevada and Utah, New Mexico and western Texas. A riparian obligate neotropical migrant, (meaning it needs riparian areas to breed and that it winters in the New World Tropics) this bird occurs usually below 7000' along rivers, streams or other wetlands where dense growth of willows (hence its name), tamarisk, seep-willow or other shrubs, where a scattered overstory of cottonwood exist. This species has been known to nest in tamarisk (Grand Canyon) and russian olive plants, although the invasion of tamarisk may be one reason for the species decline. Several theories describe how tamarisk does not provide the thermal protection that native broadleaf species do, that the tamarisk invasion changed the insect fauna upon which the flycatcher feeds or that the wispy foliage made the flycatcher nests more readily visible and thus parasitized by the cowbirds.

The willow flycatcher is a late spring breeder. Typically males arrive upon the breeding grounds a week before the females do. Pair bonding and the initiation of nesting usually begins one week after the females arrive. The constructed nest is a compact cup of fiber, bark and grass, with feathers on the rim and lined with grasses or other fine material inside. Often there is plant material dangling from the bottom of the nest that resembles a man's scruffy beard. The nest tends to be placed in a fork or horizonal branch, 1-4.5 m above the ground in a medium sized bush or small tree.

The nesting cycle averages 28.5 days. Three or four buff colored eggs with spots are laid at one day intervals. Incubation begins when the clutch is complete and the birds have been known to re-lay a clutch. Eggs are laid in late May or early June and the young fledge in early July or August. Individuals depart the breeding grounds near the end of August. Their wintering range is from Mexico to Panama.

The birds hunt by launching themselves from an exposed perch and catching insects in the air or possibly on the ground "flycatching". This aerial show may include some dramatic acrobatics as the birds chase their prey. Once the bird has captured a prey item it then flies back to a perch to eat.

Cowbird parasitism, where a female cowbird lays an egg(s) in the nest of a willow flycatcher, is one of the reasons listed for the subspecies decline. The cowbird young develop quicker and are larger than their nest mates so they can better compete for attention from the feeding adults. The hosts' species own reproduction is either reduced or eliminated by this parasitism. Measures to control cowbirds are being implemented in areas where the flycatchers have been known to breed.

Habitat loss due to urbanization, recreational and agricultural development, water diversion and impoundments, livestock grazing, off-road vehicle use and other recreational and hydrological changes, are other reasons for the species decline. Changes in the species composition and vegetational structure of the plant community have fragmented the habitat. This facilitates brood parasitism by the cowbird and reduces the vegetational protection of breeding sites.

Within southeastern Utah few studies have been initiated to survey for this bird. During some riparian breeding bird monitoring counts in Canyonlands National Park in 1993, three southwestern willow flycatchers were observed and their songs recorded for positive identification. The willow flycatcher's also sing on their migration, not just on their breeding grounds, and it was not determined whether these birds nested in the area.

It is difficult to predict the future for this subspecies. Certain land practices in riparian habitats will have to change dramatically to protect and enhance suitable nesting and foraging areas for these birds. Cowbird control may have to be implemented to help increase reproduction rates at nesting sites. The impacts of grazing on willow flycatchers has been well documented. Changes in grazing regimes and locations, recreational activities in riparian zones and water impoundments will represent some strong issues in the future for this species' survival.

References:

Brown, B.T. 1988. Breeding ecology of a Willow Flycatcher population in Grand Canyon, AZ. Western Birds 19 (1):25-33.

Craig, D., R. Schlorff, B. Valentine, and C. Pelles. 1992. Draft survey protocol for willow flycatchers (Empidonax traillii) on National Forest Service lands in the Pacific Southwest Region. USDA Forest Service. 13 pp.

Fagan, D. 1993. Avian population monitoring in riparian habitats within National Parks of the Southeast Utah Group. Final Rep. 28 pp.

Harris, J.H., S.D. Sanders, and M.A. Flett. 1987. The status and distribution of the willow flycatcher (Empidonax traillii) in the Sierra Nevada. California Department of Fish and Game, Wildlife Management Branch Administrative Report 87-2.

Harris, J.H. 1991. Effects of brood parasitism by brown-headed cowbirds on willow flycatcher nesting success along the Kern River, California. Western Birds 22 (1):13-26.

Hunter, W.C., R.D. Omhart, and B.W. Anderson. 1987. Status of breeding riparian-obligate birds in southwestern riverine systems. Western Birds 18:10-18.

Sedgewick, J.A. and F.L. Knopf. 1992. Describing willow flycatcher habitats: scale perspectives and gender differences. Condor 94:720-733.

Taylor, D.M. and C.D. Littlefield. 1986. Willow flycatcher and yellow warbler response to cattle grazing. American Birds 40:1169-1173.

Tibbits, T. J., M.K. Sogge, and S.J. Sferra. 1994. A survey protocol for the southwestern willow flycatcher (Empidonax traillii extimus). Tech. Report NPS/NAUCPRS/NRTR-94-04. 20 pp.

U.S. Fish and Wildlife Service. 1993. Proposal to list the southwestern willow flycatcher as an endangered species and to designate critical habitat. July 23, 1993, Federal Register 58:39495-39522.



Beware of Marmots, Muskrats and Other Things with Whiskers

by Mark Sundeen

A recent development has blighted Moab's fragile natural environment and violated the trust and cooperation that hold this community together. It has mocked the rights and values held dear by each citizen and, indeed, by every living thing that makes its home in canyon country. What makes this situation so much the more odious is the tacit ease with which it slipped through the gaze of our economic, ethical and environmental watchdogs. While voices were raised in protest against the rim-top tram, missile testing and the removal of Round Mountain, the project of which I speak, received nary an opposing whisper.

The aberration in question is the construction of a dam in the left fork of Mill Creek Canyon. As is the case with much of the growth that has afflicted Moab of late, the responsible parties for this project are special interest speculators run amok in a frenzy of desire and development. These beasts have flooded and effectively destroyed what was once a paradise for jeepers, hikers, swimmers and cows. Their slavish pursuit of progress reveals not an iota of concern for any species on this planet other than themselves. They have proven themselves nothing more than rodents, gnawing away at Mother Nature with chisel-like teeth, slapping their tails with glee as they reap the profit of their exploitation. For those of you who still do not recognize the enemy, let me describe him further. He stands 32 to 47 inches; he is equipped with soft, brown fur and webbed hind feet; he is equally at home in the water, on land or in his pernicious little dams. To the scientist he is *Rodentis castoris*, to the layman he is beaver.

The busy beaver indeed. Having for generations worn the deceptive pelt of God's most industrious os critters, the beavers in this community must now stand naked in the glare of their own greed, ambition and outright larceny. Industrious, they say? Industrial is more accurate. These overgrown rats are nothing other than the captains of industry in the animal kingdom, and thus, they should be regarded with the contempt and mistrust that we normally reserve for the overgrown rats who call themselves the captains of industry of the human kingdom.

Don't get me wrong; I'm no environmentalist. I believe that nature was put on the earth to serve man. For precisely this reason I was saddened and appalled last week when I drove to the confluence of the left hand and the right hand of Mill Creek. The entire mouth of the left fork is no longer the bubbling brook across which I rode my ATV and down which I floated in an inner tube. It has been transformed in several short months into a stagnating reservoir; too shallow to swim and to deep to drive. And what does this pond provide? The claim-jumping beavers will list habitat, shelter, protection from floods, and good fishing grounds as justifications for their vile levee.

continued on page 19

Guide Training Programs

Colorado Plateau River Guides does not have a Guides Training Seminar (GTS) implemented at this time because such a program was installed by Canyonlands Field Institute in 1994; a program the board members of CPRG endorse. Canyonlands Field Institute currently has guide training courses planned for the Spring of 1995. Please refer to the schedule of CFI events as published in The Confluence, Volume I, Issue Four, or call CFI at (801) 259-7750.

In the future, it may become necessary to implement a traveling GTS to include the guides who live outside of Moab. We will try to work on this concept in the coming seasons and would appreciate your suggestions on this matter.

In the meantime, here in Moab we are working in cooperation with the following institutions: The Dan O'Laurie Museum, Canyonlands Natural History Association, The Moab Information Center, Canyonlands Field Institute and the National Park Service. Together we have created a lecture series to help us become better acquainted with the natural history of the Colorado Plateau. All lectures are free and open to the general public.

Schedule of Lectures

James Aton, March 16th, 7:00 p.m. at the Moab Information Center, Main and Center Streets, Moab, Utah. The theme of Dr. Aton's discourse will be: "Inventing John Wesley Powell: The Major, His Admirers and Cash-Register Dams in the Colorado River Basin".

John Weisheit, April 8, 7:00 p.m. at the Moab Information Center, Main and Center Streets, Moab, Utah. The theme of John's talk will be Westwater Canyon; a slide show highlighting Westwater Canyon's geology, ecology and human history.

Marjorie Chan, April 19, 7:00 p.m. at the Moab Information Center, Main and Center Streets, Moab, Utah. Dr. Chan is a geologist from the University of Utah and will be discussing mysteries of the Canyonlands sub-province.

Roy Webb, May 8, 8:00 p.m. at the Moab Information Center, Main and Center Streets, Moab, Utah. Mr. Webb is on the staff of the Marriott Library, University of Utah. Mr. Webb will be discussing Green River history.

Lloyd Pierson, May 13, 8:00 p.m. at the Moab Information Center, Main and Center Streets, Moab, Utah. Mr. Pierson is an archeologist and will be discussing the Civilian Conservation Corps and the Japanese Isolation Center at Dalton Wells, adjacent to Arches National Park.

Dr. Kruger, May 18, 8:00 p.m. at the Moab Information Center, Main and Center Streets, Moab, Utah. Dr. Kruger is from the University of Utah and will be discussing climatic features of the Colorado Plateau.

More talks are scheduled during the second week of May in accordance with Utah's Pre-History Week sponsored by the National Park Service.

The day, place or time for some of these lectures may change due to unforeseen circumstances. Please call the Moab Information Center at (801) 259-2468 for updated information. More talks are scheduled for the year and we will try keeping you posted in forthcoming issues of The Confluence.

"The Canyon's Edge"

The multi-media slide show produced by Canyonlands Field Institute called "The Canyon's Edge" can be viewed before some of the above scheduled talks at the Moab Information Center. Showings are as follows:

April 1 to April 30 - 5:00 and 6:00 p.m.
May 1 to May 28th - 5:00 and 7:00 p.m.
May 29 to October 1 - 7:00 and 8:00 p.m.

---

continued from page 4

McPhee Reservoir EA by Tom Rice

It perplexes me to see the river flows of a major Western drainage discussed in flows of 31 to 78 cfs on the front and back side of the spring runoff, which can reach in excess of 2,500 cfs or more during "normal" years. One can run the Dolores River wild-eyed and adrenaline rich on a peak runoff day in May and then see the same river in a state where you would have a hard time finding a puddle to drown in on a hot August day.

Like any other arid Western river, late summer pre-dam flows at times were so low the creek dried up. The current problem plaguing the dam/human induced fish hatchery shines light upon the fact how water projects satisfy one problem only to create another problem. This unfortunately, is progress in today's time and the powers that be in the dam world sometimes lack foresight.

The deed of dam building has already been done. Therefore we have to work with what we have trying to improve the river's position using the tools at hand. Write a letter to John Freeman of BuRec, no later than March 31, 1995. You can also get a copy of the EA from the office. Read the EA or peruse this article again and send your comments. A short, simple letter will suffice. From an ecological standpoint, Alternative II is the most sound from my perspective. You make you decision.

Contact:
John Freeman
Bureau of Reclamation
P.O. Box 640
Durango, CO 81302

Mark Sundeen - continued from page 17

But when you cut through the rhetoric you will see the Mill Creek project for what it truly is: a residential subdivision.

Let me stress that my position to the Mill Creek dam is neither a dogmatic crusade against developers nor a vendetta against beavers and other furry creatures. I oppose the construction of this mammalian subdivision simply because it is in a place that has traditionally accommodated so many diverse groups. As I mentioned, the dam virtually prohibits motor vehicles accessing the swimming hole. As if it were not enough to drive over, around and through the BLM barriers, I now have to forge my quad-runner through a quarter-mile of marshlands.

And what about the tourist industry? Each spring dozens of whitewater enthusiasts journey from near and far to float inner tubes down the mighty Mill Creek. Where we once splashed through swift current and exhilarating rapids, we now trudge across a subaqueous prison barred by the gnawed limbs of felled cottonwoods. Envision the boater's malaise when he spies amphibious chipmunks frolicking on Lake Left Hand, and feel his woe when he learns that downstream water flow is now restricted and regulated by some flat-tailed bureaucrat mouthing twigs and grubs in his plush reclamation office.

There are more concerns still. The panel of Indian writings above the dam may soon be submerged. Access to this cultural resource will then be restricted to only those vandals who can afford diving masks and scuba tanks. The dam also violates the rights of the lawful permittee of Mill Creek -- the cows. Consider the unfortunate bovines who carelessly wander upstream only to be mired to the teats of Beaverton Marsh. How will we milk them?

Lastly, I will concede that I am concerned about the environment. On account of the dam, flood cycles will be disrupted, food chains broken, and erosional patterns altered. These cousins of the common woodchuck threaten nothing less than a wholesale breakdown of the canyon's ecosystem.

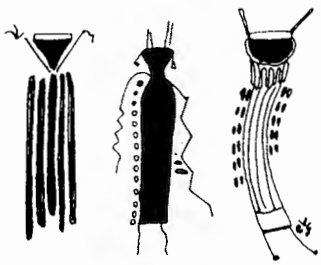
Who issued the rodents a permit to build in the first place? If none was granted, then certainly local and federal law enforcers should have been able to stop a small colony of quadrupeds from implementing its wretched design. The citizens should also be ashamed. Where were the 4-wheeler clubs and the multiple-use advocates when these special interest beavers effectively closed off a popular recreation area? How did the Sierra Club allow pristine wilderness to be clear-cut in the name of civic expansion? Where was SUWA when a precious riparian eco-zone was drowned in its own blood, its tender throat slashed by the rabid incisors of web-footed industrialists?

Finger pointing at the various players is, of course, secondary to the finger pointed at the culprits. Be it known that not a single member of the varmint community had waddled forward to compromise or even communicate with humans on this issue. The beavers' petty quest for survival is not excuse enough for the havoc they have wrought. But finally, I fault these rodents less for their disregard for other species than for their myopic and Promethean arrogance. Do they really think their rude collage of sticks and mud can stand the test of time? Perhaps they do not even realize that within a few short years their quaint little pond will fill with silt and its waters will pour over its ramshackle flood walls. And then what? Will they simply build the dam higher? An entire species, whiskered and furry, genuflects at the feet of a false god called Progress. They can build and build and build; inches, feet, miles; gnawing, maniacal, hysterical. Where will it stop?

O beaver! Why dost thou quarrel with Nature?







Artwork on page 17 and 19 is by Carol Van Steeter.

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

☐ I would like to join CPRG. Enclosed are my dues.

☐ I would like to renew my membership to CPRG. Enclosed are my dues.

☐ I would like to join CPRG. Enclosed are my dues. Please start my membership with Volume 2, Issue 1 of THE CONFLUENCE.

☐ Please send a complimentary copy of Volume 2, Issue 1 of THE CONFLUENCE to this prospective CPRG member:

☐ I would like to give a gift membership to a friend. Please start their membership with Volume 2, Issue I of THE CONFLUENCE.

Membership dues:
(Please check and write a check:)
( ) $20 per year.
( ) $100 for 6 years.
( ) $195 for life.
( ) $295 Benefactor.

Membership status:
(Please check:)
( ) Guide Member (Must have worked in the river industry.)
( ) General Member (Must love the Colorado Plateau.)

Name/Organization:_____

Company/Freelancer:_____

Address:_____

City_____ State_____ Zip_____

Phone:_____
Comments and suggestions:

If you checked box 4 or 5, may we use your name in our introductory letter? ☐ Yes. ☐ No.

What is your name?_____

From: Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

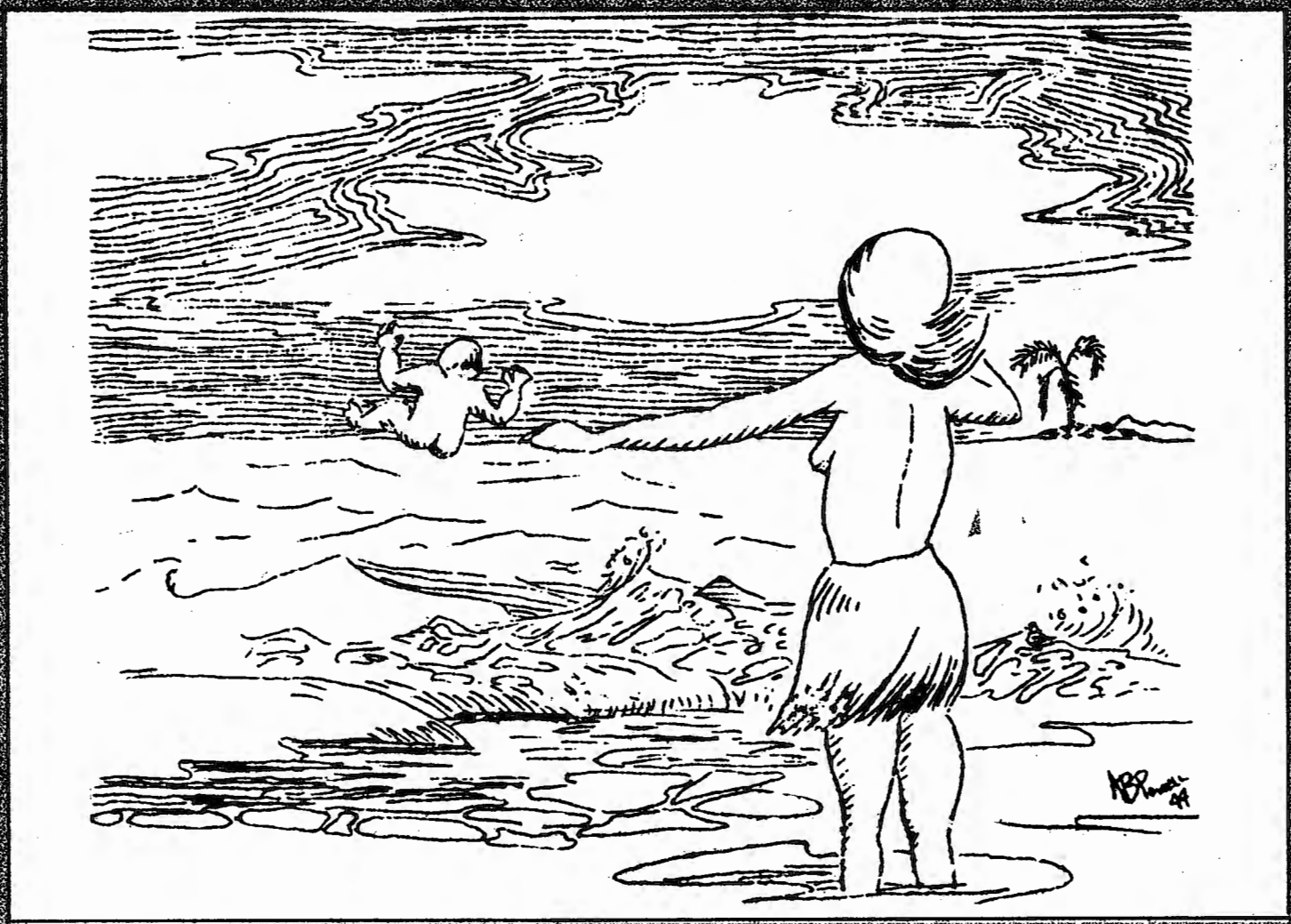
THE CONFLUENCE

The Journal of Colorado Plateau River Guides
Volume 3, Number 3 Spring 1991



Avoiding Conflicts
Frank's Saga
CMP BMP
Spring Meeting
Injuries
The Prez Says

Papua New Guinea
The River Mild
Climate
Eon, Era, Period, Epoch
Book Review
From the Eddy



This drawing was done by K. Jo Powell and depicts a scene described by Frank Wood in his adventurously interesting tale beginning on page 3.

The Confluence

...is the quarterly journal of Colorado Plateau River Guides.

Colorado Plateau River Guides is a non-profit organization dedicated to:

* Protecting the rivers of the Colorado Plateau.
* Setting the highest standards for the river profession.
* Providing the best possible river experience.

Guide Membership is open to anyone who has worked in the river industry.

General Membership is open to everybody.

Membership dues:

$20 per year.
$100 for 6 years.
$195 for life.
$295 Benefactor.

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Susette DeCoster-Weisheit
Vice President	Tim Thomas
Secretary/Treasurer	John Weisheit

Directors

Bluff	Tom Rice
Green River	Sean Brown
Moab	Steve Young
Vernal	Penny Elder

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077

We need articles, artwork, poetry, stories, and opinions. If you use a computer, please send text for an IBM PC with WP 5.1 on a 5 1/4" floppy.

ISSN # 1078-425X

A Disclaimer

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing viewpoint please send your comments to:

Editor, CPRG
P.O. Box 344
Moab, Ut 84532

Special Thanks to:

Deb Malecki for a six year membership.
Bruce Winter from Arizona River Runners for a Lifetime Membership.

CPRG DECALS

Thanks to the efforts of board member Sean Brown, we now have decals. To save postage, we decided to include one with the mailing of this issue to all current members. We also have a decal with the same logo except it is displayed on clear plastic; which would be great for a windshield, window or a glass door. If you want one of the clear decals, please send us a letter to the affect with a check for $2.00. Add $.50 for each additional decal.

New CPRG Membership Discount

Times-Independent Maps and Books offers a discount to CPRG members. They also carry miscellaneous river type gear and will laminate cards, etc. The address is 29 East Center, Moab, Ut 84532 (801) 259-5529.

The Adventures of Joe Hammer

Peter Yuschak had the pleasure of sharing a five day river trip through Desolation Canyon last July. Peter sent us a comic strip which is featured in this issue of The Confluence. Special thanks to Rosemary Kaszuba.

SPRING MEETING

We would like to thank Roger and the staff at the Fat City Smoke House here in Moab. We had an absolutely wonderful breakfast to start our SPRING MEETING. We conducted part of our meeting in their patio. We later took a break and hiked up into the Navajo above the Moab boat dock to conduct the rest of the meeting in a grotto protected from the wind and rain of a typical blustery spring day. Did you know you can find river gravel perched about two hundred feet above the river at this locality?

CPRG BROUCHURES

Thanks to CPRG director Steve Young, we also now have CPRG membership brochures to pass around to our friends and customers. Let us know how many you would like and we will mail them to you. We have also left a couple hundred brouchures at the BLM ranger stations at Westwater and Sand Wash. Feel free to take as many as you think you need. We will try to keep these places stocked.

Thoughts On Avoiding Conflicts

by Steve Young

Over the past year or so, I've ran into a couple dozen people who feel there is a serious communication flaw happening along the river corridor. I agree, since I've found myself listening to accusations that were nothing but perceptions set in sand then watching them turn into verdicts of guilt with no questions asked, even after talking to the people who made the accusations. Regardless of who you are and who you work for, shouldn't we gather the facts and make our judgements based upon those facts? Or is our judicial system based upon rumors and first impressions? Here are some ideas I have that are simple and effective if your willing to consider them.

What would you think if I were to share my ideas on how to effectively cure the communication problem found within the river corridor? Would you be interested in knowing about it?

Now, let's try that same statement again. HEY BONEHEADS! I found a cure for the communication problem and I'm going to tell you about it because you obviously don't understand!

Would you be still be interested? No, and my approach to the above statement is why we have this communication problem.

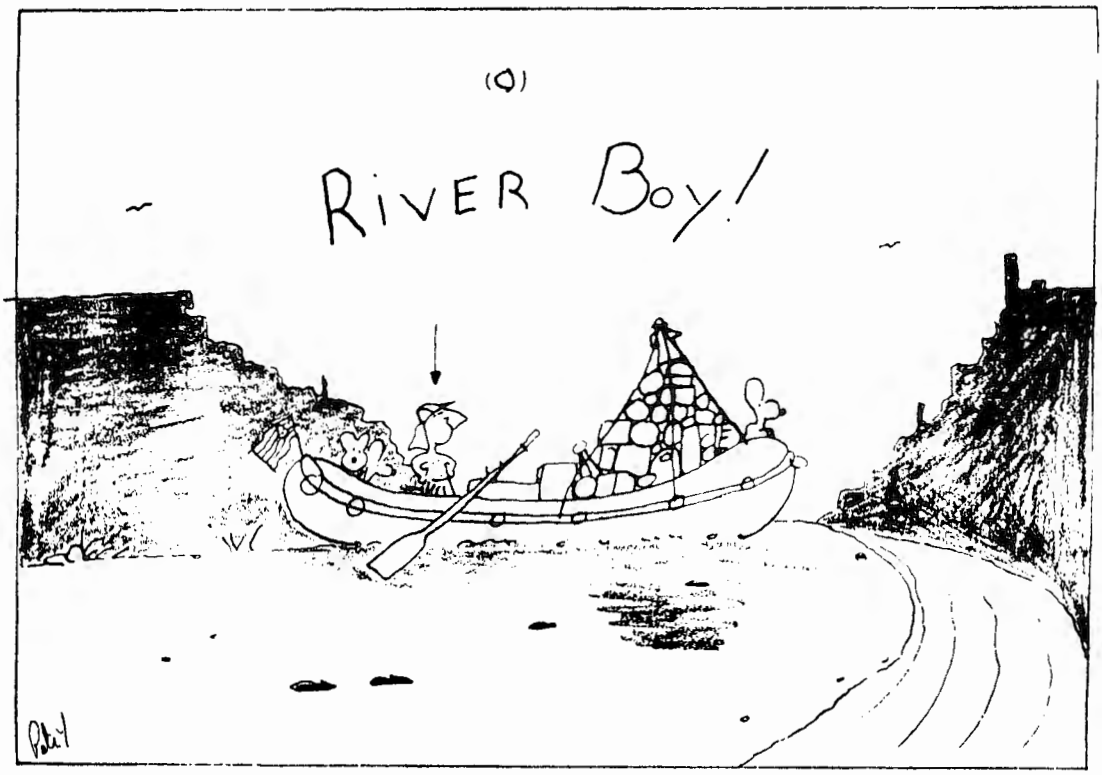
How someone approaches you or how you approach someone else sets the tone for the ensuing conversation ahead. If you try talking to someone when your really pissed-off, how does the conversation usually turn out? Try cooling-off and think about the root of the problem from the opposing side of the issue. If you instinctively conclude someone is guilty and then talk to them about it, you are going to hold some bias towards them. Go over not thinking about what they've done, but to find out what is happening or what happened and then decide where to go with your acquired information.

Here is the same idea again: you see someone doing something wrong and you want to inform them about the problem you think they are creating. Approaching them the wrong way is going to cause confusion and/or negativism towards them, their clients, you and whom you represent. Inform them of the problem you believe they created. Ask them to consider the implications involved. Treat them as an innocent and discover all the facts before pronouncing guilt. Don't go in there hot-headed, assured that they are malicious in their intent. People do wrong things usually through misinformation, not maliciousness. If someone is misinformed, they stand a lot to learn in an area where they seem to lack appropriate knowledge. Teach them, pass on your knowledge and skills, and see if they follow along. What do we have to lose? We only have something to gain.

Teaching is the answer. How do you effectively teach people about the issues that concern us? Openness and willingness affect people more than simply stating or preaching a view. What qualities did your favorite teachers have? Did they tell you about the way it was, or would be? Or did they give you the tools, resources and the support you needed to accomplish the end result? For instance, when you tell people about dams on the river, tell them all the pros and cons and let them decide what to think. I'll bet you more people will be interested in your program than if you preached your personal view. Preaching seems to turn people off, teaching empowers people to think, which continuously happens even after the river trip is over.

For a quick reminder of how to deal with a situation remember this acronym: don't be a JACKASS! J - don't Judge someone before you - A - Approach them and start - C -Communication. After you have your - Knowledge then - A - Assess the who, what, where and why. If needed - S - Support them by teaching a better way. And, since there needs to be another - S - go back to your boat and Sip a drink to celebrate handling a situation in a positive way for all the concerned.

There is really no excuse for doing something wrong and people who do need to know. However, in the process of learning, people still make mistakes. Also, lets not keel-haul people for the small things, let 's work effectively on the larger issues that concern us all.



THE PREZ SAYS

In the last issue I voiced concerns, during our unusually warm February, that we may not have any water to float this year. Not a problem. This is a great season to be on the river. I have been enjoying the thrill of Cataract Canyon in high water. You would think that the stress of high water Cat would be enough to keep my mind occupied; however, it's not the run in Big Drop II that has been troubling me. No, it's coffee.

So far this season, the argument at the top of my list has been the best way to make coffee. In discussions regarding coffee, I find that it is wise to determine the credentials of the other people involved. You might want to ask a few questions, e.g., "Do you drink coffee?" or "How many cups do you drink a day?" or "Do you think coffee is a disgusting beverage not fit for swine no matter how it is prepared?" The credibility of non-coffee drinkers, in a discussion regarding coffee, should be seriously questioned. I have been put in the uncomfortable position of defending cowboy coffee to non-coffee drinking guides.

There are hundreds of ways to make cowboy coffee. I make it like this: First bring a pot of water to a rolling boil, remove the pot from heat, and add three to five handfuls of coffee, depending on pot size. With the lid in place, allow the pot to stand until the coffee grounds on top have absorbed water and are moist, give the pot a few swings back and forth (of course if there are customers watching do a few full swings for effect and hope your handle holds). Yell coffeeeeeeeeeee!

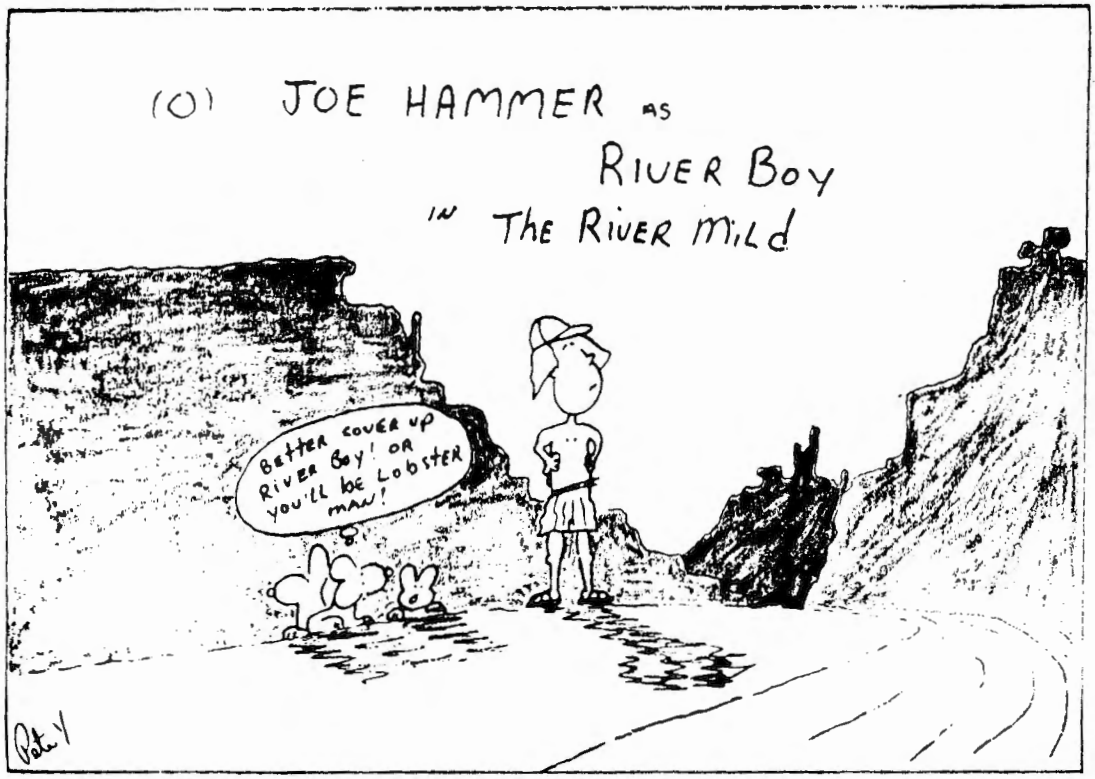
People who don't like cowboy coffee complain that the grounds get in your cup, the coffee is bitter, the coffee is cloudy, or even that coffee is a disgusting beverage not fit for swine no matter how it is prepared. OK, if you don't like to chew on a few grounds at the end, use a small hand strainer. But what's this I hear about bitter or cloudy coffee? I don't recall having this problem with the cowboy coffee I've made, except, perhaps, for the time I forgot the coffee reheating on the stove and let it reheat until it resembled an extremely interesting geothermal feature. It is important to note that, thanks to a few diehards dedicated to the cause of caffeine conservation, even this coffee did not go to waste.

Other options for preparation include percolated and drip coffee. Drip coffee is impractical on the river, since it's very time-consuming and the coffee is cold by the time you can finish a large pot. This leaves us with perked coffee, which tastes just like cowboy coffee but takes longer to make.

A friend of mine says that the true secret to good coffee lies not in method of preparation or even the type of beans, but the quality of the saturated fat that you add to it. Real cream can save anything but the instant stuff. Hot water isn't a bad idea, either, if you find yourself in the middle of a cross-cultural conflict regarding coffee strength. Americans tend to like their coffee weak, while the Europeans usually like their coffee strong enough to strip the paint off your ammo cans.

In the end, it doesn't really matter how you make your coffee, just that you make it strong enough. Caffeine withdrawal can be ugly. But if you do have an opinion on coffee preparation, please drop me a note. Make sure you indicate your credentials on the outside of your envelope, so that it may be filed appropriately.

Susette DeCoster-Weisheit



The Backcountry Management Plan

Canyonlands National Park (CNP) and Orange Cliffs Unit of Glen Canyon National Recreation Area (GCNRA)

Tough the backcountry management plan affects land tour operations more than river operations, there are still some items that river guides need to be aware of. We have compiled a synopsis of these regulations. This list is incomplete and deals with specifics that might be encountered while conducting a typical river tour.

CLOSURES

1. CLOSURES OF CRITICAL BIGHORN SHEEP HABITAT, NEEDLES DISTRICT.

Lower Salt Creek and Lower Elephant Canyon will be closed to all human entry from May 1 to September 1. These canyons are important desert bighorn sheep habitat, but the canyons are especially narrow with little escape terrain for bighorn sheep. The bighorn sheep population in the Needles District is declining, with only an estimated 40 sheep remaining. Lamb survival has been minimal with only one to two lambs surviving the year for the past two to three years. The closure is intended to minimize disturbance to lambs. If the bighorn population recovers, this closure will become less restrictive.

2. CLOSURES OF RELICT AREAS.

Relict areas in CNP and GCNRA are defined by the Nature Conservancy as "small places with pristine plant communities... where topography has kept out motor vehicles and livestock grazing". Since there are so few of these areas in the arid west, preservation of the few remaining relict areas allows biologists to assess the impacts of human activity on native biota. Unfortunately, even trampling by visitors can alter the biota.

JASPER CANYON, MAZE DISTRICT. Entry into Jasper Canyon from the Green River is allowed for the first quarter mile (to the Jump). Entry for non-scientific uses is prohibited beyond this point. Views into Jasper Canyon will be possible from many locations along the rim.

3. RESTRICTED USE OF THE DOLL HOUSE, MAZE DISTRICT.

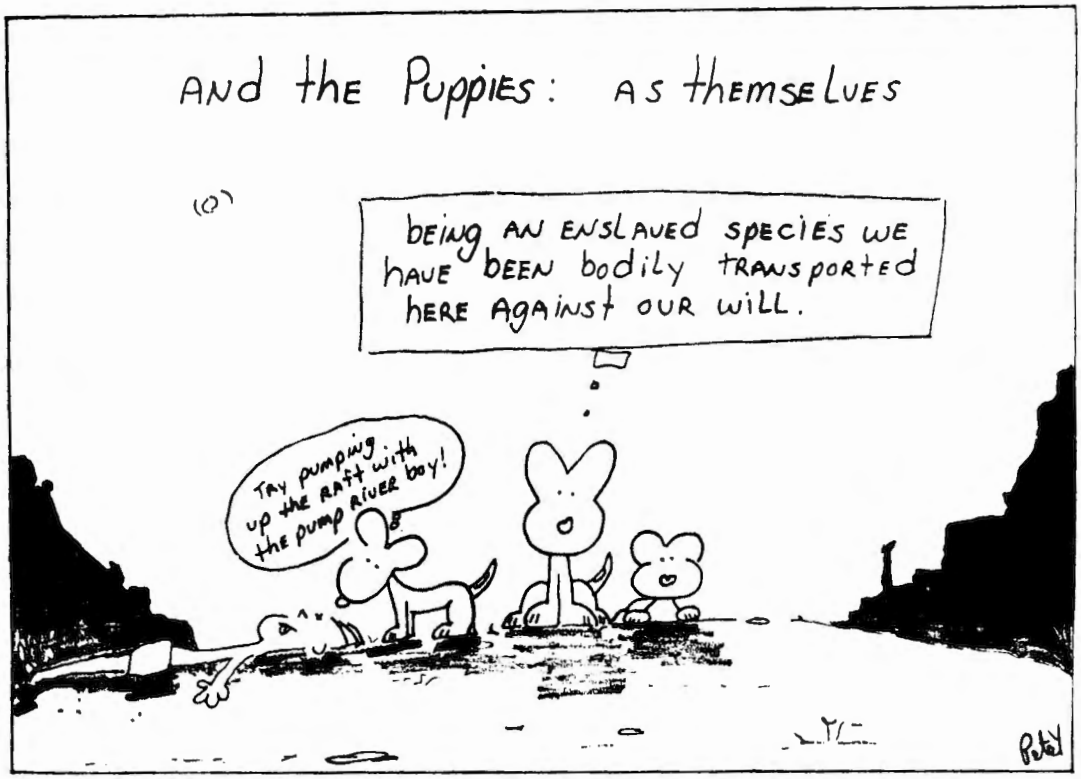
To reduce impacts from trampling and multiple trailing, only designated trails may be used when hiking from the river through the Doll House area of the Maze District. Trail marking will be upgraded to facilitate use of designated trails. Backcountry permits are required for overnight stays in this area.

CULTURAL RESOURCE PROTECTION

1. ENTERING ARCHAEOLOGICAL AND CULTURAL SITES

The Code of Federal Regulations (36 CFR 2.1 (a)(5) states that archaeological and cultural sites may not be entered by visitors. This means visitors may not go inside structures or human-made enclosures, whether prehistoric, protohistoric, or historic. Visitors may approach outside walls on structural sites, but they may not go inside structural walls or enclosures. These sites are often fragile, and much of their educational and scientific value can be lost if they are damaged.

The boundaries of an archaeological site include ephemeral surface features such as middens or garbage dumps, surface scatters of broken ceramics or stone tools, and extramural hearths or fire rings. The law prohibits entering, altering, or damaging these surface features, as well as structures. Middens and surface artifact scatters almost always surround the rock art and structural features. However, since virtually every archaeological or historical site of interest to visitors has a trail to and through it, visitors may legally cross middens, overhangs, surface scatters, etc. to see features of interest as long as they go single file and stay on existing trails. Walking off existing trails through archaeological or historical sites is prohibited under the Code of Federal Regulations and the Archaeological Resources Protection Act.



Comments on the Spring Meeting

by John Weisheit

Guide Certification

We unanimously decided to implement a guide's certification program. This is something we will execute on our own with the cooperation and direction of a steering committee that will include outfitters and government agencies. The intent is to allow the guide membership of CPRG to oversee standards of certification. The program is not mandatory -- strictly voluntary. Guides that pass a certification test will have a document that can be presented to an employer for agreed upon privileges and/or pay increases. Outfitters in turn will benefit in such a way as to attract customers; perhaps even advertising their guides as certified interpreters of natural history. Examples of advantages to the guide might include conducting "step-on" bus tours in National Parks, or to guide trips into restricted areas without ranger escort, such as in Horseshoe Canyon. Hopefully too, guide activism will increase, as will the participation of guide training courses currently offered by Canyonlands Field Institute. More than anything this will professionalize the guiding industry and validate our occupation. I feel this move is visionary and I commend the attending CPRG guide membership and the board members.

BLM Wilderness Proposals

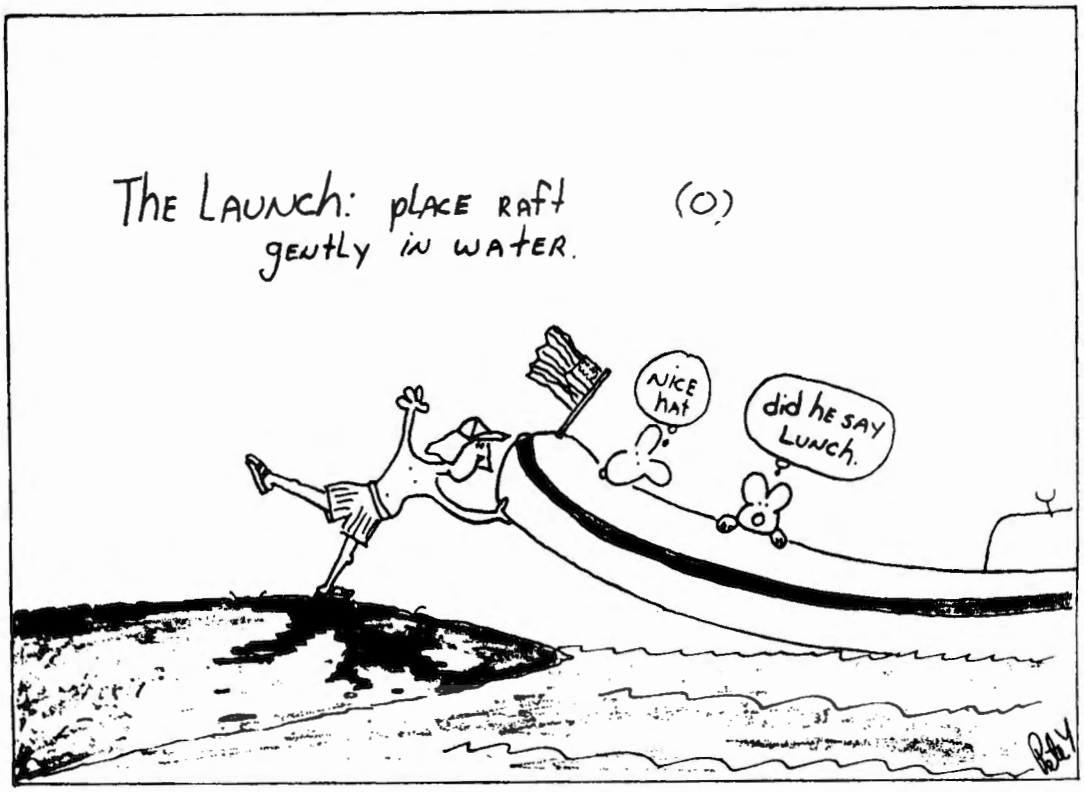
As recommended by Utah's Governor Leavitt, BLM wilderness proposals have been key agenda items for all county councils statewide. The CPRG board has written many letters to support wilderness legislation, especially for Westwater and Desolation canyons. Should these wilderness proposals fail, blame can be assigned to extractive mining interests. This is anything but visionary.

Motorless River Sections

Basically, the CPRG guide membership seems to favor the creation of: the motor free river corridor. However, we are also concerned about the physical health and the positive mental attitude required of river guides to conduct a quality river trip. After lengthy discussion, we decided not to endorse noiseless river corridors until which time trip lengths are increased by the demands of the market. Since competition in this marketplace has created the abbreviated trip, motorless river corridors would create nothing but a haven of grumpy guides with severe joint maladies. Perhaps the best way to create a motorless river corridor is to define a river management plan that allows for minimal trip days; adjusted according to high water and low water launches.

Workman's Compensation

Bad news! Rates went up again for Utah outfitters. For now, it seems the only way to reduce claims and lower premiums is to monitor our working conditions and to affect a safe working environment. Trip leaders need to take this responsibility head-on. These costs are being passed on to our customers and crimping our paychecks.



The Autobiography of Frank B. Dodge

edited by John Weisheit

In my opinion, Frank Dodge was one of the best pioneering boatman to ever work a pair of sticks. This article was made possible by the Marston Collection at the Huntington Library. Special thanks to Rosalyn Jirge. The original text was compiled by the Tucson office of the USGS in 1944. Artwork by N. B. Powell. Brackets indicate editorial comment.

Introduction

The guy that floats never lands till old age and ailments force him down -- and then what? The young fellow who sticks through college, takes his first job in engineering and marries early has, in a few brief years, accomplished more towards the real aims in life than all the traveling bees in one's bonnet will ever do.

1891 - 1907

I came into this world one moonlit night on August 1, 1891 and later it shocked me to know that I had been Nature's gift to Mother on her 34th birthday. This happened at Waikiki and a few days later I'm told, she bundled me in a tapa cloth and carried me to the beach. [There is a Hawaiian tradition to] toss a new born baby into the first breaker and if it sticks to the sand as the wave spends itself grab it. If the backwash carries it back to Davy Jones' Sea Chest, oh well, it's the will of the gods. Well, I must have stuck. [See front cover drawing.]

I remember learning to swim at six, surfing, hunting land shells in the 3,000 ft. mountains backing the town and coasting on a beautiful two-mile grade via bicycle wheels set to axles.

Father built his own home two miles inland in 1898 across the street from Punahou Schools. Father held three jobs after graduating from MIT. First, laid out the town of Pullman (Pullman Car Co.), then when the Kingdom wanted to streamline their Survey Department, went to the Islands in 1876 for that purpose. He was Superintendent of the Bishop Estate -- a large land grant holding concern, operating the Bishop Museum and Kamehameha Schools for Hawaiians.

About this time Mother put us three boys [Philip and Stanwood. Dodge also had a sister named Charlotte.] in Blackman's (English) private school and about all we learned was how to play soccer. After becoming proficient in soccer, we boys went to Punahou School. I graduated from Panahou Prep in 1907 at the age of 15.

Every weekend saw us "going mountains". We'd hear about school boarders planning a mountain trip and we would buy 25-cent bamboo wrapped black powder bombs. We'd trail a party, keeping out of sight, and long after dark sneak up on them. Then a terrific explosion and black smoke would envelope the sleeping forms. If one bomb didn't send them scooting, we'd wait an hour or two for a second. Seldom did the second fail.

Just after school let out, our swimming team took part in an aquatic meet with other schools, boat clubs, and a general town team. I happened to win the 50 [Australian Crawl] in 28 flat with a lucky stroke of the hand. When our four man 200-yard relay team went to bat, it was a runaway.

A month with Fred Harvey's survey party on Kilauoa plantation finished out the school vacation so I entered Punahou proper as a freshman. I seemed to be more interested in football or anything that kept me out of doors, especially soccer. The girls played basketball in those days, in black bloomers, and no he-man would ever go near them. It was considered sissified to hang around them and few did.

1908 - 1909

Around the end of 1907 schooling went from bad to worse. Father permitted me to quit so I found my way along the docks looking for a ship. The 900-ton three masted barque Nuuana lay in port taking on sugar. I shipped as "boy before the mast" at $5.00 a month and set sail February 15, 1908. We sighted Cape Horn just two months out of Honolulu, it was a solid line of hugh icebergs day after day. We anchored off Staten Island three days waiting for a berth in Brooklyn where we unloaded 1,700 tons of brown sugar.

A letter arrived from home with a $100 check and saying "If shipping fails, take the train". I held in my hands the means to see America first. In Cheyenne I entered my first saloon and am beginning to think it should have been my last. In Frisco, to be in style, I bought a derby and began smoking five-cent Owls. I was getting to be quite a "man about town". Yet something was wrong. I located the S. S. Mongolian and decided to go back to be an ordinary working man by using Bull Durham cigarettes. Never liked cigars anyway. Took second class passage at $40.00 and landed eight days later, about December 10.

1910 - 1914

In early April 1909 I went to Kanai for Knudsen as a stream gager, he being interested in water conservation due to his cane holdings in the lowlands. I kept tab of three staff gages which occupied me some three hours a day and was paid $20.00 per month. Sometime in January 1910 the USGS took over and my pay jumped to $50.00. Work was expanded by clock gages, cables and rain gauges put in over a large area. During this time the Topographic Branch was in Honolulu where they were getting ready to tackle Mauai and Hawaii. We then all went to Kohala, the district of North Hawaii. Here I recorded for C. H. Birdseye who later became Chief Topographic Engineer.

I quit the survey about October 15 and went to Puu Waawaa cattle ranch as part time bookkeeper and the intention was, to eventually become foreman. I must admit I didn't stick. If I had I might now be a big ranch owner or at least a big white foreman, or better yet a manager or

a superintendent. Some of the whites got into the habit of yelling and shouting uncouth words at their help and I, being a part of the help, came in for a share of it. Well, being white I had to rise up and speak my piece while if I'd been brown or yellow, chances are I'd be there yet. I just up and quit and hit for Kailua, Kona for a boat to Honolulu.

While at home I visited Dr. Thomas A. Jagger, volcanologist in charge of the then now Hawaiian Volcano Research Association's observatory at Kilanoa and he took me on as his helper in January 1912. Here I did all sorts of work such as gathering specimens, mapping the lava lake daily, construction, writing a weekly column for the Honolulu paper and keep the wheels turning while Dr. Jagger went back east.

On Jaggers return from Boston, he was quite pleased with my keeping expenses below his budget so had to get the screwy idea that I continue my education. I'd go to MIT, but how the heck would that institution pass one who hadn't gone through his first year of high school. He and Birdseye and a couple of others have tried to push me along towards better things in life and all have failed. Having $4,000.00 left by a generous aunt for just such a purpose, to be sent by Father when needed, with half a dozen letters from my sponsor to MIT's faculty that I was to be a special in mining engineering, with $300.00 in my pocket and last but not least, a full page of girl's addresses in San Francisco copied from the hotel registry, I set sail on the good ship Lurline about August 15.

[Dodge then explains his doubts about acquiring a higher education.]

I headed for Sacramento and the USGS Topographic office. George Davis, whom I'd known in Hawaii, was District Manager and he put me on recording south of Stockton. This job lasted up into the winter. I wanted to get into the forest service in the spring so wrote to the San Francisco office. I picked a job on the Sequoia Forest from May 1st to the end of October as fire guard. That first summer (1913) was spent mostly above timber line at the head of Kings Canyon on trail work or on stringing telephone line.

And it was while here that the World War broke out in Europe, and that I was called in to St. Helene, Napa County, at Father's death. I later worked as packer for a tourist outfit in Kings Canyon.

1915 - 1916

I went through Goldfield, Tonopah, Austin, and finally landed in jail in Battle Mountain on the Humbolt River. It was a vicious combine consisting of a girl, a cop, and the J.P. Monday morning I was fined $20.00 for starting a fight that I'd never seen or heard of. I was on my way to Frisco and some two weeks later arrived in Honolulu right back where I started from.

1917 - 1919

[Dodge basically becomes a commercial seaman until the United States entered the First World War, where he then joins the Navy. Dodge later deserts the Navy, takes on an alias (Frank Galbraith), and joins the Army with the intention of experiencing infantry action in Europe. The Armistice comes and now he must face desertion charges, which are soon dismissed.]

1920 - 1921

[Dodge is now in Globe, Arizona] When I'd save enough money I packed a knapsack and with a 38-40 Winchester started for Cooley (now McNary). That was February 1920 and when I hit the Salt River at Horseshoe Bend, it seemed to be in flood. There I met a lone prospector and that night around a campfire I heard the awfulest shooting stories I ever heard next day I felt I had to cross the river so gathered a few old planks until I had enough for a raft to hold my upper body out of water. If anybody had asked me what I was doing in these sorts, I would have said, "Hunting a 640 homestead". I don't know if I ever saw a piece of grass I really wanted except perhaps over in the Trumbull Mountain area, southwest of Fredonia but it was a sort of an excuse to go exploring.

I headed for Flagstaff via Cibeque, Young, Payson, Pine and Mormon Lake. I stayed a few days in Flagstaff, having time to break open a large packing case containing riding equipment, which had been sent to me. I then rode out to Tuba City on the mail stage, hunted up a Navajo sheep camp and started dickering for a couple of burros. I then headed up for the Gap trading post via a route east of the ridge. There I met Buck Lowrey and family for the first time. I then headed up to Lees Ferry. On the way over the old dugway, I rang the big bell that used to be there as a signal to the ferryman who lived on the Paria Ranch. After a time Frank Johnson showed up, hollering across the river, told me I couldn't cross for several days because the cable had been monkeyed with. Somebody had deliberately tried to wreck the plant by loosening the U-bolts and, though the cable had sagged almost to the river, it had finally held. I drove the burros up river two miles and turned them out on the flat in front of the cave and then came and helped repair the damage.

From here I chased my burros towards House Rock and made camp just beyond the upper pools (Jacob pools) which lay under the Red Rim and several miles beyond what is now Mrs. Russell's bailiwick. That evening cowboys joined me at the fire and from then on, I found out later, I was a suspect. Either I was a stock association spy or a spy for the Forest Service which handled the game problem. When the cowboy saw U.S. on my army mess kit and the USGS on Powell's old topographic sheets, he was sure I was in there snooping. I worked for the Forest Service awhile that summer and in September joined the Bar Z outfit at their V.T. cabin on top of the Buckskin and it was there I learned I was looked upon more as a detective than a cowpuncher.

1921 - 1923

We were hearing rumors and often seeing Southern California Edison Co. men out here about the big dam so I wrote to the Sacramento USGS office and sure enough they were ready to start cooperative work between the Company and the Survey. I was told to meet a Mr. Scank at the Commercial Hotel in Flagstaff, he being the engineer in charge of levels for the Edison Co. Well, I went to work recording for one of two level parties running out from Flagstaff to some know point near the present gage well.

Late in the summer we worked up river 50 miles by boat. We were present when the Coast and Geodetic tied into each others parties in Glen Canyon, one coming down from Green River, Utah, the other working up from here -- a distance of several hundred miles -- and checking to within 0.4 ft.

I thought I needed a vacation so went down to Phoenix, then over to Los Angeles and was back in Flagstaff the latter part of 1922. There I met Calhoun, a mining and civil engineer who was once tied up with Charlie Spencer, the evil instigator of the hydraulic mining company that spent a quarter of a million good English dollars in trying to mine three-cent a yard gold. Anyhow, in 1922 Charlie was trying another fantastic scheme, this time an irrigation project (on Los Angeles money) forty miles up Paria Creek and I was hired as rodman. We came back on the Paria at old Adairville just below where Calhoun and Spencer had located a 200 ft. dam site.

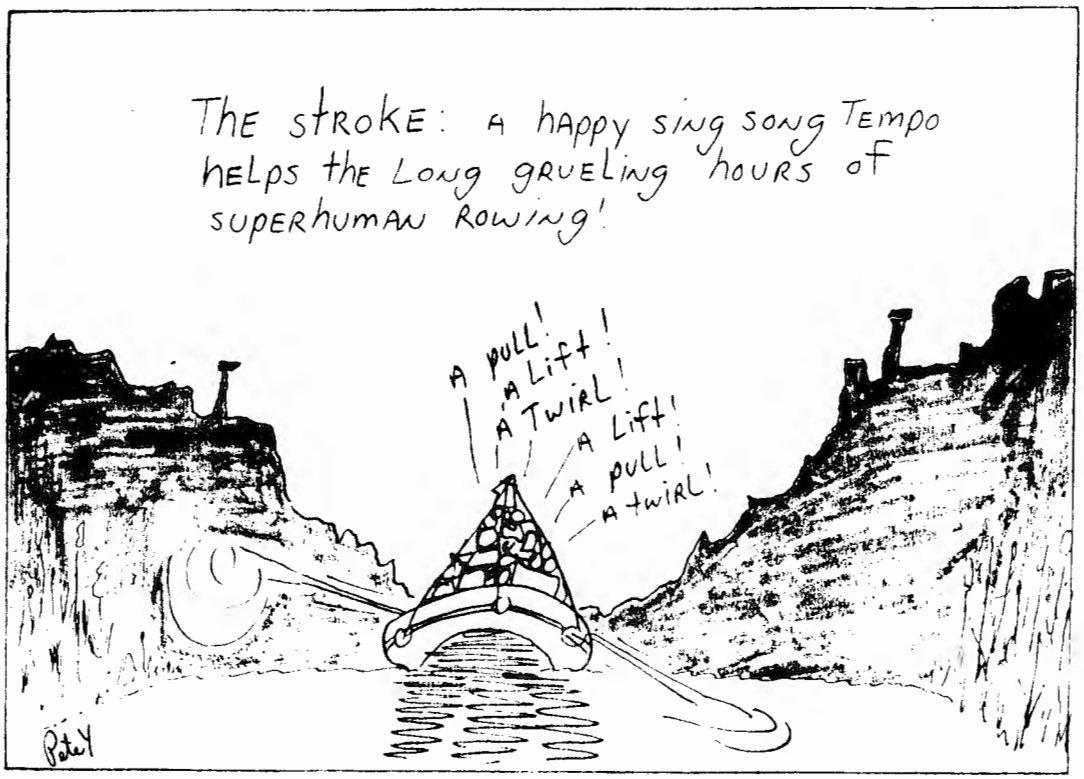
[Dodge soon goes back to cowpunching around Wolf Hole.] El Tovar was putting in an ice plant so I went up to the top, turned my horses on pasture and got a job with the contractor. This lasted until the end of October [1922].

Emery Kolb had told me that C. H. Birdseye was planning a Canyon boat trip for the following summer, so I wrote in just in time to get on.

While in the public campground, I'd become acquainted with a fellow named Shorty Robinson, who seemed footloose and carefree. [We bought horses and a pack outfit and went to Lees Ferry.] We hit straight across the lower end of House Rock Valley for Little Mountain which is part of the Kaibab jutting out to the east and forming a triangle by South Canyon, Marble Canyon and Nankoweep. We stayed in there about a week and then [went down the Nankoweap trail and stayed at bottom through January.]

In April I joined the Mesa Verde Park labor gang when down to one dollar in my pocket. My luck in getting jobs was still holding out. Here I met Neusbaum and his family (superintendent). It would be hard to find a nicer outfit and Park Service at that!

I'd been in communication with C. H. Birdseye intermittently for the past year in respect to the coming of the river trip and had learned the party would consist of ten men -- that I was too late in getting on as a boatman and all he could offer was rodman at $150.00 per month. I'd have gone for nothing. The party came out here about the middle of July and made camp under the old Edison Company boat shed across the river near the lower cable A frame. If anybody wants to know why I'm not in the group picture as of the National Geographic of May 1924, it's because I swam the river on some errand for Birdseye and while talking to Cackroft (Edison Co.) about it, he said, "Frank, want a cup of my fig wine?" I had a cup and then another and then reported back to Birdseye. When Birdseye became three Birdseyes, I hunted a shady spot and passed out. That was very potent wine or perhaps the heat had something to do with it.



There is more but I'll save it for a rainy day. For further information please read the following books: Rough Water Man, *a biography of Elwyn Blake, by Richard Westwood.* River Runners of the Grand Canyon, *by David Lavender.*

PAIN AND NUMBNESS DOWNSTREAM

by Tom Martin

The following is from a preliminary paper involving guides who work in the Grand Canyon. As the results may be helpful for guides upriver, here's a review of what was done. The purpose behind this study was to look at the following questions:

1) Does guiding in the Grand Canyon hurt?
2) What guiding activities hurt most often?
3) Where do these activities hurt?

With the answers to the above questions, it may be possible to identify the mechanical processes responsible for injuring guides. A clear understanding of the mechanical processes of injury may then be used to develop techniques to decrease on the job pain and numbness. Information for this study was gathered by questionnaire which was mailed in the fall of 1994.

The first question answered was, do guides hurt? A total of 844 questionnaires were mailed out, with a return of 27%. 225 returns were usable for data analysis. Of the 225 usable returns, 11% of the respondents had no pain and no numbness. All replies from guides who did not work the 1994 season were dropped to screen out guides who might have only done one trip years ago, etc. Of the 164 replies from guides who worked the 1994 season, 10% of the respondents had no pain and no numbness. 16% of the respondents either came to the Canyon with a preexisting condition, or had a traumatic accident in the Canyon. 74% (n=121) of the respondents who worked the 1994 season with symptoms of pain and or numbness, had gradual onset of those symptoms after they began guiding in the canyon. Of this group, 68% said their symptoms are now with them year round. It should be noted that comparisons of the results of this survey to the guiding community as a whole must be done with much caution. A large number of surveys were not returned, and a very high percentage of those guides who did respond hurt. It could be that the rest of the 619 guides who did not respond did not hurt. Maybe they do. Either way or anywhere in between, the answer to that question is not the purpose of this study. What this study does is to look at the 225 replies returned.

In order to make sure that the replies were reflective of average age and gender distribution across the guiding community as a whole, information on gender and age distribution was requested from four outfitters for guides who worked the 1994 season. This information (n=115) was compared to the same information from the survey returns (n=164). A match of 96% for gender and 95% for age distribution was realized. With this in mind, though this study may not be representative of the guiding community as a whole, the survey represents as close a cross section of guides from the general community as could be hoped for. The next question was, what did guides say hurt them most often? The replies were split into those guides with Pain/Pain and Numbness versus those guides with Numbness/Numbness and Pain. This was done to see what guides said caused pain versus what caused numbness. To answer this question, information was used from the 121 guides who worked the 1994 season with gradual onset of pain and or numbness that developed in the canyon. The three activities that most often caused respondents pain and or numbness were rowing, put-in/take-out rigging and daily loading/unloading. See table 1.

Table 1.

THE ONE ACTIVITY MOST OFTEN CAUSING PAIN OR NUMBNESS

ACTIVITY	PAIN	NUMBNESS
Put-in/take-out	27%	5%
Daily loading/unloading	25%	5%
Rowing	27%	56%
Sleeping	0%	21%
Paddle Captaining	3%	5%
All other	18%	8%

Then to answer the last question, where do guides hurt? The information from guides regarding what hurt them most often indicates put-in/take-out rigging, rowing and daily loading/unloading troubled them most, as seen in the answers to question #2. Table 2. is a list of the most often indicated locations of pain and or numbness from the body diagram on the questionnaire, based on which activity the guides said most often hurt them.

Table 2.

LOCATION OF PAIN/NUMBNESS

ACTIVITY	LOCATION				
	PAIN				NUMBNESS
	LOW BACK	UPPER BACK	SHOULDER	HAND	HAND
Rowing	62%	0%	0%	38%	90%
P-in/take-o	90%	0%	30%	0%	0%
Daily Load	100%	29%	0%	0%	0%

Well, that's that. Simple answers to simple questions you already had the answers to. Or are they. Sure seems like a whole lot of guides who took the time to fill out this questionnaire are hurting. Many guides also wrote in a line or two. It might be appropriate to address some of your comments, of which there were lots of good ones.

There were comments on rigging and daily loading, some quite harsh. As was shown out by this study, this area is in greatest need of review and transformation. Those guides and companies that are actively working in this arena with the use of such equipment as forklifts, rig trucks with lift gates and trailers to carry partially rigged boats, should be encouraged in their efforts.

Then there were comments about pins/clips versus oar locks. Seems for every guide who swore by pins/clips, just as many stood by oar locks. It should be noted that both rowing styles require loading the wrist during the push stroke. Wrist and hand complaints may be due to lack of hand padding, oar grip to hand size differences, oar lock stop position and oar lock angle placement, rather then using pins/clips or oar locks. What guides did agree on was changing their rowing style to reduce their symptoms, one way or another.

What these guides said is that this job puts stress through their backs and hands. In order to not blow out those backs and hands, here are a few suggestions you've probably already heard:

Mind it when you lift. Don't jerk stuff around.
Get help with the unit.
Get help with anything else that's heavy.
Change where you put your oarlocks. Try some oar grip padding.
Change what you do when you row.
Jumping off boats, especially while carrying stuff,
can end your career.
Talk this stuff over with your fellow guides.
Share your good ideas.

The bottom line is it's you out there in your boat, day in, day out. If you protect your body, you protect your fellow travelers, and you protect your career.

If you would like a copy of the final paper, please write to:

Tom Martin
Physical Therapy Department
Northern Arizona University
P.O. Box 15105
Flagstaff, Az 86011

This has been both a painful and numbing project to work on and never would have happened without a joint effort between Grand Canyon River Guides and the physical therapy department at Northern Arizona University. Thanks go out to R. Rakestraw, C. Hanson, J. Lee, M. Becker, S. Trimmer, S. Jones, G. Rink, L. Stevens, K. Knapp, Dr. T. Myers, D. Borden PT, M. Cornwall PT PhD, M. K. O'Rourke PhD, and her computer crew, J. Stratton PT, C. DeRosa PT PhD, R. Dale, B. Gloeckler, G. Schniewind, C. Stavely, O. Dale, B. Dimock, J. Ledbetter, S. Murphy, and K. Grua.

Utah Rivers Conservation Council

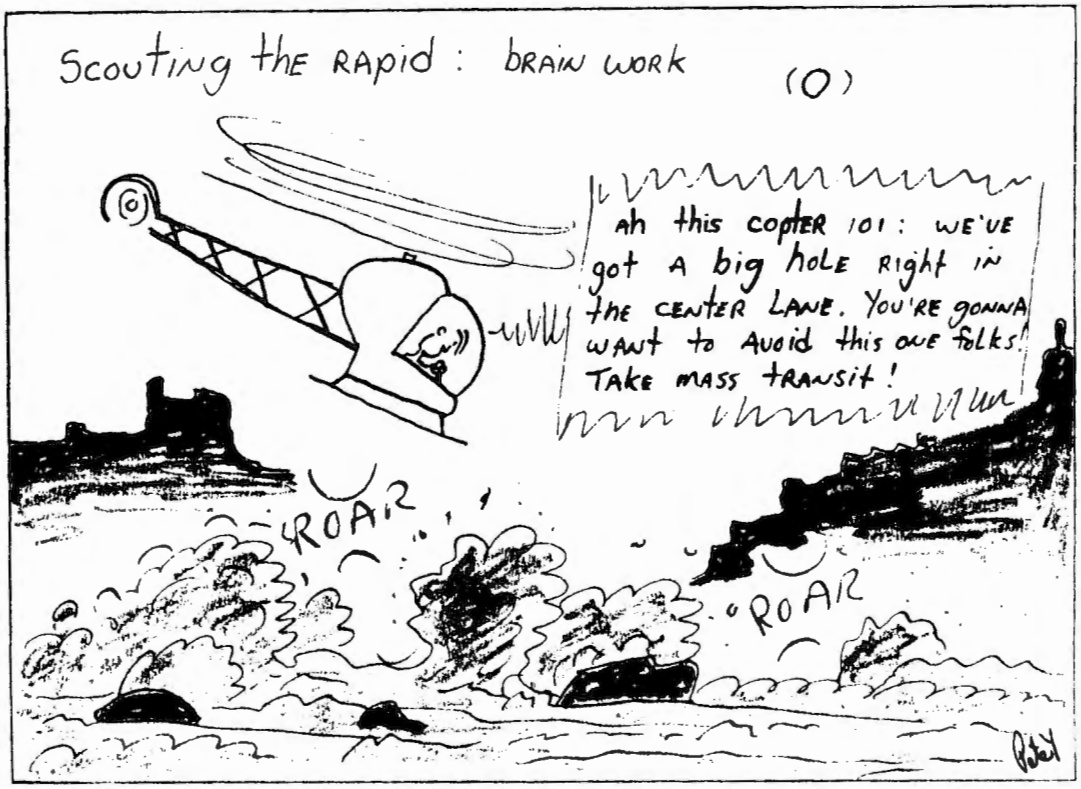
The Utah Rivers Conservation Council (URCC) has been formed to ensure that our free-flowing river ecosystems receive protection. Through grassroots advocacy, agency participation, and service learning the URCC facilitates public involvement to ensure river ecosystem protection.

Currently, Utah is at a critical juncture for its free-flowing streams and river. The Central Utah Project (CUP) threatens to dewater half a dozen streams and creeks to provide water for theoretical users. With a price tag of nearly 3.5 billion dollars, the still unfinished CUP will provide some of the most expensive water ever delivered.

Sixteen dams throughout the Virgin River Basin are being proposed to water golf courses in St. George. Most of the basin is in Washington County, which has more endangered species than any other county in the state.

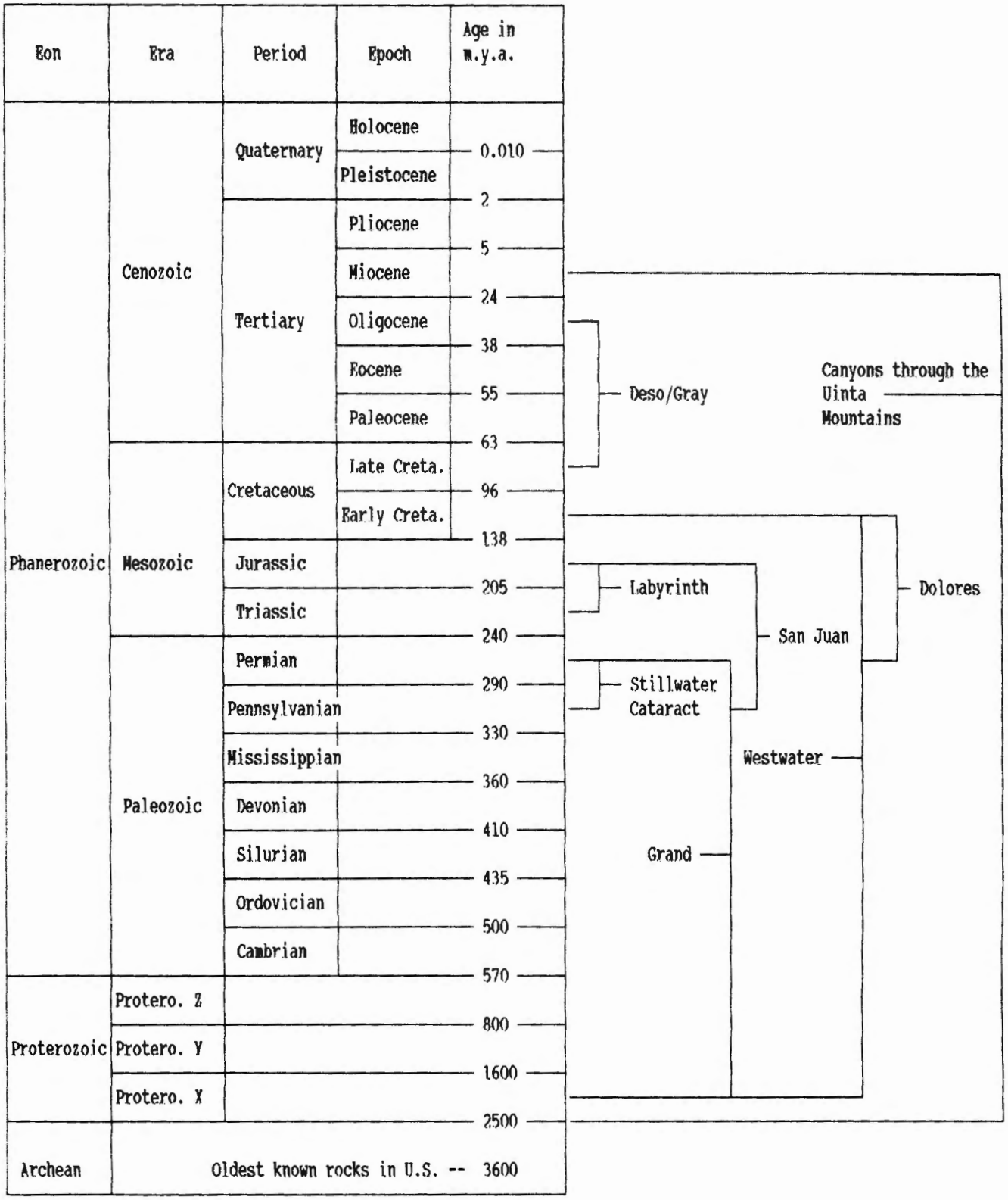
To learn more about URCC or to become a supporting member please contact:

Zachary Frankel, Director
Utah Rivers Conservation Council
1471 South 1100 East
Salt Lake City 84105
801 486-4776



Subdivisions of Geologic Time

Canyons are time designated from representations of oldest to youngest rocks with the Quaternary Period exempted.
Modified from Izett and others, 1980.



Climatology of the Great Basin Desert

by John Weisheit

Introduction

The Great Basin Desert is a geographic and cultural domain that comprises about 400,000 square miles of western North America between the Sierra Nevada and the Rocky Mountains. It includes all of Nevada and Utah, most of western Colorado, and portions of southern Oregon, Idaho and Wyoming; as well as eastern California, and northern Arizona and New Mexico. However, the bottom of the Grand Canyon is classified Sonoran Desert.

There are three climatic regimens generally accepted for the Great Basin Desert for the Holocene (Recent) Epoch of the Quaternary Period. The first stage was the Anathermal, about 7000 to 5000 B.C., with a cooler and moister climate than present. This was followed by the Altithermal, about 5000 - 2500 B.C., which was markedly hotter and drier than present; ocean levels were about 30 feet higher than they are today. Lastly is the Medithermal of 2500 B.C. to the present and similar to recent conditions.

The Great Salt Lake

The first professional monograph ever published by the United States Geologic Survey was about The Great Salt Lake and was written by Grove K. Gilbert. One of the focuses of Gilbert's study was concerned with historic lake level fluctuations. As the characteristic glaciation of Pleistocene Epoch ended, evidence indicates that the ancestral Great Salt Lake, called Lake Bonneville, had a maximum depth of more than 800 feet. The Great Salt Lake presently has a depth of about 15 feet. About 14,000 B.C., Lake Bonneville overflowed catastrophically through Red Rock Pass into the Snake River and almost immediately dropped 350 feet to form the Provo strandline (a perched shoreline). By 9000 B.C., with the climate becoming ever drier and warmer, lake levels had fallen to within its present elevation.

Since the demise of Lake Bonneville, core sample analyses of The Great Salt Lake reveal a history of lake oscillations with relatively high lake levels occurring soon after the fall of volcanic ash from eruptions. Mount Saint Helens being the most active of the Holocene eruptions.

Ancestral Flora and Fauna

Plant assemblages of the Late Pleistocene and the Early Holocene Epochs can be reconstructed from the dung of extinct or extirpated fauna found preserved within the dry caves of the Great Basin Desert. Examples of such animal species would include mammoths, sloths and bison. This also includes the data derived from the analysis of wood rat middens. Both single-needle piñon and giant sequoia were more widely distributed in the southwestern Sierra Nevada. Spruce, limber pine, Douglas fir, and dwarf juniper all grew together in Canyon de Chelly, northeast Arizona and southeastern Utah. By 6500 B.C., current plant assemblages had established themselves into our study area as ancestral assemblages retreated to higher elevations. Relict sites are with us today, such as: the Douglas fir stand observed from the terminus of the Shafer Trail, Island in the Sky District of Canyonlands National Park. The mammals that became extinct or extirpated were replaced by antelope, mule deer and big horn sheep. Local migrations to high alpine elevations would include such species as the pika and the marmot.

Stream Bed Morphologies

Holocene climate changes are also evident in stream channel morphologies of the Great Basin Desert. Montezuma Creek, an ephemeral tributary of the San Juan River, comes to mind as a good example for me. Aggradation of valley sediments have occurred from the end of the Ice Age up to the Altithermal period. During the arid conditions of the Altithermal, erosion carried away much of the accumulated valley fill, leaving a terrace that can be 20 to 30 feet above the stream channel. Intermittent aggradation has occurred since the Altithermal, only to be scoured away by droughts such as the one that occurred during The Great Abandonment of the Formative indigenous cultures (1200 - 1300 A.D.). An example of aggradation has since occurred and is called the Little Ice Age, which ended about 1860. Aridity from 1880 to 1920 renewed valley degradation; probably aggravated by the overgrazing of stock animals -- but not to be considered as a sole cause.

Conclusion

Despite media warnings for global warming, typical warming and cooling trends will probably continue for our Quaternary planet. Such short-term trends seem to be triggered by sun spot activity or by volcanic eruptions. On the long-term scale, historic climate for the Cenozoic Era have also been analyzed from stable isotope samples from Antarctica. Results indicate a hothouse effect from the Middle Paleocene to the Middle Eocene Epoch -- or from about 60 million to 40 million years ago. There was an icehouse effect during the Oligocene Epoch, which brought about the first evidence of a continuous ice sheet for Antarctica. A warming trend occurred in the Middle Miocene of about 17 million years ago; returning to icehouse conditions by the Late Miocene -- or about 5 million years ago. A slight warming trend did occur in the Pliocene before dipping into the Pleistocene Ice Age.

For more information on this subject, I recommend the following publications:

1. *Handbook of North American Indians. Volume 11, Great Basin. Warren L. D'Azevedo, Editor. Smithsonian Institution.*
2. *A View of the River. Luna B. Leopold. Harvard University Press.*
3. *Historic Channel Change of Kanab Creek. Robert H. Webb, et. al. Grand Canyon Natural History Association.*

Wandering on the Watut

by Tim Thomas

Zamon, my Kiwi friend from New Zealand (N.Z.) and I were taking a few weeks to explore parts of Papua New Guinea (PNG). I'd met Zamon through the University of Auckland Canoe Club during a three week kayak trip I took with the club in December, 1987. We rendezvoused in the capital, Port Moresby, in May to do some kayaking, backpacking and exploring. We were three weeks into our vacation and were on our way back to Port Moresby from the Highlands when we stopped at an acquaintance of Zamon's parents in Goroka. We were hoping to do a short kayak run nearby and climb Mt. Wilhelm, PNG's highest peak at 14,793 feet.

After a successful cloudy summit of Mt. Wilhelm and a fun kayak run past a lot of surprised villagers, Zamon and I were about to return to Port Moresby to leave PNG when Peter, our host, asked if we'd be interested in a Watut river trip. Unfortunately Zamon had to get back to school in N.Z. and my visa was almost up, but encouraged by Zamons zeal on how wild the Watut was, I decided I'd find a way to stay and run the river.

As I waved goodbye to Zamon at the local airstrip (an event incidentally that draws crowds of villagers to watch), I really started wondering just what I had gotten myself into. All I knew, so far, was what Zamon and Peter had respectively told me of Class IV-V big water rapids, crocodiles, dense jungle, remote villages, and of a four person trip, a guide flying in from the U.S., pre-arranged logistics, and a free trip for me! Piece of cake. Watching the plane disappear, I turned to focus on the task at hand -- goin boatin!

The Watut was first run by white guys in rubber boats (Richard Bangs & Company, founder of Sobek) in the late 1970's. The river has drops of 20 meters per kilometer, as opposed to the Colorado in the Grand Canyon where Lava drops about 12 meters in a kilometer. Rapids such as "Bikpela" (big rapid), "Barap" (?), and "Harmony" belie the force of these drops. The Watut is drained by the Kuper Mountains in the Highlands and converges with the Markham River to dump into the Huon Gulf at the port city of Lea. Flows on the Watut can reach 20,000 cfs in rainy season. After its confluence with the Markham, flows can exceed 100,000 cfs at the Gulf of Huon.



Villagers on the Watut River, Papua New Guinea.

Photo by Tim Thomas.

The next day, I found out just what I'd gotten into -- Peter was leaving the country on business before our trip departed; the "head guide" was arriving from the U.S. the following day and had never been to PNG much less seen the Watut. The clients (2-Americans, 1-British, 1-Canadian) were arriving in four days, and we didn't have enough time to run the Watut before our trip. But there was a Peace Corps woman in town who'd run the Watut and could give us some tips on what to avoid. Let the adventure begin! (Wasn't Chinourd who said: "Adventure begins when the shit hits the fan.") We, Peter's local right-hand man Willy and I, found Michael our head guide in Lea the next day. Michael arrived with the normal jet-lag associated with a 24-hour flight direct from the U.S. on Friday. We took him back to Goroka where he had a restless nights sleep being woken numerous times by gunfire nearby. Saturday morning we heard that three villagers had died in drunken brawls -- the aftermath of pay day. Welcome to New Guinea!

In the following days we managed to figure out most of the trip logistics: food, gear, transport... only two small details -- when and where were we to meet our guests, and where's that woman who knows the Watut! In a last day frenzy before put-in, we rounded up our four guests in Lea after some resourceful detective work and numerous trips to local hotels. And we found our woman of the Watut. She told us to watch out for Harmony (a four-part rapid), it's about two miles down stream of our second "good" hanging foot bridge but before the big waterfall. Okaaay. And take some goodies (newspaper for rolling tobacco, matches, candy for the kids...) for the villagers along the way, it helps ease relations. Oh, and be sure to find a villager with a dugout and motor to help tow and guide you off the Markham, it braids something fierce and you **don't** want to go the wrong way. And, of course, keep an eye out for crocks below the last rapids. Got it!

Fully prepared for what lay ahead, we loaded up our two 18' Domars at the put-in and quickly discovered we had a few extra challenges. We had low water and about two to three miles of pin-balling, high-centering, dragging, and cussing before we picked up some side streams and more volume. We also discovered our groups abilities: one very nice and very overweight woman with a sprained ankle (Connie), one strong contractor with enough rafting experience to be dangerous (Jamie), one middle-aged travel writer of self-renown (Wally), and one guy who came to visit his friend, who ended up being so busy he sent him on our trip instead (Ian). Too late now, five days and some 80 miles later, with any luck, we should pop-out of the jungle near Lea!

Our trip had a few itinerary points I wasn't quite comfortable with; primarily that we had to be in Lea in five days to catch some international flights. Besides that, we were supposed to arrange a night-over in an unspecified village along the river. And lastly, that tow-out by a dugout on the Markham. The time constraint bothered me because of the low water, a lot of class IV-V rapids and not knowing exactly where we were at any given point in time. The village stay should be OK, I had the "goodies" to give them and Zamon had taught me some "pig-english", PNG's version of English where there's over 700 different local dialects. Never mind that the Highlands of PNG had the last major undiscovered (by whites) population on the planet, which was contacted in 1935 by Australian gold prospectors. Oh yes, cannibalism is "illegal" in PNG now. As for the tow-out, I had cash, my pig-english (I'd been practicing my line; "Me want kissim some pla bikpela boat, go long Lea" which roughly translates as: "I need a big boat to get to Lae") and I was pretty sure I'd recognize the dugouts and crocks below the rapids.



Back to day one, we had sunny skies, the water picked up volume and we had an uneventful first night's camp. Day two, another beautiful day, the canyon deepened, occasional side streams and waterfalls joined the river, we ran a few class III or so rapids and made camp on a ledge boarded by thick jungle. That night, we were visited by a family of gold prospectors (surface gold and alluvial gold was plentiful and worth a lot) who spotted our camp

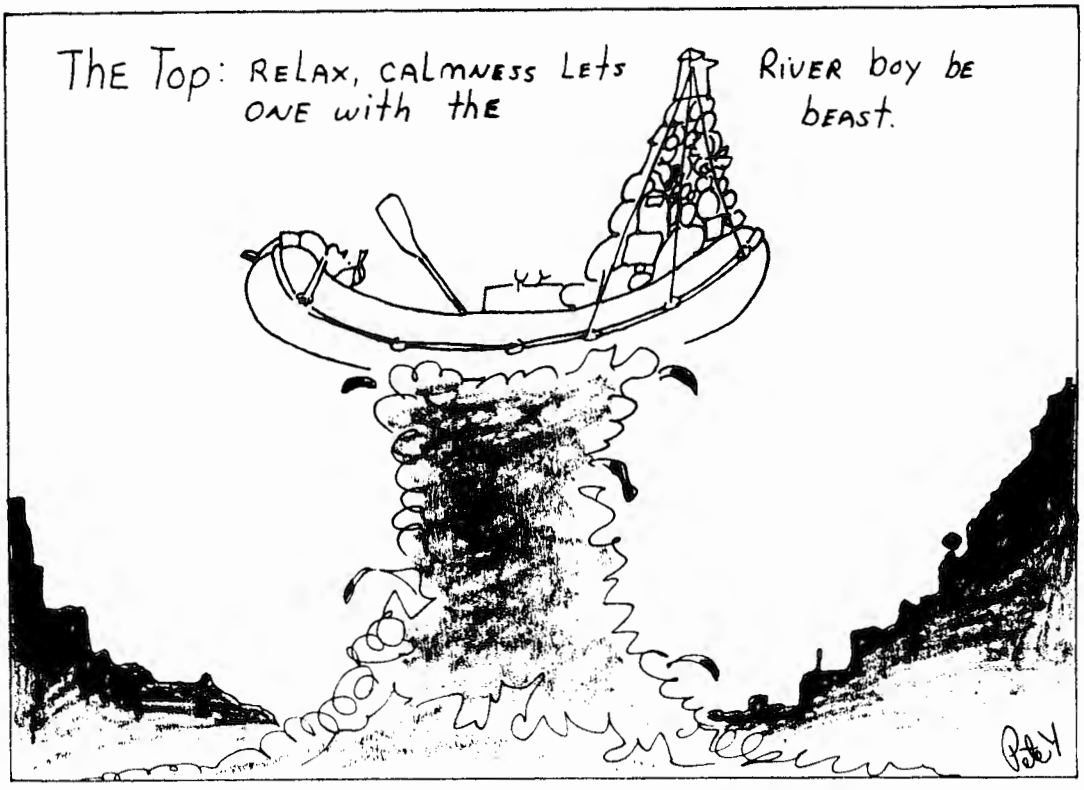
and came by to say hi. We spent the evening exchanging wares, all by sign language as they knew no English and after they'd oogled our equipment and supplies, we figured out that we could get two bracelets, a necklace and a straw hat in exchange for a flashlight, a baseball cap (Mets), some cookies and my T-shirt. Hell of a deal! It was great. That same evening, we confessed we'd never been down the river before; primarily because Jamie was on to us after I said, "Bikpela's another couple of miles" and we rounded a corner and almost flipped in Bikpela. But we did have some good notes from a reliable source!

Day three brought us to Harmony about noon. We had successful runs in Part 1 and 2 but scouting Part 3 proved discouraging. Our beautiful weather had not helped river levels and the run described as, "a left run with lots of big holes", turned out to be an unrunable rock garden. After scouting the 100 yards of Part 3, Michael was of the opinion we should portage. With Connie barely able to walk unaided through the boulders, and Wally being only marginally better himself, that left only four of us to portage our two
boat trip. We still had Harmony Part 4 to contend with and a few more rapids after that before our camp. And in the tropics it gets dark at 6 p.m. sharp!

To me it was obvious we weren't going to stay on schedule, or even finish Harmony before dark if we portaged. So, I grabbed Jamie and Ian (Wally was helping Connie walk the rapid) and decided to give the right run a try. It had enough water and was clear except for a small log broached across the channel and at the bottom the flow dropped 4-5 feet through a chute directly toward a wall with a tight left turn thereafter. I tried to power over the log, which was partially submerged, and succeeded in dislodging it as it swung into an eddy. I straightened out just in time to go over the drop and slam into the wall, spun and pulled left and even made it to shore! A jubilant Michael then asked if I'd mind rowing his boat through. So he, Jamie and I did a second successful run.

It was 5:00 p.m. when we pushed-off to run Part IV and I almost wrapped trying to miss a boulder I should of easily missed. I'd put out too much in Part 3 and didn't realize it. I ended up stuck for about 20 minutes at the bottom of the rapid and gladly let Jamie row after that -- I was spent. It was almost dark and with no camp in sight and light fading fast when we decided to line the boats down the bank in search of a camp. Finally, we found enough of a clearing in the bush to put up a few tents; Michael and I cooked and slept on the boats that night. Whadda day!

Day four we ran a few more rapids and passed our intended camp of the previous night just before emerging from the river gorge. Now it was time to find a village and arrange an overnight there. We pulled up to a village about 3 p.m. and instantly got mobbed by the village children who were amazed at our presence, our boats, our color (Connie had on neon-green zinc oxide), and just about everything else we had or were. Meanwhile, I attempted communicating our desire to spend the night and proceeded to offer the goodies I'd brought. Well, to this day I still don't know what I did or didn't say or do, but I had one majorly pissed-off villager yelling unknown goodies of his own at me. So I beat a hasty retreat to the boats, tossed all of the candy I'd brought for the kids as a diversion, and headed down stream.. "So what did they say" asked Michael, "Don't know and don't wanna know", I said. Needless to say, I told everyone else that some previous rafters had probably angered the village chief by offering him damp matches or something and I knew a great beach just below here. Luckily, the kids mob scene was enough of a village experience for everyone and we did find a good beach not too far away to camp.



Day five we shoved off, myself with much anticipation in search of a dugout to help us off the river. After a few stops at villages along the way, we finally found a willing soul who understood my pig-english (or the cash I held out) and proceeded to load our trip including the boats and frames into his 35 foot dugout! His boat and motor were one of the few that actually ran and

supplied the isolated villages with supplies from town. Our driver later inquired where we stayed the previous night and after I told him he proceeded to inform me that crocks had taken three village children from that same area earlier in the year. I never even saw the critters! But, as we motored out to Lae, my job done and no one hurt or missing, I started relaxing for the first time in five days and noticed a few long, scaly forms slipping into the water as we passed.

Well, that's about it. Everyone made their flights and professed to having a wonderful trip. Wally later wrote a newspaper story about our trip -- amazing how different his perspective was of the same journey. But one thing remained constant throughout our trip -- "ignorance is bliss". Had all involved been fully informed of the trips risks and unknowns, we'd all of probably ended up drinking umbrella drinks in Lae. But what kind of story does that make! So what's your story?

Tim Thomas is the vice-president of Colorado PLateau River Guides and the river coordinator at Canyonlands Field Institute. Tim is presently on a well deserved Grand Canyon private trip. We would like to give a special thanks to him for his energy and committment to CPRG!

A New Book

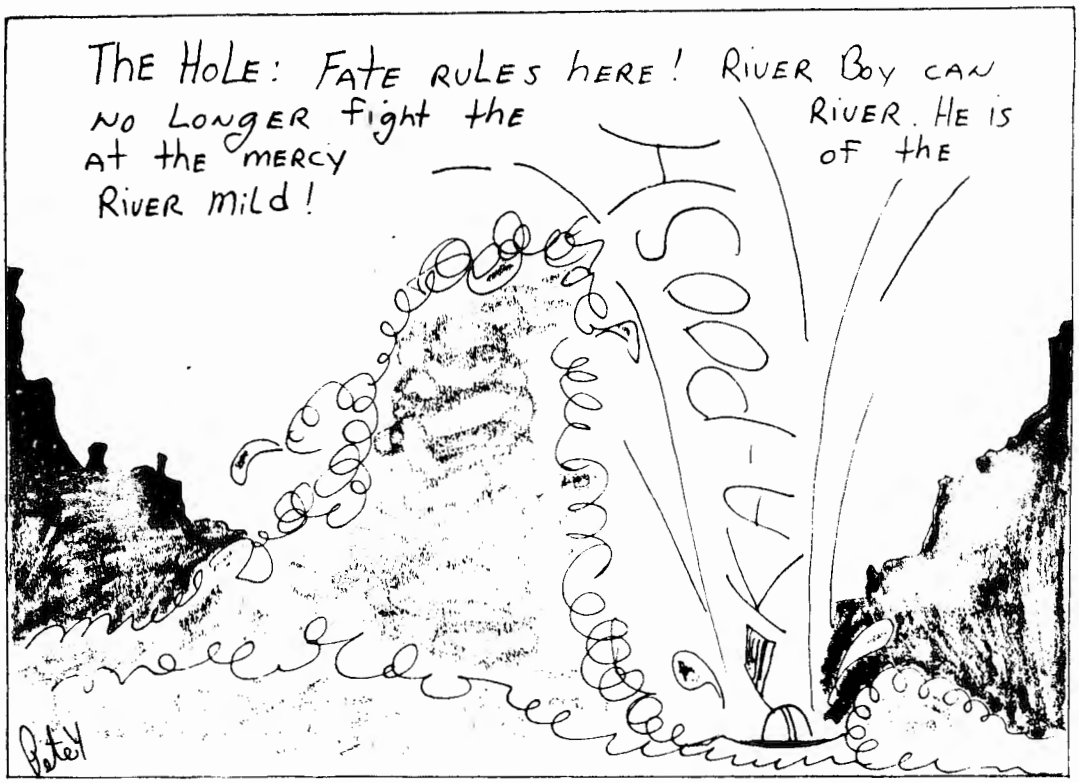
Coyotes and Town Dogs Earth First! and the Environmental Movement

by Susan Zakin

Called "a fascinating, sometimes hilarious, sometimes appalling tale,*" COYOTES AND TOWN DOGS chronicles the origins, exploits, and ideas of the century-old environmental movement's most radical wing, the hip cowboys of Earth First! The story is told against the backdrop of landmark legislative battles, including: passage of the Wilderness Act and the National Environmental Policy Act; formative struggles over dams in Dinosaur National Monument, the Grand Canyon, and Glen Canyon; and the painful and divisive attempt to save the ancient forests of the Pacific Northwest. Interwoven with this narrative are profiles of conservationists who changed the way we look at landscape, from John Muir to Celia Hunter, the first woman to head a national conservation group. Along with solid history and first-rate political reporting, COYOTES AND TOWN DOGS tells of the adventures of a new breed of environmentalist, men and woman who risked everything for their romantic vision of the American continent.

*The Arizona Daily Star

A former newspaper reporter, Susan Zakin has written for numerous newspapers and magazines, including The New York Times, Outside, Mother Jones, Sierra, and Vogue. She covers environmental politics for Sports Afield, and has taught journalism at the University of Arizona. Send orders to: Consumer Sales Penguin USA, P.O. Box 999, Bergenfield, NJ, 07621, 1 (800) 253-6476, $14.95 plus $2.00 shipping and handling.



The Dominguez Reservoir Project

by Norm Mullen and Lenore Styler

From an article that appeared in Confluence, the journal of Colorado Rivers Alliance. Used by permission.

The Dominguez Hydroelectric Associates and Western States Water and Power, Inc., have filed a petition with the Federal Energy Regulatory Commission (FERC) for a permit to construct a 250 foot high dam on the Gunnison River downstream of Delta.

The project would have a 38 megawatt powerhouse and a 38,000 acre reservoir on a mesa above the river. A 1,000 foot long penstock would connect the two reservoirs.

Water would be pumped from the lower to upper reservoir, and then released through the penstock, where eight generating units would produce 1,000 megawatts, enough to power a major city even though, as of 1990, there was no demand for the water or power.

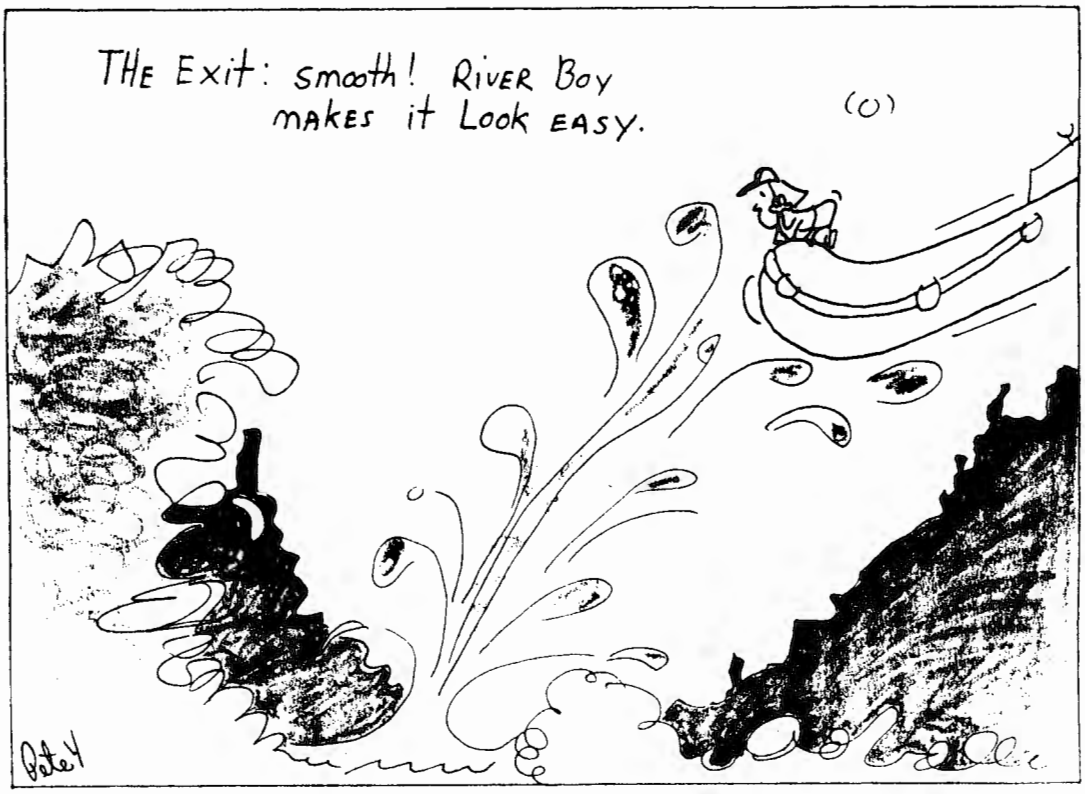
The questions are: How will this project affect resources that are not "private property" or "private rights"? What "market" is being served, and at what real price?

The dam would flood about 27 miles of the Gunnison River, a popular canoeing area. it would inundate part of the lower Dominguez Wilderness Study Area managed by the BLM. (At 87,000 acres, Dominguez, the largest potential BLM wilderness in Colorado, has been recommended for wilderness protection by the BLM as well as Colorado Environmental Coalition and 47 other groups.)

This stretch of the Gunnison River has also been designated as critical habitat for four endangered species of fish within the Colorado River system.

Note: Public input on whether a FERC preliminary permit should be granted will be accepted through March 27 by the Secretary at the Federal Energy Regulatory Commission, 825 North Capitol St., N.E., Washington, D.C. 20426.

[Though the public comment period is over, CPRG recommends writing to FERC to be on the mailing list for updates, EIS studies, and etc. This dam may well create daily river tides in Westwater and Cataract canyons in low water months.]



From the Eddy

by John Weisheit

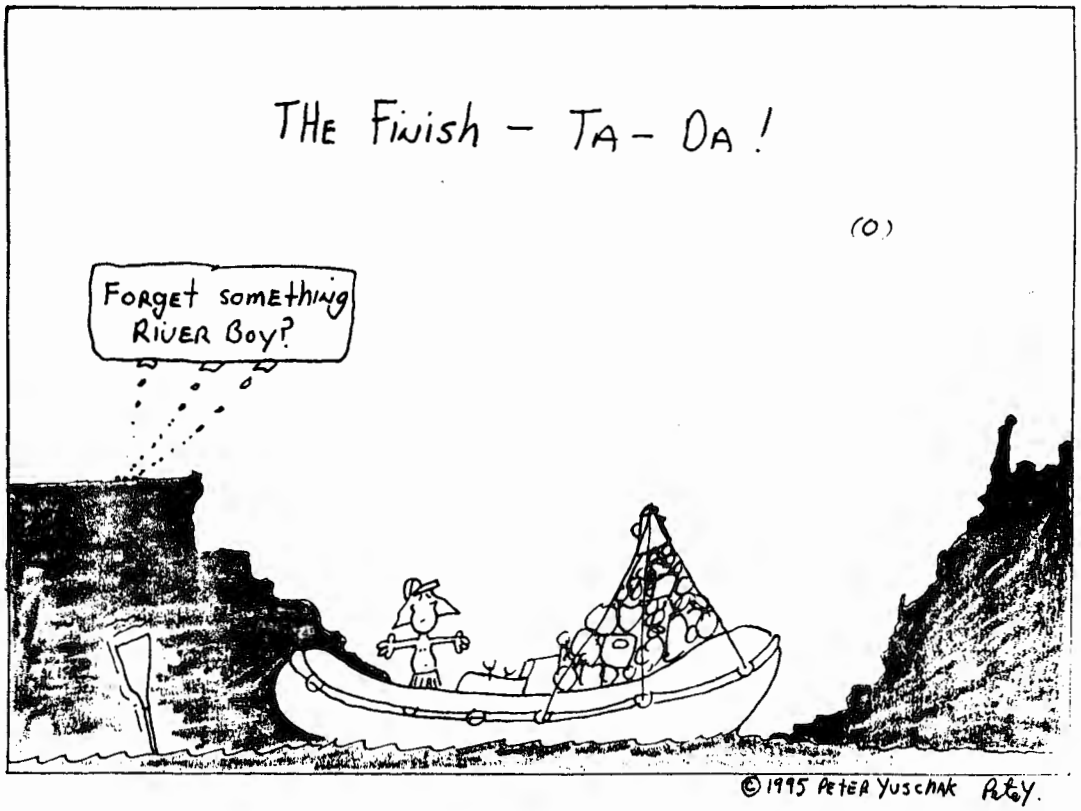
Susette and I went to Denver last March to pick up some new boats for the company we work for. As we went through Vail Pass, we said something to the affect that we weren't going to have much of a spring run-off and it would probably be accompanied by extremely hot and windy days. Three months later, not only do we have new boats to row, we ended up with the highest water ever since 1984 and the weather has been cool and only somewhat windy.

I was in Cataract in a row boat on the peak a couple of days ago, which was 78,500 cfs. Knowing that the private sector was having a 20% success rate and the commercial sector a 60% success rate in row boats through the Big Drops, I decided to use every trick ever learned from the Cataract Canyon boat yogies I have been privileged to work with through the years. That cumulative energy worked to my advantage! Thanks guys and gals -- you know who you are and you are the best -- making it safe and fun in the really high and the really low.

High praises also go to the river district crew at Canyonlands National Park. They made a fly camp below Rapid #26 and were in position at the bottom of Big Drop III in their Zodiac to help out with all those flipped boats and to make immediate radio contacts with the emergency medical teams when necessary. I for one was glad to see them and couldn't help but think of them as guardian angels (actully goal tenders in a hockey game). It would be tough duty on equipment and personnel to be there in such a capacity. Thanks NPS!

This is a great opportunity for CPRG members to send in their stories about their high water Cat trips. Whether the contribution is large or small, I will put it in THE CONFLUENCE. It would be especially fun to hear what you think the height of the "Red Wall" was at Big Drop II. I didn't see it on my particular trip as I was quite engrossed in a downstream ferry. I will say that I felt my stomach drop and I could swear my ears popped! The motor support crew said three boat lengths, which would make a 60 foot hypotenuse. Please tell us your story -- we really want to hear from you.

Vaughn Short has a new poetry book out called Two Worlds / Recollections of a River Runner. I bought my autographed copy at Back of Beyond Books here in Moab and have been enjoying it immensely. Vaughn makes a wonderful tribute to Michael Jacobs in this book, a Grand Canyon boatman who died from injuries related to a fall while climbing in the Tapeats sandstone near 120 mile. I never met Michael, but have come to know him through his friends. For those of you who too who did not know Michael, you might be interested to find out he started as a Tag-A-Long employee doing the Utah river scene. Bob Call once related a story to me about Michael that might serve as a window into his personality. Seems Michael bought a new Gortex jacket when the product first became available. While at The Confluence it started raining hard (a nice place to be when the waterfalls come off the Cedar Mesa sandstone) and to his dismay the jacket failed to keep him dry and comfortable. Without saying a word, he threw his new jacket into the river and proceeded to enjoy the rain.



Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

To preserve the integrity of your CONFLUENCE, please make a photocopy of this page.

☐ I would like to join CPRG. Enclosed are my dues.

☐ I would like to renew my membership to CPRG. Enclosed are my dues.

☐ I would like to give a gift membership to a friend.

Membership dues:
(Please check and write a check:)

( ) $20 per year.
( ) $100 for 6 years.
( ) $195 for life.
( ) $295 Benefactor.

Membership status:
(Please check:)

( ) Guide Member (Must have worked in the river industry.)
( ) General Member (Must love the Colorado Plateau.)

Name/Organization:_____

Company/Freelancer:_____

Address:_____

City_____ State_____ Zip_____

Phone:_____

Comments and suggestions:

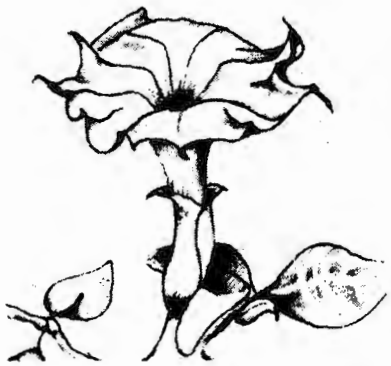
From: Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

The Confluence

The Journal of Colorado Plateau River Guides

Volume 2, Number 3. Summer/Fall 1995



ACTION ALERTS!
on
Utah Wilderness
Animas-LaPlata
Uranium Waste

The Prez Says

Overflights

Droughts

Stories

Poetry

What a Summer!

USGS Stateline Gauge

The Cutler Group



Gnarley boatmen Ken DeVore and Robert Deglas in debrief below Rapid #27 in Cataract Canyon. Photo courtesy of Michele Reaume.

The Confluence

...is the quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (3) (c) non-profit organization dedicated to:

* **Protecting the rivers of the Colorado Plateau.**
* **Setting the highest standards for the river profession.**
* **Providing the best possible river experience.**
* **Celebrating the unique spirit of the river community.**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau.

General Membership is open to those who love the rivers of the Colorado Plateau.

Membership dues:

$20 per year.
$100 for 6 years.
$195 for life.
$295 Benefactor.

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Susette DeCoster-Weisheit
Vice President	Tim Thomas
Secretary/Treasurer	John Weisheit

Directors

Bluff	Tom Rice
Green River	Sean Brown
Moab	Steve Young
Vernal	Penny Elder

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Word Perfect 5.1 on an IBM PC. If you use a word processor, we can translate most programs at CNHA/CCV, which uses IBM and MacIntosh programs with various disc drives. Otherwise, please send your text double-spaced. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

A Disclaimer

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing or supporting viewpoint please send your comments to: **Editor, CPRG; P.O. Box 344; Moab, Ut 84532.**

ACTION ALERTS!

In this issue we have published "action alerts" for the Animas-LaPlata Project, Utah Wilderness and the Atlas uranium waste pile. Please take the time to write some well-constructed letters this winter. Your voice does make a difference!

ALSO IN THIS ISSUE -- STORIES AND POETRY

It is interesting that some of the guide contributions made for this issue dealt with literary expressions in the form of stories and poetry. This is what The Confluence too is about -- to record the unique experience and spirit of the river running community. The membership should be aware that The Confluence is archived in universities and museums and will be read by the generations to come. This is a good reason for members to contribute more information to this journal -- to preserve our river experience, our concerns and our community spirit.

GRAND CANYON RIVER GUIDES MEETING

The CPRG board went to the GCRG meeting at the Tour West warehouse in Fredonia, AZ, on October 28 and 29. We would like to thank GCRG and Tour West for their kind hospitality. We had a really good time and enjoyed a very productive meeting. The CPRG board felt it was important to continue the tradition of meeting together in the Fall, remembering that this is how CPRG began and these roots should not be forgotten. Glen Canyon Dam is only a physical barrier between us -- not a spiritual barrier.

RIVER RENDEZVOUS

In view of the above statement, we are proposing to have a Fall Meeting for CPRG and GCRG at the Cunningham Ranch in the Book Cliffs. Beside formal meetings we will have seminars and a one day Westwater float trip. Field trips to discuss human and natural history will be conducted in Sego Canyon, the John W. Powell Museum and Crystal Geyser. The tentative date is the last week of October or the first week of November. We would appreciate hearing from members who can volunteer time and equipment.

Action Alert!

FROM: COLORADO RIVERS ALLIANCE
THE ANIMAS-LAPLATA PROJECT

by Nancy Jacques

Over thirty years ago, when the Bureau of Reclamation was in its heyday of dam building, the Animas-La Plata Project was concieved in order to bring water to the "dry side" ranchers in the high desert of southwest Colorado. Water rights on the La Plata and Mancos rivers were already over-appropriated. There simply wasn't enough water to develop the area.

The idea was hatched to pump Animas river up 1,000 feet, over two ridges, and into drainages on the other side, but there were and are challanges. Design is still not completed due to unsatisfactory solutions to various geological, environmental, recreational, asthetic and technical dilemmas. Still, despite earth faults, archeaological finds, endangered species, and questionable design, the project got validation through the Indian Water Rights Settlement Act in the late 1980s. This Act intended to ratify delivery of water to Native American (and non-Indian) wanting to develop the "dry side" of Colorado within the project area.

Now, under current existing Reclamation policy requiring users to assist in paying for water used, the project water would be too expensive for farming by the non-Indian interests. Thus, once built, the project would remain subsidized by the American taxpayer.

Further, the project itself is designed in two phases with the majority of facilities that would deliver water to meet the Indain Water Rights Settlement Act included in Phase Two. But the government is obligated to build only Phase One. This means that the agreement that was to satisfy the needs and rights of Native Americans is not being met through this project as designed...nor is there any obligation to do so.

The project doesn't seem to die despite its gross inequities because of its *imposed* link to historical and real social injustice done to the native American, but can we really settle 100 years of disgracful events and attitudes in the symbol of a half-built undeliverable water source?

There are alternatives that are more environmentally sound and would fully deliver water that has been promised...*thus meeting those obligations!*

The Bureau of Reclamation is changing, but politics are not. A number of Reclamation projects built from the 30s through the 60s are being dismantled because of lessons learned about poor economic theory and the expense of trying to restore environmental damage. Despite this trend, political pull in the right places have kept the Animas-La Plata on the "to build" list.

"I call it Jurassic Pork," says Phil Doe, a Bureau of Reclamation environmental compliance officer in Denver. "They say it's for the Indians, but it's clearly a developer's project, and taxpayers are going to pay for it."

For further information, see High Country News, "The Dam that Won't Die", March 22, 1993.

Colorado Rivers Alliance is asking concerned citizens to send a letter or post card to key congressional members with the following sentences as examples:

1) "I have just floated the Animas River and I do not want to waste one billion dollars plus subsidies on the building of the Animas-La Plata Project. There are viable alternatives."

2) "The Animas River is beautiful and no dam diversion project costing one billion dollars plus subsidies should be built. Congress needs to look at the alternatives that exist to the Animas-La Plata Project."

3) "I have visited the site of the Animas-La Plata Project and I do not support it being built. I believe the cost of one billion dollars is not keeping with the Federal agenda and that there are sound social and environmental alternatives."

You can write your own member of Congress by using the foliowing zip codes [*See page four of this issue for further letter assistance*]:

Honorable...
U.S. House of Representatives
Washington, D.C. 20515

Honorable...
United States Senate
Washington, D.C. 20510

SENATORS
Chairs of key committes:

Pete Dominici (Budget) 20510-3101
Mark O. Hatfield (Appropriations) 20510-3701
John McCain (Indian Affairs) 20510-0303
Frank Murkowski (Energy and Natural Resources) 20510-0202
John H. Caffee (Environmental and Public Works) 20510-3902

Area Senators:

Jeff Bingaman (D-NM) 20510-3102
Hank Brown (R-CO) 20510-0604
Ben Nighthorse Campbell (R-CO) 20510-0605

HOUSE OF REPRESENTATIVES
Chairs of key committees:

Bob Livingston (Appropriations) 20515-1801
John R. Kasich (Budget) 20515-3512
Don Young (Resources) 20515-0201

Area Representatives:

Scott McInnis (R-CO 3rd) 20515-0603
Bill Richardson (D-NM 3rd) 20515-3103

Action Alert!

FROM: SOUTHERN UTAH WILDERNESS ALLIANCE

Legislation introduced by the Utah Congressional delegation -- H.R. 1745 and S.884 -- would take Utah's 22 million acres to be drilled, mined, dammed and stripped. Even the remaining 1.8 million acres that would be called wilderness under this legislation could be subjected to off-road vechicles, a gas pipeline, new dams, reservoirs and roads, and communication towers.

Further, H.R. 1745 and S. 884 would impose "hard release" language on lands not currnetly designated as wilderness. This "hard release" would hogtie future generations by preventing the U.S. Interior Department from protecting these lands for possible wilderness status in years to come, a restriction that has never before been imposed on any wilderness bill. This ploy, if successful, will undermine the original Wilderness Act of 1964, an honored law that has provided the foundation for our nation's entire wilderness system. Thousands of Utah citizens oppose this giveaway. At hearings held across the state and on Capitol Hill, through countless petitions, phone calls and letters, they have voiced their passionate objection to the sacrifice of southern Utah. Even the Salt Lake Tribune called the delegation's proposal a "dissapointment" that "has simply not offered enough protection for Utah's wild land."

We have another choice. The *Citizens Proposal for Redrock Wilderness*, as outlined in H.R.1500, the Redrock Wilderness Act sponsored by Rep. Maurice Hinchey, offers a balanced, reasonable plan for conserving America's natural heritage while providing for solid economic opportunity. While H.R.1500 would designate 5.7 million acres of southern Utah as part of the National Wilderness preservation System, it still makes 16.3 million acres available for development. That's almost three times more land to exploit than conserve. Shouldn't that be enough?

The *Citizens Proposal* will protect 5.7 million acres of unparralled redrock wilderness, a world-renowned region of slickrock canyons, stunning cliffs, splendid mountains and startling rock formations that may be found only in southern Utah -- but belong to all Americans.

Action Alert!

FROM: GRAND CANYON TRUST

Congress is currently considering legislation that would damage millions of acres of critical wildlands in Utah. Under the guise of a "wilderness" bill, the Utah Public Lands Management Act -- H.R. 1745 and S. 884 -- would forever foreclose wilderness protection for hugh areas of public lands in Utah. Introduced by Utah Senators Hatch and Bennett, and Representatives Hansen and Waldholz on June 9, the act is being pushed through Congress on a fast track. Hearings in the House of Representatives were completed just days after the bill was introduced without time for adequate review and comment. By the time you read this letter the bill may actually have passed the House! Our best chance to stop it now is in the Senate. Letters to your Senators are needed to halt this unfortunate legislation The bill as written is flawed for a number of reasons:

** It includes only 1.8 million acres of the 5.7 million acres of wilderness-quality BLM lands in Utah, and would **redefine wilderness by allowing uses and impacts that have never before been permitted in any previous Congressional designations.** Specifically, the bill would allow:

* construction of dams and transmission lines in the proposed Red Mountain, Canaan Mountain, Parunuweap and Cougar Canyon Wilderness areas;

* construction of new roads through wilderness areas to service future water projects;

* construction of a gas pipeline through the proposed Desolation Canyon Wilderness area;

* construction of new communications facilities in the proposed Fifty Mile Mountain, Mount Ellen, Deep Creek, and Swasey Mountain Wilderness areas;

* permit future upstream water claims to dry up rivers and streams in wilderness areas.

** In unprecedented "hard release" language, it would permanantely prevent the BLM from protecting the wilderness values of any lands not designated as wilderness in this bill, and from ever again recommending any of these lands to Congress for wilderness designation, essentially eliminating wilderness as one of many options in "multiple use" land management.

WHAT MEMBERS OF COLORADO PLATEAU RIVER GUIDES CAN DO TO CONTEST S. 884:

1) Write to your U.S. Senators and the Utah Senators to vote against S. 884, the Utah Public Lands Management Act as proposed by members of the Utah delegation.

2) Write to key Senators, such as:

Bennett Johnston, Louisana
Dale Bumpers, Arkansas
Tom Daschle, Senate minority leader, South Dakota
Daniel Akaka, Hawaii

3) Write to Secretary of the Interior Bruce Babbit and urge him to recommend that President Clinton veto this legislation if it is passed by Congress in anything like its present form.

Addresses:

The Honorable [1. your U.S. senator]
[2. Utah Senator Orrin Hatch and Robert Bennett]
[3. The key Senators]
U.S. Senate
Washigton, D.C. 20510

The Honorable Bruce Babbitt
Secretary of the Interior
1849 C Street, NW
Washington, D.C. 20240

Action Alert!

Reclamation Plan by Atlas Mineral Corporation Victimize's the Colorado River!

by Rebecca Martin

The time has finally arrived for river guides to be able to do something about the clean-up of the Atlas Mineral Corporation's uranium tailings pile which is sitting unlined in the flood plain of the Colorado River at the north end of Moab. Because Atlas ran different processing circuits at various times, there is a long list of pollutants that include left over reagents, different ores, and heavy metals, such as: chromium, molybdenum, selenium, and arsenic. Plus a whole range of radioactive isotopes like: thorium, radium, bismuth, and others. The pile is an 11,000,000 ton mountain of such waste materials, built up from 1956 to 1984, and left exposed on the banks of the Colorado River, whose annual floods will saturate the base of the pile and transfer these pollutants into our ground water and the river.

Knowing this, do you feel it is safe to boat or swim in the river? Do you think it is safe to drink the river water, even if you use a filter, which is unable to extract heavy metals? Did you know that the proposed reclamation project to cap the pile in place will involve 14,000 to 15,000 truckloads of rock that will be excavated from Round Mountain in Castle Valley and then transported along the River Road (Hwy 128) over the next five years? Have you considered the danger this heavy equipment traffic will cause? Maybe we should put out a little effort and try to have the piled removed!

The first step, it seems, would be to find out the real status of things and to inform ourselves properly. It just so happens that a hard-working, well-informed contingent is out there, ready to help us out with this step. All we have to do to get started is to attend future public information meetings, such as the one that occurred on November 16th at Star Hall in Moab. Other hearings will follow where our voices can be heard, but timing is critical. A new EIS is scheduled for release in January, with a mere 30 days expected for public comment. The scuttlebutt is that there are numerous important points which can be made effectively in the effort to have the tailings pile moved during the clean-up. Letters can be sent now as well as then. The more letters, the better.

TO BE EFFECTIVE, WE HAVE TO FORMULATE OUR OPINIONS AND BE READY TO EXPRESS THEM IN EARLY JANUARY.

Obviously, I am advocating that we get together on this and see if our voices can't make the all-important difference. It is my opinion that we owe it to this mighty and precious river, we call home, to do what we can. Let's show up at all future informational meetings as a first step in preparing ourselves to speak out with an accurate and effective approach to back our feelings. See you there!

For copies of the EIS contact:

Myron Fliegel
Project Manager
United States Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Write comments to:

Governor Michael Leavitt
State Capitol Building
Salt Lake City, UT 84114

Senator Orrin Hatch
6317 Dirkson Senate Office Building
Washington, D.C. 20510

Senator Robert Bennett
6317 Dirkson Senate Office Building
Washington, D.C. 20510

Congressman Bill Orton
1129 Longworth House Office Building
Washington, D.C. 20510

A letter of thank you and encourage continued support to:

William Sinclair
Division of Radiation Control
Department of Environmental Quality
State of Utah
168 North 1950 West
P.O. Box 144850
Salt Lake City, UT 84114-4850

THE SOUND OF SILENCE

by Tim Thomas

"Silence is something more than just a pause; it is that enchanted place where space is cleared and time is stayed and the horizon itself expands." Herman Melville

Eloquent words about that which is the absence of noise, a space in which one can hear one's blood pulsing, or an animal's breath, the wind in your ears -- or maybe aircraft. Where does one find silence or natural quiet? Then once found, how do we protect and preserve it?

On September 22, 1994, the Sierra Club Legal Defense Fund (SCLDF) filed suit in Federal Court in an attempt to force the Department of the Interior (DOI) and the National Park Service (NPS) to issue a report to Congress on the noise impacts of aircraft overflights in national parks. The study and subsequent report were mandated by Congress in 1987. The report due by August of 1990, was released eleven days after the SCLDF filed suit. The title of the report was Report on Effects of Aircraft Overflights on the National Park System and was used as a primary source for this article.

On April 5, 1993, H.R. 1696 was introduced to provide for "the management of airspace over NPS lands in the state of Hawaii by the Federal Aviation Administration (FAA) and NPS and for other purposes". A year later on March 24, 1993, H.R. 4163 was introduced to "enable the NPS to regulate, or prohibit, scenic commercial overflights at units of the NPS". On August 25, 1994, Senate bill S. 2428 was introduced to "provide for the management of airspace over the units of the NPS and for other purposes". Most recently on June 25, 1995, David Skaggs of Colorado introduced H.R. 1954 to "amend the NPS Concessions Policy Act to enable the Secretary of the Interior to authorize scenic commercial overflights at units of the NPS and for other purposes".

From the amount of proposed Congressional legislation on regulating either airspace of aircraft over national parks, one might assume that first, the Nation's national parks are a source of natural quiet or silence, and second, that there are problems with the quiet and how to best protect it. Indeed there has already been non-regulatory action taken by the FAA to help address noise and safety concerns at a few national parks, and last December a DOI and Department of Transportation (DOT) Interagency Work Group was established by Secretary Pena and Secretary Babbitt to help address noise concerns in the national parks. So far, there have been no easy answers, some attempts at mediation, if not solutions, and little progress in actually culminating noise from overflights in our nationals parks.

The NPS is the focus of an attempt to try to address the noise problem for a reason. National parks were formed around area of unique and outstanding physical or cultural features. To assist in protecting and managing the parks, the NPS was created by Congress to "promote and regulate the use of Federal areas known as national parks.. [so as to] conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations".
In 1978 the NPS Organic Act was amended by the Redwoods Act that clearly defines resource preservation as the primary responsibility of the NPS. Natural quiet is one such resource that is also clearly defined as the natural ambient sound conditions found in a park.

Parks contain both tangible and intangible resources. Intangible resources include such things as solitude, space, scenery, clear night skies, sounds of nature, and natural quiet. In managing the numerous goals of the Organic Act, the NPS also attempts to provide the opportunity for visitors to experience solitude or nature in a state unaffected by civilization. In the case of natural quiet, preserving the quiet is directly related to how quiet it is. Natural ambient sound varies considerably depending on the physical characteristics of the park. The pounding beach surf at one park and the arid, sparsely vegetated desert type environment of another park exemplify two extremes. Humans are not always aware of the audible sounds, depending on the activity and or intensity level of their actions. Additionally, first time and "frontcountry" (vs. backcountry) visitors to parks are generally less affected or aware of overflight noise than are repeat or backcountry visitors.

Considerable time and effort were required to produce the Report on Effects of Aircraft Overflights on the National Park System. Visitors and management responses to impacts associated with aircraft overflights show it is likely that as many as 50 to 100 units of the park system currently may have overflight problems. Of the parks with perceived overflight problems, most manager's rate aircraft as one of their more important management problems. About 70% of the managers identified aircraft as a potential sound problem. However, passenger satisfaction with air tours coupled with visitor interest in seeing the park from the air, imply that the demand for air tours will continue and hence the number of tour overflights and the number of parks affected will increase in the future.

Aircraft overflights have injurious effects on resources other than natural quiet. Cultural and historical resources, sacred sites, and ceremonies are also affected. Audible and visual intrusions of aircraft impact on visitor's abilities to experience authentic historical settings and ceremonies. Sound vibrations from certain types of aircraft can damage archaeological resources and structures, especially sonic booms and helicopter "blade slap" or "thickness". Wildlife may also be adversely affected by aircraft overflight by disturbing habitat, breeding, mortality, and feeding. A park visitor's

experience is affected by aircraft overflights differently depending on a number of variables. Visitors come to parks for different reasons: to view the scenery, enjoy the quiet, engage in specific activities individually, or as a group, and to learn. Park visitors seeking experiences away from "civilization" (primarily backcountry users) are affected greater that are frontcountry visitors. Visitors engaging in activities around motors or motor vehicles are less likely to be affected by aircraft overflight noise. However, enjoying the natural quiet is about as important as viewing natural scenery as a reason for park visitation cited in two NPS studies (McDonald, et. al., 1994; Anderson, et. al., 1993).

According to these studies, one fifth of all visitors to the national parks (approx. 80 mil./yr.) remember seeing or hearing aircraft during their visit to the park and about 2 to 3 percent of all visitors (approx. 10 mil./yr.) report having their enjoyment interfered with, being annoyed, or having their appreciation of natural quiet interfered with by the sound of aircraft. Visitors also report negative reactions to the sound of aircraft at specific sights, and these negative reports increase as exposure to aircraft sounds increase. Aircraft overflight in national parks comes in a variety of forms in terms of the type of aircraft and overflight purpose. Overflights include commercial, military, sightseeing, emergency, management and general aviation. Commercial overflights are almost twice as numerous as either sightseeing of general aviation overflights, with commercial and sightseeing operations being more prevalent than all other types of overflights. Sightseeing customers surveyed said their primary reason for flying was to get a unique perspective of the park. The second reason was that an air tour afforded a fast means for seeing large expanses of the park. Based on industry reports, the air tour industry across the nation accounts for 1/2 to 3/4 of a billion dollars per year. The Grand Canyon alone accounts for approximately 1/4 of a billion dollars. All tolled, the FAA estimates that there are at least 187 air tour operators across the nation.

Restoration of natural quiet in the national parks so far has not met with great success. The NPS and the FAA have attempted through SFAR 50-2 (Special Federal Aviation Regulations) to substantially restore natural quiet in Grand Canyon National Park. SFAR 50-2 was a major accomplishment in that it is the first attempt by the FAA to regulate airspace for environmental and safety reasons over a national park. SFAR 50-2 established four flight-free zones covering 45% of the park and have a ceiling of 14,499 feet above sea level. Four flight corridors were established to help aircraft avoid the flight-free zones. However, acoustic monitoring studies conducted at 23 sites in the Grand Canyon in 1992 revealed that aircraft, especially tour aircraft, are audible high percentages of the time. Aircraft of all types may still be heard for some percent of the time at virtually all areas where sound data were collected, notable within a few miles of the edges of some of the flight-free zones. These results suggest that a substantial restoration of natural quiet has not been achieved for large segments of the Canyon. The Grand Canyon policy of restoring natural quiet states that substantial restoration requires that 50% or more of the park achieve "natural quiet" (i.e., no aircraft audible) for 75% - 100% of the day. Thus, there has not been a substantial restoration of a natural quiet in Grand Canyon and the NPS recommends that SFAR 50-2 be revised to effect a greater restoration of natural quiet.

There are a number of alternatives or methods for addressing the aircraft overflight problem in national parks. To date, a variety of both regulatory and non-regulatory actions have been implemented with varying degrees of success. Available options include:

Quieter aircraft or retro fitting existing aircraft. This option involves significant expense so incentives would need to be developed. P.L. 102-581, an "Act to Amend the Airport and Airway Improvement Act of 1982..." requires the FAA to identify "any measures to encourage or require the use of quiet aircraft technology by commercial air tour operators".

Spatial zoning or the establishment of flight-free zones and flight corridors help to preserve or restore natural quiet. However, flight-free zones must be quite large in extremely quiet places, approx. 20-30 miles.

Altitude restrictions or setting minimum altitudes have some effect on reducing decibel levels of aircraft noise, but the altitudes necessary to significantly reduce impacts may defeat the purpose of the overflight. The current FAA "advisory" for national park overflights is 2,000 feet minimum altitude and is useful, but should not stand alone as a solution to the park overflight problem.

Greater payload aircraft can decrease the number of overflights and hence duration of noise intrusion.

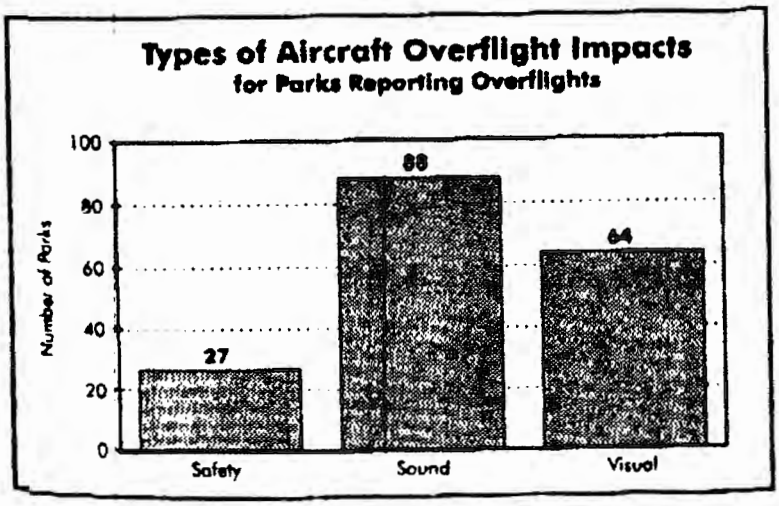
Noise budgets have been used at airports (e.g., Denver-Stapleton) to allot responsibility for and control of noise among operators. This assumes noise can be quantified and each operator can be allocated an amount of "noise" based on previous or existing levels of operation. Drawbacks include monitoring and tracking air operations and not directly addressing adverse impacts on visitor experience.

Limits of air tour operations as concessions enables the NPS to provide visitors that conform to minimum standards, are not priced unreasonably, and are consistent with park values. It also enables the NPS to regulate number and types of visitor activities in the parks in order to preserve resources and ensure quality visitor experiences. The possibility also exists of generating revenues for the parks to help offset management costs.

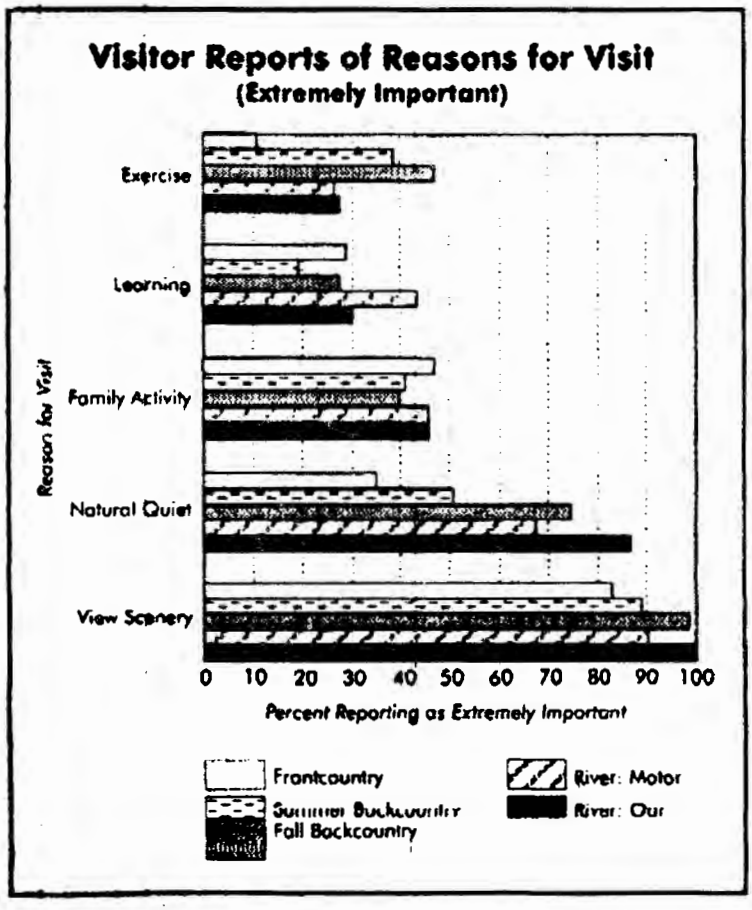
Perhaps the biggest question or controversy involving the NPS and the aircraft overflight problem is whether or not the NPS should involve itself in a realm that so far is the sole sanctity of the FAA, that of controlling airspace.

There is obvious resistance from both the FAA, air tour operators, and even the NPS itself, as to whether the NPS has the time, resources, and expertise to involve itself in managing the airspace over the national parks. Efforts thus far have not gone to this extent, but neither have they sufficiently addressed the problems with aircraft overflights in national parks.

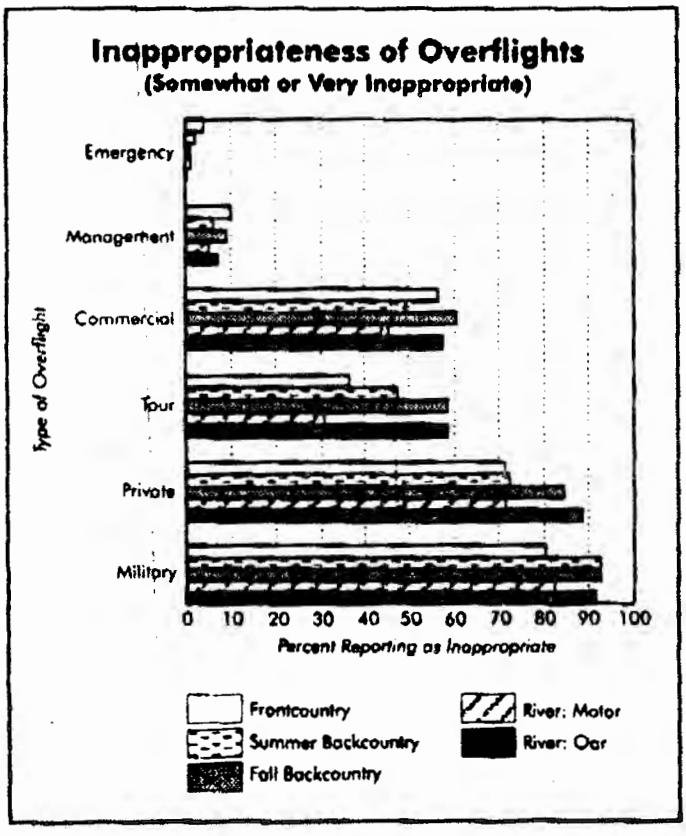
A somewhat tenuous balance exists between continuing on the current path of studies, non-regulatory actions, and Federal agency cooperation, and that of whether or not to legislate the problem [meanwhile the number of park aircraft overflights increase, as to the number of park visitors seeking natural quiet]. I would encourage the reader to consider the variables and issues involved with the aircraft overflight problem, and come to a decision on whether or not Congressional legislation is the preferred alternative to this dilemma. Either way, action needs to be taken on the part of the general public to either inform Congress of the public concerns over this issue in favor of legislation, or in favor of increased cooperative efforts by the DOT, DOI, FAA, NPS, and the greater public. The sound of silence is getting harder to hear.



Park Manager Judgements of Types of Impacts



Visitor Reports of the Most Important Reasons



Inappropriateness of Overflights

What a Summer!

Commentary by Steve (T-Berry) Young

Well the summer seems to be finally over -- and imbedded into the history and minds of the people who found themselves in the thick of good water flows. Like good books, the tales of '83, '84 and '93 have been closed -- numbered, filed into a card catalog, and put upon a shelf for now. The book of tales for '95 is in the process of becoming something -- kind of like being on a computer disk, being proof read, edited and rewritten. Like all good river stories, certain details will be forgotten and other details will grow into the '95 book until another moderate/high water season creates the scenario and cause for a new version. Unfortunately, this version will differ drastically from the previous books -- it marks the coming of a new age of rules, issues and dilemmas. In the article that follows, I tried to cover quickly some of the topics at hand.

THE PARK FOLKS

How about the folks from the park service this year? It was really nice that Jim Braggs and crew were camped-out below the Drops to pick-up all the private and commercial parties swimming by. It was a great service -- even though most companies are able to deal with self-rescues -- that Zodiac makes it quicker and allows for that much more of a rescue net. Hearing two 60 horsepower Mercurys working effortlessly in the current, preparing themselves for a rescue, can be very comforting if you are the rescued. So thank you Jim and crew!

THE FAT CITY FOLKS

I think a mention should also be given to Roger and the folks at Fat City Smokehouse. This September, Roger cooked an incredible meal to say thanks to the boatmun who refer clients to his fine eating establishment. About 40 people showed up at Big Bend for food and stories at this boatmun bash. I wonder if Roger realizes that tourists don't go to his business just because their referred, but because it has the best food in town. Thank you Roger for your support!

THE WILDERNESS PROBLEMS AT WESTWATER

It seems that most people partially know what is up with the Utah wilderness dilemma that started last March with Governor Leavitt. Anyhow, H.R. 1745, the bill that asks for 1.8 million acres, has been submitted to Congress. The problem with this bill is that Desolation and Gray Canyons were left without any protection; which makes it easier for the state to sell the river bottom mining rights to private industry. The bill is also missing an originally proposed 1,800 acre piece, thanks to Grand County council member Ray Pene, who was looking out for his brother, Ron Pene, who has mining claims in the acreage deleted. This bill is bound for a presidential veto for other reasons -- rather than a symbol of how corruption can be overlooked -- no matter how obvious it is. Enid Waldholtz, a republican representative from Utah is looking into adding the Westwater piece into a 300,000 acre amendment she intends to add to the bill when it gets to the house. To add Desolation and Gray canyons as bill H.R. 1500 prescribed, a bill originally formed by Wayne Owens of Utah, supports 5.7 million acres which is now being sponsored by Rep. Maurice Hinchey, Democrat from New York. So please people, get informed and write letters to help our river and occupations.

THE INEVITABLE CHANGES

This fall I'm sorting through the tid-bits of information and rumors filed in the back of my brain from all the conversations, meetings and articles acquired this summer. In the process I'm beginning to realize the river guiding industry is going to change. The amount of change I fear will be drastic, yet who really knows this soon in the game. Management plans and concession permits are being reshaped and rewritten in Grand Canyon National Park (GCNP). As of Friday, October 27th, GCNP will know if the previous 16 river concessions are still concessioners. Several new and previously existing companies bid on the present permits of all the companies currently operating in GCNP. This bidding system for the permits every seven years and numerous other changes are outlined in the new Prospectus of GCNP. Now Canyonlands will follow, not only in the order of time but also in the type of changes possible in their Prospectus. The new Canyonlands concession plan is due out sometime in December, and who knows maybe it will go off the deep end and help create a base or system that will lead to something better for guides, like health benefits?

Oh yeah, the Coast Guard! Their up to some type of licensing requirements by now I'm sure. What are those requirements? I don't know yet, but how does yearly physicals, peeing in a bottle in front of drug dogs at the boat ramp and more expensive classes to fulfill our requirements to get a license to work sound? I doubt if we'll see stuff as mentioned above, but regardless I don't think we should let the changes happen without the voice of the guides being heard. We are professionals that have to play by the rules that the office jocks hand out. Why not be there and voice our opinions at the table to help form the rules. I know of a lot of guides who call themselves professionals, yet they don't care enough about the future of their occupation to join this organization giving it the strength to substantially voice our concerns as professionals.

What can the readers of this article do? Talk to people and get yourself and them involved before it's too late. The BLM ranger who everyone remembers and liked so well at Westwater years ago is on the battle for helping Westwater to win against the present hurdle (see recent High Country News article). We need these type of people who have a love for the rivers and for the profession that we all have spent enormous amounts of time acquiring skills for to join and help direct with an intensified voice the things to make our jobs better in every way.



Jim Braggs and Paul Cowan in the NPS Zodiac.
photo by Michele Reaume.

THE PREZ SEZS

by Susette DeCoster-Weisheit

I can not begin to write about the 1995 season without getting that funny feeling in my stomach (no, not this giardiasis that I'm battling) -- that adrenalin rush reminder that makes you feel like you are once again above the Big Drops. High water was very kind to me this year. As I ran Cataract Canyon, Westwater and Desolation/Grey Canyons at varying water levels, I was constantly reminded of the beauty of the river's soul. Pardon me if I wax poetic on the subject occasionally. Although I was there in high water 1993, this was my first full season at +45,000 operating a boat; therefore, I was "paying my dues" training with fellow boaters and just plain being too nervous to appreciate many of the beauties at those volumes. By mid-season I was in Cataract full-time and I did have my fair share of "the nerves" but the water was so high for so long that it allowed for some adjusting to its intensity and provided the enjoyment of study. It seemed the more trips I ran the more I began to notice. Could it have been a heightened sense of perception due to stress? Maybe. From the extremes to the subtle. Like the wave that literally exploded downstream over the back of my boat, to my first left run in Big Drop II at 67,000 where I slid gracefully over a wave and dropped in behind the Red Wall with hardly a splash. I was being constantly amazed at the contrast of power and gentleness. One day while waiting at lower #5 camp for a boatmun to complete her rigging, I stood in my motor well watching the water pulse against the opposite shore. As I watched, the pulses would rise, fall, rise, explode, and I noticed the water lapping at the base of a large limestone rock. Each time the pulse would reach the rock it would explode into multicolored droplets and fall back to the river only to be slammed back with the next pulse, creating yet another beautiful display, but still unable to escape. I am sure that similar observations can be found at low water levels, but in most situations I would not have seen it. My observation and subsequent lesson came from the fact that I was waiting. For that moment I was concentrating on my own thoughts, fears, nerves. I was not hurrying to the next rapid in an attempt to beat time. I was not involved in a interpretive dialogue. I was listening, watching, feeling the river. I think on another day I will find myself writing about the exciting and beautiful moments experienced this year, but for now I will move on.

After a long season, commercial boating has finally ended for the year and left us river rats with a life. Some of us have been seen gathering our private boats and heading to put-ins with a different type of trip in mind. Some of us have headed to ski areas to start phase two of yearly employment. Some of us are hiking, biking, working on personal projects or just plain sleeping and relaxing. Personally I've been doing a combination of most of the above. Whatever the goal, it is nice to decide for myself whether to sleep in or get up and get moving and not having a group of 20 or so people expecting me to wake them and feed them.

The end of the season found me sitting in many meetings listening and commenting on guide issues, river issues, lake issues, outfitter issues and agency issues. I will attempt to update you from my perspective.

The first meeting I attended this fall was a CPRG board meeting in route to the GCRG meeting in Fredonia. Tim, John, Steve and I took the time to have our board meeting over dinner and breakfast prior to the GCRG meeting. Little did we know that the GCRG meeting would bring up so many new ideas and issues. Had time been available we could have held yet another meeting, instead we tabled the ideas until the CPRG Fall Meeting.

The GCRG's meeting brought us up-to-date on some issues that we will soon face here in the upper basin. Their agenda read like a book, but somehow each item listed managed to get discussion in the two days of meeting time. Probably the most interesting topic was the Prospectus. For those of you who have not been keeping up on the concession reform, Congress has required the NPS to include a lot of new requirements for concessions. The Grand Canyon Prospectus is standard 8.5 X 11 sheet paper, is about 2 inches thick and is full of legal language. I attempted to digest a portion of the document and found myself referring instead to the Boatman's Quarterly Review (Volume 7, number 1) for Brad Dimock's shortened version of guide concerns. The prospectus is basically a bidding process for concessions in the park and anyone can bid or attempt to out-bid on any of the contracts. Experience and background, conformance to terms and quality of service, and financial capability, are the three factors included in the process for the prospectus. The bidding process requires a new fee that will be paid into the *Colorado River Fund* which provides funds that will remain in the park for improvements. What kind of improvements and who will decide what improvements are needed is still undetermined. By agreeing to pay into the fund at a higher rate than required can be considered an asset in the bidding process. Is this extortion?

Here are a few of the new requirements that will affect guides. The Prospectus asks the outfitters how they will: *establish pre-employment screening, hiring, training, termination, and other policies; initiate and carry out a drug-free environment and eliminate substance abuse in (the) work force; identify individuals who abuse drugs or alcohol; hire people of integrity who are both interested in serving the public and national park environment and interested in being positive contributors to the park; go about setting standards and training to standard?* The list goes on and on. Failure to respond to any aspect of the document is considered non-compliance and will eliminate the bid for that contract. The Canyonlands concessionaires are told they will be given their Prospectus in December or January after approval at the regional office. The requirements and conditions are not expected to be much different than the Grand Canyon's and they will have 60 to 90 days to respond. After the Prospectus is issued for Canyonlands you can call me for information, as I will be reviewing it to the best of my abilities. If there are any law students out there who want a challenge call me for a copy and help me out.

Some may ask why I am even bothering to involve CPRG in this mess? The fact is that this process can either hinder or help guides depending on how it is being handled by the agency and the outfitters. Ask yourself just these two questions alone and you decide if we should be interested. *If all on-river employees will be expected to attend formal training*, when will the training be available and who is going to pay for it? *If we are required to have a drug test for employment*, who is going to pay for it? So as those questions strike the brain consider the past record in this business. It may seem that we are doomed; but, I don't necessarily think we need to be. I think that if we work closely with the process we can see a river interpretive training trip re-established, funding allocations for continued education of guides, physical improvements such as toilets at Potash, and maybe even access to building facilities for some indoor training. Of course, these things can be over looked unless we show interest and support. Foreseeing the eventuality of guide requirements CPRG members have discussed the possibilities of a guide certification system in past meetings. Whether we want to take on that responsibility as a whole or whether we want to help set standards for certification, we need to decide what those standards will be and work with the outfitters and the agencies to ensure that our concerns are voiced. To become recognized as professionals in the industry we need to verbalize the set of standards that each of us live by on the job. I need to hear from all of you so that when I am representing the guide issues I can respond with accuracy.

Important issues discussed at the Utah Guides and Outfitters meetings were presented at the fall meeting for comment. Those of you who were unable to attend will want to know about the following items on BLM and NPS issues respectively:

1. BLM is in serious threat of budget cuts that will endanger the jobs of key field staff. Imagine Westwater without Chad or San Juan without Linda. These cuts would require an already overworked office staff to commute to the put-in for check outs. Write your representatives to tell them how badly we need the field personnel.

2. The pouring of concrete at the Cisco ramp is now under way.

3. In Desolation Canyon there were complaints and citations issued on different occasions because of commercial outfitters camped illegally at Rock Creek. Rock Creek is closed to camping.

1. NPS is finally ready to begin the Colorado River Management Plan. Guide comments and suggestions are welcome and can be mailed to CPRG or feel free to call and discuss them with Dave Wood (NPS Resource Management Planner) at (801) 259-3911 Ext. 2133.

2. A primary topic of concern was camping along the river corridor in Glen Canyon. After much discussion Superintendent Joe Alston has committed to replacing the buoyed sign on the Colorado River Canyon discouraging upstream travelers from camping in the corridor. They are unable to prohibit such camps as there is "no reservation camping in Glen Canyon;" however, they will try to assist us by replacing the sign. The major concern addressed by CPRG was the fact that such boaters are not required to carry toilet systems and fecal content in the beaches is increasing. For this reason guides need to be very careful while camping on the lake.

3. Discussion on the spillway enhancement project for Glen Canyon Dam was introduced. CPRG provided details on the project and although the discussion was limited, there seemed to be concern from some outfitters.

4. The River Interpretive Training/Clean up in Cataract Canyon was discussed and a committee was formed to initiate its renewal.

5. The ongoing discussion regarding emergency operations took up an hour and a half to discuss protocol, language, and intentions. As is most everyone, I am tired of hearing this same old argument. In the next issue, I personally pledge to publish the guide's guide to dealing with an emergency at Hite and other base areas.

One point not discussed at the NPS meeting was that the private river use in Canyonlands has increased significantly. This year over 150 permits were granted from the commercial allocation. I foresee some future discussion on reallocation. Write me or phone me with your comments.



T-Berry punches the Sockdolager in Grand Canyon. Photo by Steve Young.

The Boatmun's Private

by Michele Reaume

Here the professional guide goes holiday...bellhop, boatmun, holiday. By the way, boatmun is not a typographical error. Long ago, in response to feminists appalled by the abundance of *man* in the naming of roles (pigeon holes), the spelling boatmun surfaced. The spelling is meant to be non-gender specific. Plural, it is *min*. My spelling, meant to amuse these personalities, accumulated an understanding.

In the river industry there are individuals who prepare, preside over, and clean-up river trips for a paying public. They do it repeatedly! The individual may be female or male -- whichever -- either has to accomplish identical tasks to result in a commercial river trip. Of course, there are varying levels of ability. Individuals are not equal. (This ideology farts on the feminist haranguing.) One individual may be proficient at entertaining, but delivers an abbreviated, although adequate, safety speech. One individual may be extraordinary with Red Cross and patient care, but unable to co-ordinate the details of a five boat trip. We're just people. I wish those feminists would quit emulating their ideas of man and get on with being an individual.

I am boatmun. I *love* rowing. It happens, I surpass many individuals in this skill.

That, at last, brings me to a high water story:

June 5th, 1995. The permit is filed under DeVore. This is the highest indulgence of the high water pool I can think of. Ken DeVore wagers the Colorado River peaks this week. He'll be there. Michele Reaume and Robert Deglas will operate their own rafts, a Riken Miwok and an Avon Spirit, respectively. DeVore patched the two tube J-rig [22 foot snout] in his yard. Hauled it to the Potash ramp. As is consistent with DeVore in Cataract Canyon (Cat) on a private ticket, the rafts were lashed together and the pod beelined for Brown Betty for a layover camp. There is one stop for the Lathrop hike. Tex's Riverways has their big jet boat moored in the shade at the trailhead when the DeVore party arrives.

Two of the 3D's are aboard. Tex's Riverways is owned by three brothers. Each brother's name begins with a D. So, Dirk, Darren and their passengers are the recipients of the private's antics. Part of that? Oh -- there is a guitar. The guitar is offered to Tex's Riverways' passengers. The passengers exclaim, "there's a musician among us." The fellow tinkles the guitar. He didn't have long because the group also is "doing" the hike. DeVore's group receives the guitar in tune. Solves a problem for the guitar owner.

Brown Betty. The shoreline at Brown Betty is violent. The rafts jerk and cavort. The river reclaimed two yards of beach. The river rises. Day 2 -- some hike. Others remain in camp to witness the rising water. Tex's Riverways was in the area. Billy Schroeder and Dirk hiked from below Spanish Bottom to Brown Betty to get a glimpse of the raging river in rapid formation.

There was celebration that night. Red Buddha chicken and two worm mescal made it into the bellies of the celebrating. Brad Hanson, donating to the clean-up of the evening's fare, waded into the river to scoop up a pail of water. He stepped on a catfish! Fortunately, his foot bled voluminously, washing the noxious bacteria from the wound. Brad mended without complications. Some think it was due to Captain Morgan.

Day 3. Way A.M. Michele Reaume wakes before the usual early risers. She wanders to the kitchen. She starts the coffee water. Notices the DeVore's feet are hanging over the edge of the beach. She knows they drug their bedding inland once already. The river is rising. It is not as drastic as during Colonel Birdeye's survey of the Grand Canyon in 1923. However, the magic lies in being present to witness it and tell about it.

Further survey of the vicinity, Michele notices the Miwok is so full of river water it is brimming. She strips; saunters to the rafts and bails. No easy task. The raft rushes and bucks and threatens to empty her, not it's river contents. Maybe because the bailing wasn't routine, maybe because the activity was so feisty, she dries off, dresses, continues the coffee thing, but spouts devil horns. The two worm mescal bottle lies askew. The fluid is gone. The worms remain.

Molly Martin hitched onto this trip last minute. Molly flipped during her commercial trip the prior week. She clamored aboard the Miwok at Potash ramp bearing foodstuff. In particular, doughnut holes.

Michele fetched the doughnut holes from the Miwok storage box that morning following the bailing shore. Determined the chopsticks in DeVore's utensils were necessary to tool a womb in the doughnut holes. She shook those worms out of the bottle. Cut each into several pieces and stuffed the doughnut holes with the pieces. It is not known whose devil horns were the most prominent that morning, but Deglas and DeVore had been attentive to the kitchen commotion. They were encouraging everyone to have a doughnut with coffee.

Boats are rigged for the flip. The DeVore party takes it down to Tea Pot (Calf) Canyon or Big Drop I camp. Chris Orem and Joe Kiffmeyer paddled inflatable kayaks (duckies). Chris didn't clear the high haystacks in #7, or the "North Sea". Joe corralled Chris's duckie. Michele swooped into the eddy to relieve Joe of that burden. Chris managed to get to shore, hike upstream, rendezvous with the Miwok to reclaim his boat. He swam again -- twice (!), in the "South Sea" [Mile Long]. Chris was toppled by one wave. Midstream he affects a self-rescue. The duckie is righted. He is hauling himself up and onto ... whop! Another wave takes him over. Chris is able to recover and tuck into that left eddy at "Been Hurt". That eddy is a keeper. Chris would have been

better off swimming; missing that dadblasted locale. He is pretty near tuckered when he arrives at camp. Chris rolled the duckie up the next day. He joined the J-rig assemblage.

The scout of Big Drop II takes place this evening. The marker rock is covered, however there is a marker wave dimpling the surface above the marker rock. It is noticed that the water continues to rise, yet no one cares to scout the next day.

Rigged for the flip. There is the usual taunting about Deglas' worn rigging. The party goes downstream. Michele passes Joe Kiffmeyer. He sits in his duckie in the high right eddy below the entrance to Big Drop I. Approaching Big Drop II, Michele is three boat lengths across from the slightly trailing Robert Deglas. Her chosen run is between "Little Niagara" and the right shore. She *Powells* into an eddy along the right shore. Michele heres Molly repeating loudly, "keep rowing Michele, keep rowing Michele." Michele focuses on the Avon Spirit. It flows to the left edge of Little Niagara. Flip! WoW!

The Miwok chases the Spirit. All passengers ride the overturned Avon clear to the slacker water below "Ten Cent" [#26]. Bumps the left shore. J-rig shows up. Avon is turned up right. It is raining. Robert said the marker wave wasn't there and he got lost. If he had been eight feet farther left, the raft would have breezed outside and beyond Little Niagara. As it was, the drop into Little Niagara was three hundred feet deep. This is Robert's first flip in twenty five years of river running.

No sign of Joe or his duckie. A chat with Western River Expeditions reveals he is on the left shore at "Repeat Rapid" [#25]. Western has erected a lunch kitchen to warm up their folks with hot food and drink. They are at Ten Cent proper. A hike is undertaken to locate Joe. He has been napping. Joe went out of his duck in Big Drop II 1/2. His swim was long. Below Big Drop III he saw boats on the right shore. Through the deluge of waves, he thought those boats were his party. It was Worldwide. He stopped to warm up from his swim and waited for the rest of his group. All were glad he was safe.

Camp is scratched-out in the sagebrush (Apache plume, tammies or willows?) where the Avon is righted. Everybody is safe. A rain storm drives everyone to tents. Some enjoy a nap. Some enjoy sex. However you look at it, everyone is enjoying a three-letter word: fun.

Finally, upon the Lake Powell stretch the following day, the DeVore pod meets the Canyonlands National Park rangers. Jim Braggs and Dave Walton report the official cubic feet per second (cfs). (Cfs is the measurement for river water levels in Utah.) They say 55,000. DeVore and Deglas will argue that figure. Their double decade boatmin (sic) experience measures the level at the mid to late 60,000 cfs range.

Carnage Fest '95

by Eric Trenbeath

Well everyone, this year we got to see it all. High water aplenty in the Colorado River Basin. Cataract Canyon in particular came out in all it's glory with sustained flows of over 50,000 cfs for well over a month and a peak somewhere in the low 80's. For those of us lucky enough (or unlucky enough) to have spent the spring down there, we definitely know what all the fuss is about Cataract Canyon.

From a personal standpoint, I had guided through five years of drought, missed the runoff of 1993 (foolishly opting to attend spring quarter), and heard nothing from old timers in the Rio except, *"Christ, back in 83"*, I now feel fulfilled in terms of seeing *"High Water Cat"*. I spent seven weeks down there in a single oar boat, five of which were over 55,000 cfs and now feel like I've seen and been a part of it all.

My own experience down there last spring included two flips, and the witnessing of a whole lot more in all types of boats. One week in particular which I like to refer to as "Carnage Fest 95" had flows of around 62,000. I came through the drops right side up (thank the river gods) with an upside down boat in front of me and what appeared to be one in every eddy below. Just to dispel the rumors however, it was not six out of seven but four out of ten flipped rowboats. And most will agree that it was about the gnarliest level.

I also saw and had some lucky runs, some incredible runs, and some incredibly lucky runs. These I witnessed in just about every type of craft down there and I want to hand it to everyone who came through right side up or not. The place is gnarly!

I would also like to take this opportunity to defend my co-workers whom I ran with all spring. We've all been the talk of the town for how many flips we had down there and that is fine, but don't forget we were running single rowboats, and a lot of them. Cataract Canyon has also flipped snout rigs, pan-caked triple rigs, and thrashed s-rigs, not to mention dories, catarafts and everything else. So stick that in your boat and float it!

I also saw some pretty incredible rescues, one of which I got to be an integral part of only on the wrong end! My third trip of the season, somewhere around 55,000 cfs, I did the unmentionable. I flipped a boat (my first commercial) in Mile Long at Rapid #18.

You can imagine my surprise, and already blossoming shame yet it only took me about 10 seconds to get my folks on the bottom of my boat. Then as we floated through the rest of the huge haystacks of the "South Sea" I though to myself, "Hmmm, now we are going for the big ride".

My leashed oars floated out from beneath the boat, so I cut them free and hoisted them up. Using them like paddles, we almost made the left eddy above "Been

Hurt" [#20] but we struck a domer and pivoted off down toward Big Drop I.

As we floated past the camp at Big Drop I, I was jumping up and down on the bottom of my boat yelling "Motor! Motor!" I could see an S-rig tied up and a few row boats, but none of the thirty or so people milling around the beach even noticed us floating by.

Then I saw two guys running up the beach toward the S-rig. Without any verbal communication, one jumped on and headed straight for the motor. The other untied and pushed off. By then I was well on my way to Big Drop I. The S-rig motored out into the current and circled around beneath me. Then I saw Stewart from World Wide running down the shore with a throw bag. Literally in the tongue of Big Drop I, the S-rig nosed into me. He pushed me into throw bag range, Stewart threw me a line and together they got me to shore. To Stewart from World Wide and Shane from Moki Mac, I'm deeply indebted. Thanks a bunch dudes!

After that exhilarating ride and totally hairball rescue, there was nothing left to do but right the boat, whip out some lunch, and go scout The Drops. Yee Haw! From "Poop Rock" I had the benefit of seeing an S-rig get clobbered by the ledge wave followed by two row boats, one of which flipped.

You can imagine how long the walk back to my boat was. I had already flipped and The Drops were still below me. All I could do was visualize my run, putting extra emphasis and focus on the soft spot of the marker wave just left of center. Fortunately, all went well for me and the rest of the boats in our trip. Came to find out however that a J-rig [22 foot snout rig] flipped behind us. Gnarly!

My final and seventh trip of the cycle was at around 55,000 cfs and proved to be the pinnacle experience of my career. Six boatman stood at Poop Rock pondering the scene we had witnessed for weeks. The high water that wouldn't leave. I remembered thinking at the Mile Long scout "Maybe I'll get snake bit and flown out of here". No such luck. Anyhow, three oarsmen and a J-rig driver decided to thread the needle in Big Drop II. The other J-rig driver and myself opted for the left to right run. Incidentally, I had gone left to right four times successfully this season and had threaded the needle twice.

We four oarsman watched the J-rigs run. One made a successful needle run, the other made it left to right. We all stuck with our plans.

Walking back to our boats, I felt firm in my conviction to be the lone left to right runner among the row rigs. I pulled away from shore as sweep boat with six successful high water runs through The Drops under my belt. With a downstream ferry angle left, I drifted down the wave train of Big Drop I just right of center. When I reached the soft spot I took maybe three strokes and I was on the eddy line above Big Drop II. I spun my angle right, stood up to see the marker wave and began to drift toward it. So far so good.

As I drifted towards the marker wave I watched it building and crashing and made a couple of strokes for adjustment. I drifted closer, watched it crash and saw the soft spot appear. I pulled hard on the oars. One stroke was all it took and I was in the slick water behind the marker. By God I was in there!

Then a strange yet incredible thing happened. Time stood still and all was calm in the eye of the storm. I looked over my shoulder and saw the slick shimmering highway rising up maybe forty feet to the window between the ledge and Niagara and it was wide open! I was mesmerized. Never before had I experienced such awareness. Let alone in the middle of a rapid -- but anywhere! And then it happened. I went over. It probably broke on me just then, but I'm still attributing it to a failure to act. I was so awed by the whole scene. I missed my stroke.

The rest went as you would imagine. I rode the bottom of my boat with a passenger to the reservoir. J-rigs picked up the rest of my swimmers. Two of them eddied out above the Gut, climbed up to shore and left an inscription. And there you have it.

Now that its all over I'm trying to figure out what sort of twisted dementia makes us all want to return. I mean to give truth to its critics, there is an awful lot of flat water. The rapids in low water don't rate particularly high on the excito-meter. When high water does come it's downright scary. And the reward for making it through the most treacherous stretch of the Colorado. a float trip through the most beautiful canyon on earth, has been taken away from us. So why return to Cataract Canyon?

I suspect it's a hidden magic within the place. A magic everyone will experience sooner or later as they drift past the confluence. Also the magic of a flowing, silt laden, drift filled river that rises fat with snow melt in the spring, and recedes in the summer to leave miles of sandy beach around every bend. And there is of course the awesome power of the rapids in high water. First glance at the North Sea, and one can scarcely believe it's a river they are looking at. So I guess its all this and probably more that brings us back. You all probably have your own reasons. But whatever they are, as the saying goes, "You are never below The Big Drops"! And who really wants to be?

LODORE

Anonymous

Prickley pear lizard calisthenics
Red rock striations, encrustations
June gentle rains seduces

Trees trickle, a creek dribbles
Oily city tears into ant lion sands
Thus did the water
Come down at Lodore

REFLECTIONS OF:
A GNARLY OLD BOATMAN

by Gene Stevenson

(Updated and modified from a "Hotwater" article that appeared in the July edition of **Canyon Echo**, the Bluff newspaper).

"If you can only see what light reveals and hear only what sound announces, then in truth you do not see nor do you hear". Kahlil Gibran

As the 1995 river season rolls to a close, I find myself thinking about my own experiences that have accumulated over the past 27 years since my first trip in March, 1968. Now, I certainly have not had a back-to-back 27 year boating career, but it's been close.

We use to call ourselves "boatmen," but in this age of being politically correct, the profession is now referred to as "river guide." Whether one refers to themselves as a boatman or river guide is a personal choice. To call yourself a professional river guide is a rather interesting self-definition, since river guides come from all walks of life, and are not **exclusively** employed in this line of work because it simply doesn't pay enough to live on year round -- never has, and probably never will. I'm almost certain that there are as many stories as to "how one got started in this business" as there are guides, so with that understanding, here's my story:

In March of 1968 I boated the San Juan River from Sand Island to Mexican Hat for the first time. I was an undergraduate geology student attending Ft. Lewis College in Durango, Colorado and was taking a field trip with eleven other students and our professor, Dr. Donald L. Baars. I had no concept of what the river was about, much less the incredible geologic and cultural history that is laid open like a book for the inquiring mind. Even though I was a 19 year old college student on a weekend outing, I had begun to realize that I really liked the geology courses I had taken thus far, and was in the early stages of developing a long working relationship with my mentor, Don Baars.

So, I've always seen these canyon walls through geologist's eyes. And my "eyesight" has only gotten better through time, and will hopefully continue to do so. On that fateful trip, I met Kenny Ross for the first time; he was our guide. I remember Kenny as a seasoned ole dog, scruffy and rough talking, but loaded with information about the river, and the ancient culture that thrived along the banks of the San Juan -- the Anasazi.

This trip was also the first time I took a pair of oars in my hands and began learning how to navigate rivers. I learned quickly how to "read the water" and to work with its forces, rather than fight it -- I had discovered an awareness of self and place. I also remember nearly freezing to death in a dilapidated old sleeping bag that prompted me to get a decent bag for future trips, and Kenny motoring along in the J-rig [22 foot snout], talking and story- telling his way down the creek.

My professional career has developed, somewhat by accident, into being a geologist and a river guide. During my college days at Ft. Lewis, and later as a graduate student at Northern Arizona University, I took advantage of numerous opportunities to go on river trips, first as a swamper, and later as a guide. Geological river trips in Grand Canyon, Cataract Canyon, the canyons of the Yampa, Green, and San Juan rivers allowed me to see the Colorado Plateau in all its splendor, and, for the most part, I listened to "experts" describe the incredible geological history recorded in the canyon walls. Although my early jobs as a petroleum geologist took me to New Orleans and later, Denver, I never gave up my contact with the rivers of the Colorado Plateau. As it turned out, I became increasingly committed to being a full-time student of Colorado Plateau geology, prompting me to write or co-author a number of technical publications concerning the geology of the region. Today, I find it somewhat amusing, and rewarding that I am quoted by the next generation of geology students.

So far, I've been able to make a career of studying and playing in the various river basins of the Four Corners area. Besides being able to see and comprehend the incredible wealth of geological information exhibited in the canyons of the region, I have developed a far better awareness and appreciation of the human history of the area. Furthermore, I can see the impact we "modern" humans are having on our western rivers.

Although I've been down just about every stretch of navigable riverways on the Plateau, and several other rivers in the West, a large percentage of those trips have been here, on the San Juan. It's a river of which I have first-hand knowledge; watching subtle changes that, over only a 27 year time span, have become dramatic. The myriad of rock falls in the canyons, the flash floods of tributaries and the creation of new rapids and obstacles, are examples of natural change. Conversely, the steady encroachment of tamarisks, Russian olives and other non-endemic plants, the unnatural entrenchment of channels in the braided stream segments of the river, the silt infilling the river corridor from Slickhorn Gulch to Copper Canyon, the waterfall below Clay Hills, and the construction -- followed by the demise -- of the Paiute Marina, are hardly subtle changes when viewed in hindsight. And all of these changes are directly attributable to humans.

The controlled, clean-water releases from Navajo Dam serve as an example of how man is modifying his environment. The diminution of suspended and bottomload sediments along with unnatural flow regimes have modified the streambed geometry resulting in fewer sand waves, and less energy to naturally modify the floodplain through erosion of riverbanks and deposition of

new beach sands. Riverbank thickets of non-indigenous plants have thrived in this artificial environment, while some native fish species have been threatened to near extinction (first the bureaucrats tried to kill all the "trash fish" and now they are studying them, before they pull the plug on the Animas River and divert its flow UP into Ridges basin near Durango).

Whether it's cows pounding down the river banks and polluting the beaches, or the flippant attitude of many western bureaucrats who see free-flowing rivers serve only as aqueducts for urban sprawl, mankind is the biggest problem river ecosystems have today. River running has almost gone ballistic in numbers of people who want to experience the rivers and canyon country. But, I'm afraid that most are only seeking a cheap thrill, out of tune with the melody of a river, out of sync with Mother Earth, ignoring the feelings of being held by "Ma."

These days as a professional river guide, I have to take written tests, CPR and first aid training, as well as navigate a boat safely, yet the rank and file private "rafter" doesn't have to qualify with anything more than a credit card. I am a big supporter of apprenticeship, and it is a practice that is falling by the wayside. And I'm not just talking about private river running. I'm sure truck driver's feel the same way about RV's. Skill development necessitates training - that's all there is to it.

But on the ole San Juan, cluelessness abounds. You see it every day, whether it's a ridiculously overloaded boat (we call them "California flip-rigs" or "stern-rigs"), an out-of-control boat landing, or not tying ones boat up at night and having it drift away. Combine this with ignorance of how to conduct oneself or one's group in exploring cliff dwellings and petroglyph sites, camping etiquette, or bringing ole "Fido" along for the ride, and you might see the need for some "training."

Many of the most popular stops are truly getting a pounding, and this newest wave of clueless boaters are really making their mark. River House (Snake House to many older river rats) is approaching a rapid demise. Every week I see new rocks pulled from the walls, and increasingly more digging around walls and floors. The large petroglyph panel at Butler Wash was vandalized several years ago, and the feeble eradication attempt by the bureaucrats "managing" the area has only led others to try and "help" by further desecrating this fabulous site. Obnoxious four-letter words carved into the rock have been modified by the do-gooders, and in the process, additional petroglyphs are being destroyed.

SOMETHING DIFFERENT

As a riverman, high water delivered by spring runoff from the snow clad mountains is always something to look forward to, and this year was no exception. All the rivers of the Colorado Plateau were running bank full in mid June, and I wanted to do something different, so my wife Theresa and friends Milt, Marcus, John and Clay joined me for an 84 mile "day trip" from Sand Island to Clay Hills. Milt, John and I split up the rowing, and did it in ten and a half hours, making numerous stops along the way. After all, we all work at **Wild Rivers**, and this was our day off. It was exhilarating to cruise the entire canyon corridor in one day, and to do something a little different. With continued talk about the Animas-La Plata diversion dam, and the increasing demand for San Juan River water, I'm not sure just how many more times I'll be able to ride the crest of a high-water year on this river.

So now it's back to business as usual, taking newcomers and old on river trips down the San Juan, sharing my acquired knowledge and love of the region with those who care. The high desert canyon country is perceived by many as both spectacular and stark, but it is very fragile and requires compassion and education for it to survive. I think that, above all other matters, my role as a river guide is to provide these insights to visitors of the area. My reward is to witness the gleam in someone's eye when they finally begin to SEE and FEEL this country for the first time.

So, I'm a gnarly old boatman, cussing and stomping around about some issues, and yet still able to witness and feel the awe of nature. And I thought old Kenny Ross was a scurvy old dog, just wait another 20 years, or less.....

HIGH WATER REMEMBERED

by John Weisheit

My first high water experience occurred on the Dolores River in 1983 with a flow of about 8,000 cfs (the record is 9280 cfs) just before the diversion tunnels of McPhee Dam were closed. The roar of Snaggletooth Rapid, to this day, seems comparable to no other in my memory. In 1984, I was in Desolation when the river started its rise to a peak of 45,000 cfs. I remember live cottonwoods breaching like whales and the hydraulics at the Green River diversion dam looking like the sine waves on an oscilloscope screen. While camped at Honacker Trail in 1985, when emergency Navajo Dam releases brought the San Juan up to about 15,000 cfs, an eroding sand bank calved into my boat and buried it. In 1985 I was in the Grand Canyon on the center boat, first row, of Georgie's big rig at 55,000 cfs. I have never felt quite so thrashed about since. Somehow I missed the big peaks in Westwater, with 17,000 cfs being my maximum flow experience, but then again the Westwater teens are known to be the gnarliest.

On the Salt River, I once managed to do a 10,000 cfs trip in early March. I also remember once camping at Quartzite Falls to find driftwood 75 feet above the river. I thought to myself that the Salt River may very well be the champion high water section of the American West and have often wondered if anybody ever boated through like when it was flowing 100,000+ cfs in the late

1970s.

Seems Frank Wright and the Mexican Hat Expeditions crew in 1957 got to experience the Colorado River at a flow of 100,000 cfs and held that record until 1984, when many a commercial river guide caught the peak in Cataract Canyon at 110,000 cfs. Twenty-seven years is a long passing of time to break such a record making opportunity.

With all this experience in mind, I think Cataract Canyon is the place to be for a high water experience on the Colorado Plateau. It is somewhat comforting to know that despite all the emplaced dams on the Colorado River system, you can still find a section that runs with snow melt, silt, driftwood and dead animals, much like it did in Frank Wright's day. The key is that you have to be patient, as it only comes once or twice per decade and flows over 100,000 cfs seem to occur only every twenty-five years or so. Consensus for the gnarly stage in Cataract seems to be between 60,000 to 70,000 cfs and the old timers say once again as it approaches the 100,000 cfs range. I saw the 60,000 - 70,000 stage at least six times in 1993; it flipped me in a sportboat on my fifth visitation. In 1995, I saw Cataract at 80,000 cfs in a row boat. Even though the "Red Wall" is bigger at 80,000, it was more benevolent than 60,000 to 70,000. I was the only row boat on the day it peaked, June 19, 1995. Here is my story:

I psyched myself into reality during my rig at the Tag-A-Long boat yard for a six-day row boat trip with three passengers. I picked the best boat, which was a Havasu III, a Waterman frame and two drop bag trailers. All hard gear would be stored low and all soft gear would surround me like an egg in a nest. I decided to tie the frame in with ropes rather than straps and not to leash my oars. I tied my spare oars in such a way as to release them with a quick pull of a cam strap near the oar lock. I fashioned a flip line that was tied to the corners of my frame in an "electricians knot". I elimated danglies and stowed the bow line in the duffle pile. My passengers were Kathy and Tanny from the New England area and Francois, a French Canadian. I took my time on this trip: rarely rowed -- drifted mostly -- geologized -- philosophized -- did all the hikes. On the third night I camped at "Brown Betty" (#1), wanting to let my folks hike into the Doll House. We camped on a narrow sliver of sand with the water coming up, as was the case with each passing day. I led Kathy and Tanny to Spanish Bottom (the trail was underwater in parts) so they could go into the Doll House. I went back to my boat to clean-up, load and bomb-proof the rig. I was not expecting my motor support co-workers until the next day and had resolved to go solo to Tilted Park (Upper Y West). Saina showed up just as I was about ten minutes from leaving Brown Betty. We camped together at Lower #5 that night to wait for Eve and Steve, who would arrive on the following day. I walked from camp to #7 to scout the wave train of the North Sea. It was a good thing I did not go to Tilted Park that day. The run I had in mind, which was to do a downstream ferry into the right eddy, would surely have flipped my boat.

Eve and Steve showed up the next morning and we were off; three 22 foot 2 1/2 snout rigs and a Havasu III on 80,000 cfs. I decided to run the tongue in the North Sea. One would think that such a run would put one into the wave train, but this did not occur as I had anticipated with my scout. The tongue behaved as a left-handed passing lane and the big wave train was to our immediate right. We didn't even really have to bail much when it was all over with.

Mile Long was just as easy; same strategy. I just went down the middle of the river and bobbed over the waves until I decided to eddy out above Been Hurt. That was a mistake. I will never eddy out of a wave train again in high water. It was a pointless maneuver and it took me three tries to get back into the current and continue my downstream progress.

We scouted the Drops from "Poop Rock" and I proceeded to mumble about how much I appreciated my co-workers, as if I would never see them again. Big Drop I was washed out, the Red Wall was BIG, and Big Drop III looked really choppy.

In the 60,000 to 70,000 range there are windows to make a left or right runs around the Red Wall. At 80,000, I decided that any such maneuver would surely flip my boat, much like I had observed at the North Sea. The eddy lines were just too turbulent and too close to the standing waves of the train. There seemed no apparent way to maintain any positive momentum by doing a window "cheat". I decided to run the Red Wall head on and take my chances.

My plan was this: First, if I lost an oar(s) at anytime, I would high side until it was safe to go for a spare(s). After running Big Drop One, I would stay with the current and maneuver to the left side of the marker rock. Once there, I would turn around to do a hard Two O'Clock downstream ferry angle to confront the Red Wall's 10 O'Clock angle and then tuck into my seat when I got to the top so as not to get knocked out of the boat by the curling wave. After that, I would maintain my boat angle and pull hard until the second wave was completed, and then I would pivot to face my danger and ride the wave train; which should place me just right of the pour-over at Satan's Gut. After a session of fervent prayer this is exactly what I did, and despite losing my left oar after the pivot, all went according to plan. Jim Braggs and crew, of the park service, retrieved my lost oar at the bottom of Big Drop III with their Zodiac and issued a hearty congratulations for a great run. I was jubilant!

I learned two things on that trip of 80,000:
1) never eddy out of a wave train, 2) don't cheat. And, I wonder one thing: Will I ever see 100,000? I hope so!

The Dreaded River Toilet

by Julie Gillum

Let me confess at the outset that I am not a guide. My lack of gills, fragile brain casing, greater-than-average fear of death, and incidentally, full-time job, have prevented me from acting as more than a professional passenger in big water or technical rapids. My motto, honed by many years of surviving doing stupid things, remains: "Sometimes it's OK to be a cupcake." But that doesn't mean that a cupcake can't admire godlike boating skills. You people are awesome (and I'm not just saying this so you'll continue to invite me on your trips, although it might be appropriate to point out that my brownies will make you whimper). I didn't realize exactly how awesome until this past summer, when I spent several days in Cataract Canyon during high water.

The crushing waves, the jagged rocks, the cyclonic whirlpools--all these I took for granted. I saw and was afraid, but I had expected these hazards. (Perhaps all of you, after years of contemplating the head vs. sandstone scenario, or the fact that, in an evolutionary sense, we humans are inferior to catfish for water travel, grow immune to excessive fear). But before I had completed 24 hours of my trip, I was confronted with a completely unexpected danger. Yes, it was the Dreaded River Toilet.

I am not inexperienced, or even uninitiated, in technologically advanced portable toilet systems. They are convenient and ecologically responsible. I know that when you use one, you are implementing untold river management plans, complying with goodness knows how many government regulations, protecting the health of the riparian corridor, and showing respect for your measly role in the ecosystem. It's a downright noble thing to do. But this was no ordinary river toilet. On the lid, in bold red letters, were written the words, "MISUSE OF THIS TOILET CAN CAUSE SERIOUS INJURY OR EVEN DEATH. HAVE A NICE DAY." Or something like that.

This cupcake took a step back. All these years, I had unwittingly cheated death . . . My entire life of flossing twice daily, looking both ways before crossing the street, and not using my fax machine while bathing instantly flashed before my eyes. Suddenly, any need to implement the river management plan became less urgent, while I pondered the multitudinous ways in which to be snuffed by a toilet.

If we discount the obvious, how many ways can you misuse, abuse, insult, or generally hurt the feelings of your average toilet? It boggles the mind, even a mind scrambled by one-too- many collisions with geologic formations. And does the toilet merely act in self-defense, or does it seek revenge for all insults, real or imagined? Perhaps a discreet toilet surveillance program is in order, until we receive all of the facts. I'm convinced that surveillance needs are what motivated an unnamed commercial group to set their groover directly across from my campsite on the Colorado last month. You may be sure that my friends and I took our responsibilities seriously. Concerned for the safety of those who fell into the clutches of the Toilet of Doom, we made frequent status checks. ("Hey, how're you doing? Nice day, eh? Great boxers!")

A friend of mine told me a story involving a couple in an eastern city. For reasons unknown, the female half of this couple decided that, before disposing of her old hairspray cans, she needed to empty their contents. The toilet was her plumbing receptacle of choice. Maybe you are aware that the flammability quotient of hairspray is slightly greater than that of jet fuel. I can add few details to this story, except that this woman's unfortunate husband was a smoker, and that the resulting conflagration was reminiscent of a shuttle launch. I believe that the poor man stopped smoking, at some point after the fire department arrived. If I were not feeling faint, I would tell you more.

In conclusion, I would like to say that my brownies are made with all-natural ingredients--no, wait, I would like to say that, after my high-water Cat experience and my subsequent research, however pathetic, into the Lethal Toilet Syndrome, I am doubly impressed with all of you who make your living on the river. After a full day of flirting with death in the rapids, you relax in your campsite while preparing an eight-course meal for three zillion people, secure in the knowledge that even if you survive the river, you may be injured or even killed by plumbing components. You have my undying respect. And you may be certain that if you ever place your groover directly across from my campsite, I will assist with all of your surveillance needs.

MEETING THE BOATMEN
by Karen Pulliam

Flying in to the boats,
Landing on a mesa
(the airstrip isn't one),
I thought, I'm going to die.
But I didn't.

And the desolate, lifeless mesa
was awash with wild flowers
when I kneeled and looked.

RIVER POETRY

An interesting perspective of the river community will come from those who shuttle boatmen around the Colorado Plateau. Emmett Mays is such a driver.

THE BOATMAN'S CHILD
by Emmett Mays

As I was slowly passing
A boatman's ramp one day
I stopped there for a moment
Just to watch the children play
Alone a girl was standing
And when I asked her why
She turned with eyes that could not see
And she began to cry.

"I'm no boatman's child.
I'm no boatman's child
I'm like the rapids, just runnin' wild.
I need my mommy's kisses
And my daddy's smile
The boatmen just can't take me
I'm no boatman's child."

"When the boatmen load the children
They take them for their own
But they all had to pass me by
And I'm left here all alone.
The rapids are swift and gnarly they said
We can't keep you safe and dry
I know they're right so I'll just wait
And I'll try hard not to cry.
I'll wait because I know it's true
And no one will deny
God takes little blind kids rafting with Him in the sky."

"I'm no boatman's child.
I'm no boatman's child.
I'm like the rapids, just runnin' wild.
I have my mommy's arms to hold me
And sooth me when I cry
But I still get so lonely here
I wish that I could die.
Then I'd walk the beaches of heaven
Where all the blind can see.
And then like any other child
Id shout, Boatman!...take me! take me!"

"I'm no boatman's child.
I'm no boatman's child.
I'm not like the rapids just runnin' wild.
I'll miss my mommy's kisses
And my daddy's smile
The BOATMAN is here to take me
I am the BOATMAN'S child!"

GOD BLESS THE LITTLE CHILDREN

Karen Pulliam was a customer on a Desolation Canyon trip this year. A great trip in May with six relaxing days at 20,000 cfs, wonderful warm sunshine by day and cool pleasant moonlit nights. Karen is one of those relatively rare customers who comes back from a river trip changed. So did the boatmen.

VACATION HAIKU
by Karen Pulliam

night is white with stars
in Desolation Canyon
on the Green River
***

claret cup cactus
flowers: red wine on the bleached
carpet of tan sand
***

Boatmen tell the truth,
know loneliness, and trust fear,
from time on rivers
***

yellow swallowtail
tiger butterflies flitting
among the cactus
***

Rising moon whitens
steep cliffs above black canyons
roaring with river
***

The Green River is
Brown; she pulls the Colorado
Plateau to the sea.
***

desert vision quest:
a rock resting lizard spoke
to me of rainbows
***

time on the river:
silence heals city-wrecked wounds
with sounds of quiet
***

the pounding drums beat,
crash, echo red sandstone
cliffs, across water
***

a rainbow over
the Green River; no big deal
(unless you're from LA)

Park Service Report
High Water Cataract Canyon

by Jim Braggs

Cataract Canyon peaked on June 19 at 80,100 cfs. The Colorado River peaked on June 19 at 51,800 cfs and the Green River peaked on June 19 at 28,300 cfs. The flow in Cataract went over 50,000 cfs on June 6 and stayed that way, with the exception of one day, until July 17. Essentially there was a 41 day period when the flows in Cataract Canyon were above 50,000 cfs. This compares with 1993 when Cataract peaked at 69,500 cfs on May 29 and had flows above 50,000 cfs for 10 days.

The River District sent a patrol boat upstream from Hite into Cataract Canyon on June 9, and set-up a temporary rescue operation based at Ten Cent Rapid on June 11. That operation was in effect until July 18 for a total of 39 days. During that time there were eight crew changes.

During this time there were four evacuations: two by helicopter (a possible concussion and a crushed foot caught in a frame) and two by ambulance from Hite (a possible broken nose and a blunt trauma with suspected spinal injuries). We feel strongly that five lives were saved by the rescue operation. Had the swimmers been in the water much longer, their chances of survival would have been pretty low (rough estimate of swimmers is 120 persons).

I feel that everyone involved during this high water season did an excellent job. It's obvious that because of your concern for the visitors you all stepped-up your operations a notch and put on your best guides and equipment. You have every right to be proud of all your employees and guides. I think that considering the conditions involved, the safety record was excellent and injuries and loss of equipment were minor, especially when you consider that there were three fatalities during high water in 1993 [over 50,000 cfs]. Job well done.

FLIPS

	Commercial	Private
Rafts	8	5
Catarafts	0	3
Dories	2	0
Sportboats	2	0
Snout rigs	4	0
Triple rig	1 (pancake)	0
S rig	1	0

LOCATION OF FLIPS

Rapid	Amount
Rapid 7	5
Big Drop 1	1
Big Drop 2	17
Big Drop 3	1
Rapid 24	2

COST FOR THE OPERATION

Programmed time	872 hrs.	$10,913
Overtime	470 hrs.	$11,781
Travel		$ 763
Supplies		$ 625
Equipment		$ 1,398
Total		$25,480

Note: Paid by park through regional office in Denver. Special Search and Rescue (SAR) account.

RETURNING TO THE CITY
by Karen Pulliam

I traveled to Utah to see the night stars
I remembered from trips out West
with my father when I was a child.

I've been twenty years without the stars.
I've moved among the cities and
never stopped to look above me.

Leaving L.A., I feared what I'd find:
Were there still stars at night?
Did I remember right?

I found the stars in Utah, a white milky
mass against the black desert sky
above the Colorado and the Green.

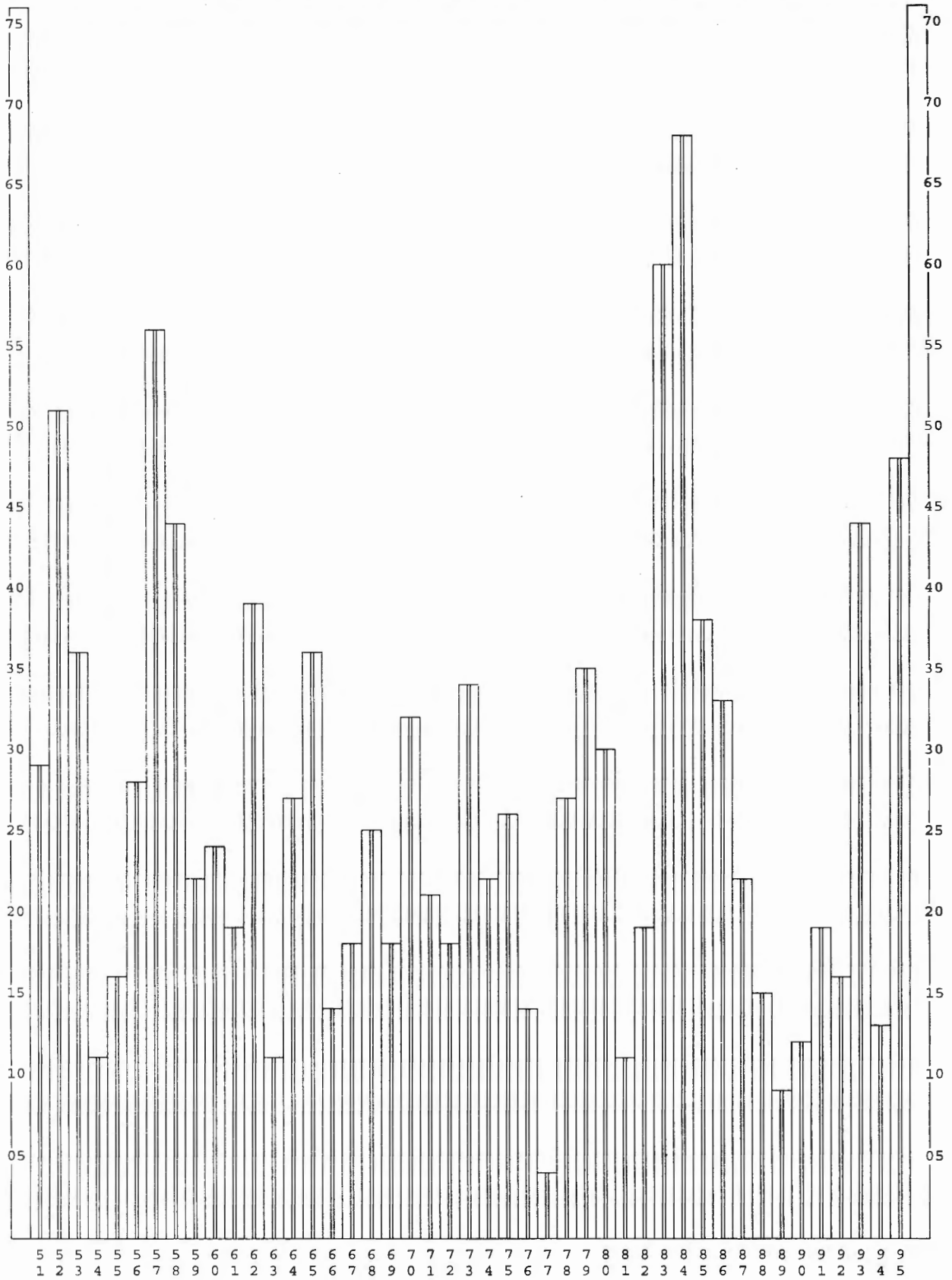
Flying back into L.A. at night,
I see stars here as well, all fallen neatly
to earth, laid out upon the ground in rows.

An endless grid of grounded stars
are waiting as we land.
tamed stars, lowered from the sky.

But it's okay. I can go home.
Stars are still out there in the wild
where they do not pave the rivers.

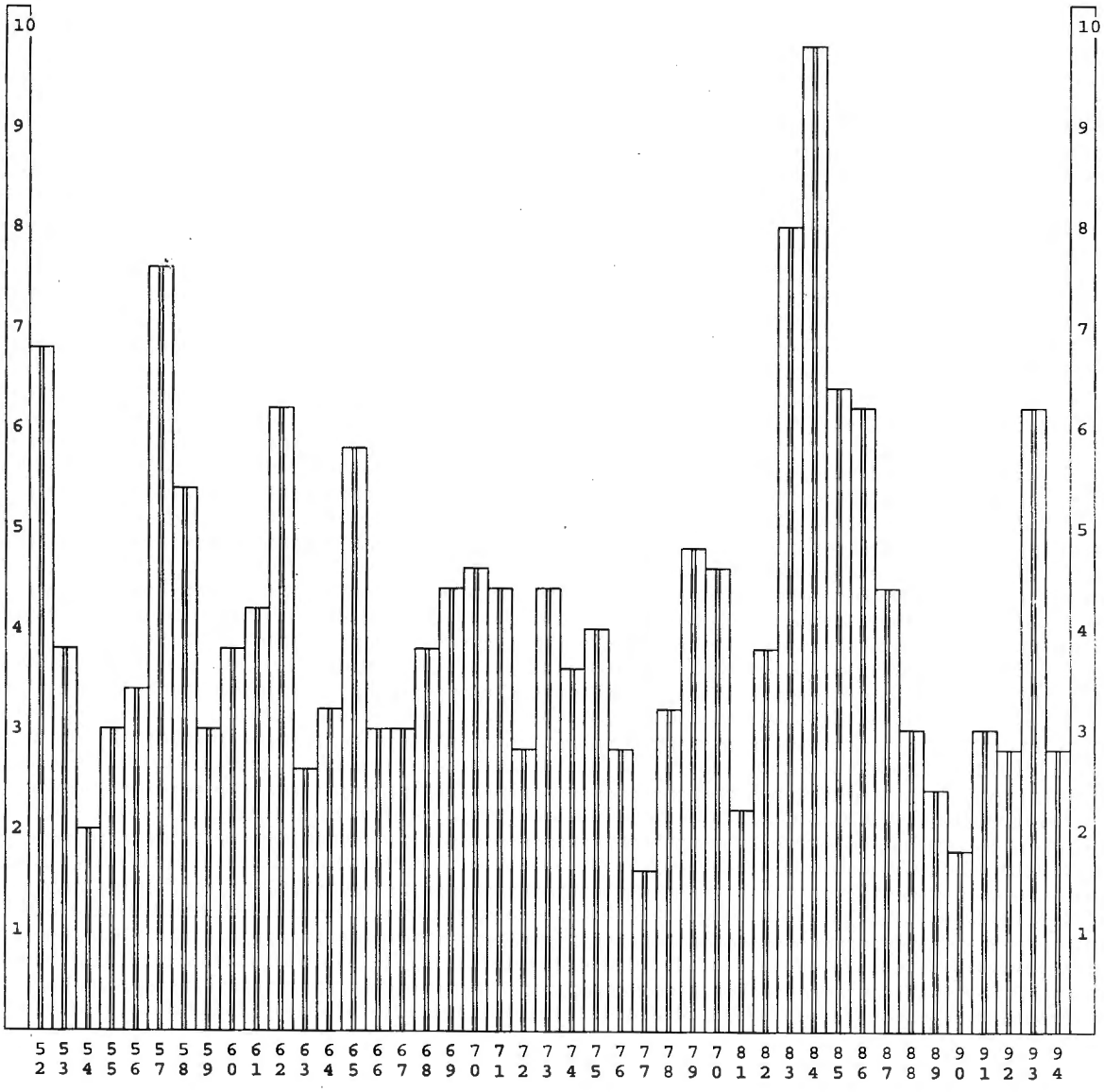
THE COLORADO RIVER

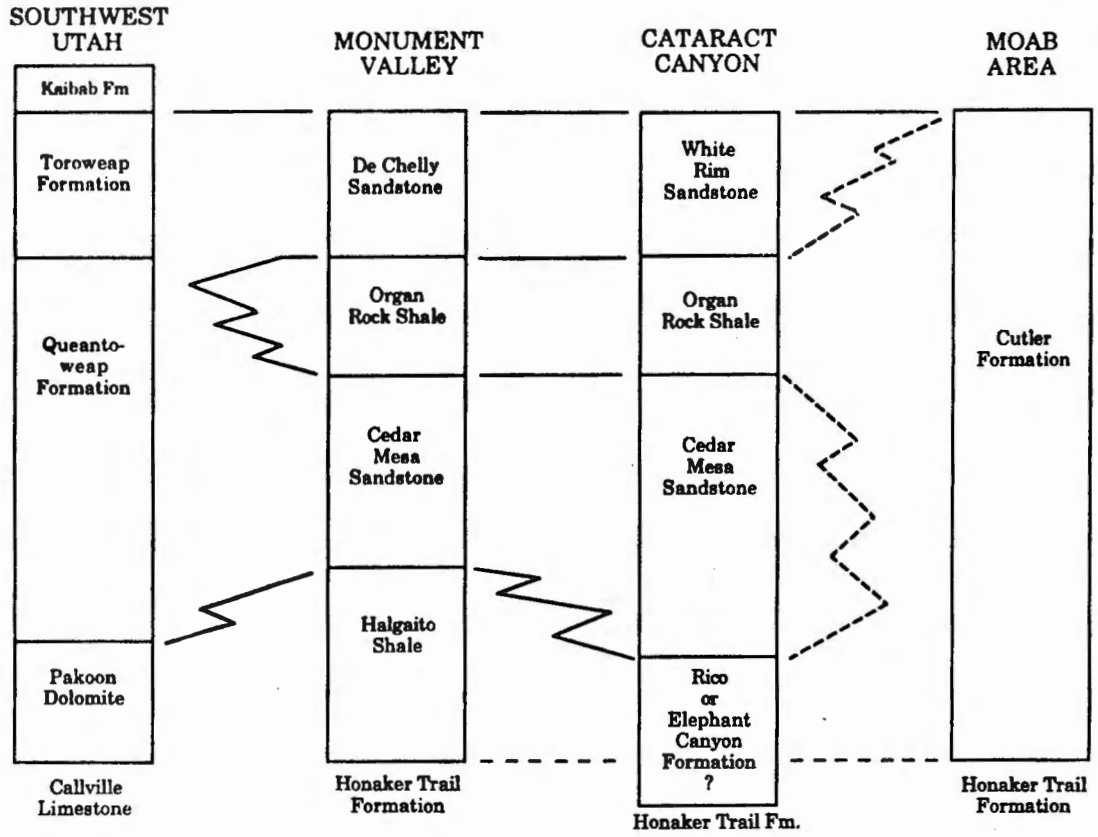
RIVER FLOW PEAKS AT THE COLORADO/UTAH STATE LINE USGS GAUGING STATION FROM 1951 to 1995. This would be an accurate flow for Westwater Canyon. Does not include the Dolores River flow. The Gunnison River was impounded circa 1963. Estimated flows are in thousands of cubic feet per second. This gauge was installed in 1951.



THE COLORADO RIVER

THE COLORADO/UTAH STATE LINE USGS GAUGING STATION FROM 1952 to 1994. Total of acre feet in millions from October to September. The year represents the end of the report in September. Does not include the Dolores River flow. The Gunnison River was impounded circa 1963. This gauge was installed in 1951.





1899: Cross names Rico Formation for exposures in the Rico Mountains, Colorado.

1905: Cross & Howe name Cutler Formation for exposures on Cutler Creek abt 4 miles north of Ouray, Colorado.

1915: Gregory names DeChelly Sandstone after exposures located along Canyon de Chelly, Apache County, Arizona.

1929: Baker & Reeside subdivide the Cutler in the Monument Valley area into four members: DeChelly or White Rim Sandstone (WR named after prominent escarpment between Green & Colorado Rivers); Organ Rock Shale named after a monument south of San Juan River between Moonlight & Copper Creeks, San Juan County, Utah; Cedar Mesa Sandstone named for Cedar Mesa, a high area north or the San Juan River, west of Mexican Hat; and the Halgaito Shale for exposures near Halgaito Spring, southwest of Mexican Hat.

1948: Henbest indicates at least part of Cutler red beds at the type locality are Pennsylvanian in age. Also, Rico near Moab is Virgil (latest Pennsylvanian) and is Desmoines (middle Pennsylvanian) in age at the type section.

1954: Wengerd & Strickland note Rico beds are transitional between Honaker Trail marine & Cutler continental beds. Rico in Monument Valley is not mappable and should not be called a formation.

1957: Momper notes the DeChelly grades into the arkosic facies of the Cutler Formation.

1958: Wengerd & Matheny raise Cutler to Group status; raising its members to formations. They include the Rico in the Cutler Group.

1961: Baars says that rocks formerly assigned to the Rico transition facies should not be called Rico. He names the Elephant Canyon Formation as exposed in upper Cataract Canyon and notes it is Wolfcampian in age (earliest Permian).

The lower contact of the Elephant Canyon is similar lithologically to the Honaker Trail Formation so many geologists believe the Elephant Canyon should be included in the Hermosa Group.

1990: Loope and others, indicate the name Elephant Canyon Formation should be abandoned because it contains Upper Pennsylvanian fusulinids.

1994: Doelling & others map Permian part of former Elephant Canyon Formation as the lower Cutler Formation in the Potash amphitheater. Pennsylvanian part of former Rico transitional facies is included with Honaker Trail.

CUTLER FORMATION CORRELATIONS AND TAXONOMY

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

To preserve the integrity of your CONFLUENCE, please make a photocopy of this page.

☐ I would like to join CPRG. Enclosed are my dues.

☐ I would like to renew my membership to CPRG. Enclosed are my dues.

☐ I would like to give a gift membership to a friend.

Membership dues:
(Please check and write a check:)

( ) $20 per year.
( ) $100 for 6 years.
( ) $195 for life.
( ) $295 Benefactor.

Membership status:
(Please check:)

( ) Guide Member (Must have worked in the river industry.)
( ) General Member (Must love the Colorado Plateau.)

Name/Organization: _____

Company/Freelancer: _____

Address: _____

City _____ State _____ Zip _____

Phone: _____

Comments and suggestions:

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

The Confluence

The Journal of Colorado Plateau River Guides

Volume 3, Number 1 Winter 1996

Frank Dodge Continued

Piedra River

Icebergs in Cataract

Atlas Tailings

Affordable Housing

Mr. Fix-It

Cataract Canyon's Historic Flow Regime

America Outdoor

Guide Training

Editorials

Microplate

Dolores River

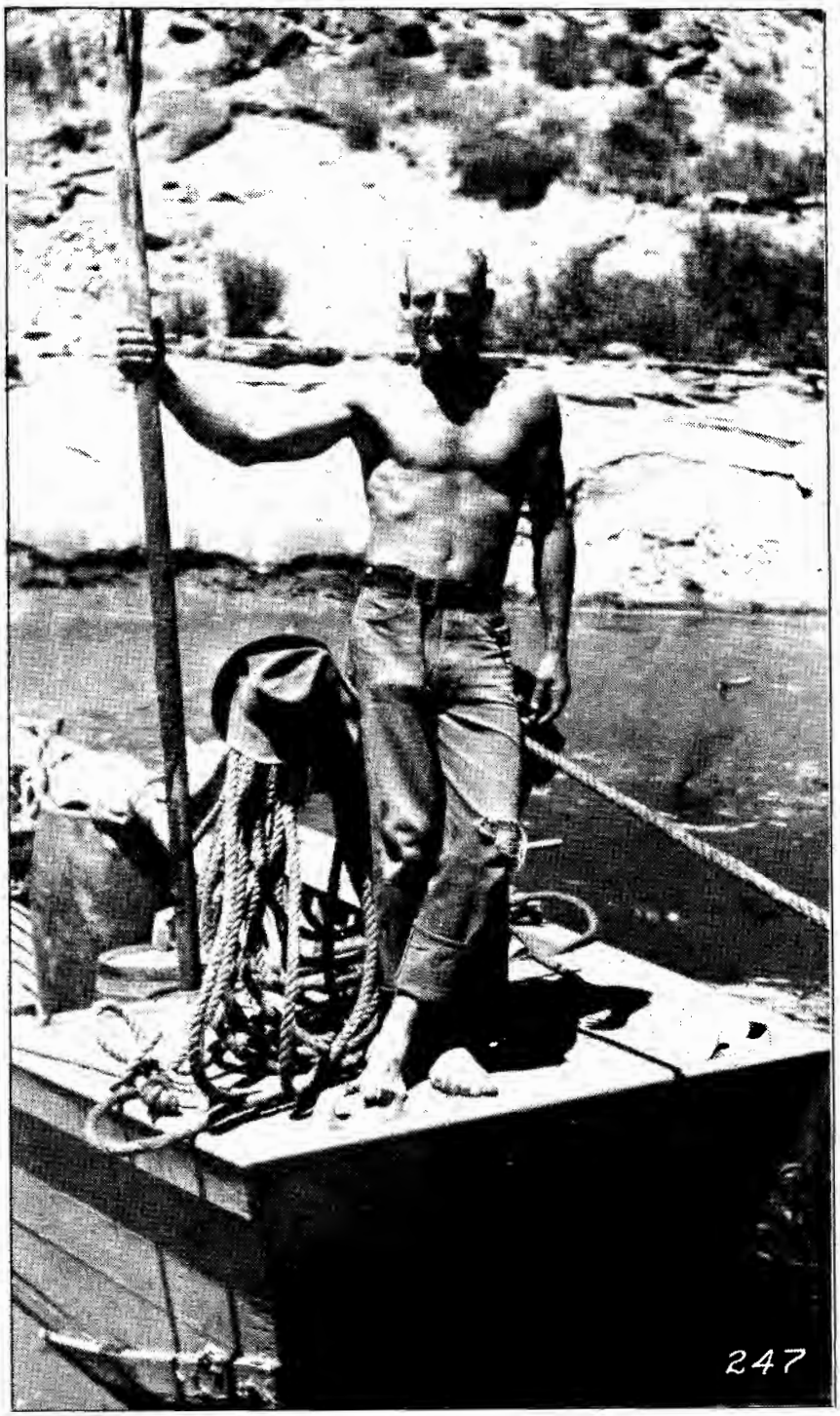
Paradox Basin

Big Bottom Pictographs

High Water Redux

Endangered Fish

(and more)



LaRue Collection #247: Frank Dodge standing on motor boat, Sentinel Rock Creek, Coconino County, October 8, 1921. Photo and caption by E. C. LaRue. Photo courtesy of the USGS, Denver.

The Confluence

...is the quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (c) (3) non-profit organization dedicated to:

* **Protecting the rivers of the Colorado Plateau.**
* **Setting the highest standards for the river profession.**
* **Providing the best possible river experience.**
* **Celebrating the unique spirit of the river community.**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau.

General Membership is open to those who love the rivers of the Colorado Plateau.

Membership dues:

$20 per year.
$100 for 6 years.
$195 for life.
$295 Benefactor.

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Susette DeCoster-Weisheit
Vice President	Michele Reaume
Secretary/Treaurer	John Weisheit

Directors

Bluff	Tom Rice
Green River	Sean Brown
Moab	Steve Young
Vernal	Vacant

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Word Perfect 5.1 on an IBM PC. If you use a word processor, we can translate most programs at CNHA, which uses IBM and MacIntosh programs with various disc drives. Otherwise, please send your text double-spaced. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

A Disclaimer

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing or supporting viewpoint please send your comments to CPRG.

Affordable Housing Survey

On page 29 and 30 of this issue is a survey for you to fill-out concerning affordable housing for seasonal land and river guides. It is Moab specific but all are invited to participate. See page 28 for further details.

New Board Member

We give a special thanks to Tim Thomas for serving as the first vice-president of CPRG. Michele Reaume is joining the board as our new vice-president. We are presently short a Vernal Director and are asking for a willing volunteer.

CPRG Honorary Member Nominated

We have nominated our first CPRG honorary member for meritous service to our mission statement. When CPRG first started Jeanne Treadway, then executive director of Canyonlands Natural History Association (CNHA), helped CPRG to secure a 501 (c) (3) non-profit status through the CNHA umbrella called Canyon Country Volunteers.

Special Thanks To:

Peter Lawson for a Benefactor Membership.
Michael Smith for a Lifetime Membership.

Financial Report

We have a balance of $2700 before the printing of this issue.

Spring Meeting

The CPRG Spring Meeting will be held 9:00 a.m., May 3 and 4, 1996, at the Dan O'Laurie Museum, 118 E. Center, Moab, UT.

A Guide Training River Trip

There will be a river clean-up trip through Cataract Canyon May 6 - 9, 1996. Educational talks & activities will be conducted. Ask your employer for details.

Letters to the Prez

IN RESPONSE TO DRUG TESTING

Dear Susette:

Hello, it's just "squeak" here putting in my two cents worth. As you might have guessed, I was outraged by these new "prospectus" requirements. In particular the drug and alcohol thing. You know me, I choose not to use drugs; however, I don't think that my drug orientation has any barring on guiding rivers. I think you know as well as I do that some of the finest guides the Colorado Plateau has to offer, occasionally smoke dope. I do not condone it at all, I believe that the government involvement in peoples lives has already been over extended. This is just another bureaucratic endeavor to further infringe on people's rights. I think this bill is aimed at a class of people that do not have a large income and is therefore discriminating. I mean come on, has Bill Orten been asked to pee in a cup to ensure that he is doing an adequate job in congress. Furthermore if we could tell whether or not an individual was doing an adequate job in anything, politics or other wise, simply by the contents of their urine, well, we'd be living in a perfect world with perfect jobs for everyone. The fact is, drug testing has no barring on whether or not a guide can do his/her job.

The alcohol thing angered me even more. I can remember a Westwater trip when a strange man hopped on my boat and gave me two gallons of pre-mixed margarita. After a long day in the canyon we parked our boats, the other guides and I shared some of the concoction. After a wonderful dinner and desert with enlightening and slightly tipsy conversation we experienced an out break of champaign and whipped cream warfare. Sound familiar? Now, I would guess that if a city slicker policy maker were to hear that story, they might conclude that the presence of alcohol was inappropriate. But, that's not true. You were there, I would say that the people on the trip loved it. The folks on my boat drank all the mixture of the first bottle before we even got to camp.

Now, I think that to associate drugs/alcohol with unsafe river trips is an assumption that policy makers should not make. And I would ask such policy makers why and when did they start caring about the boatmun in Utah? Let's suppose I were to take a trip down Cataract for the first time and the water level was in the 60,000 cfs range. If my options were to go with a clean and sober first year boatmun or go with someone with years of Cataract experience, who may or may not be 100% clean and sober, I'd choose the experienced boatmun any day. I realize that this example is grossly over simplifying the issue at hand. I will say that experience is more valuable when dealing with safety issues, than any other aspect of river running. I seriously doubt that any of the prospectus even mentioned experience. Quite frankly, I think that the government proposals have little to do with bettering river trips and therefore have no validity.

Lastly, I would like to draw attention to the task of enforcing such policies. Who will pay for this? Who is paying for the steps that have already been taken and can we boycott them (ok, ok, maybe I'm getting a little dramatic here)? But I mean jeeze, am I going to have to pull some clueless DEA agent out of The Room of Doom? Is this going to be a rewarded strategy thing? "Just nark on your fellow boatmun and we'll pay you more money". I think that enforcing such policies would be a costly, bureaucratic nightmare!

OK, enough squeaking for today. Here are my renewal dues. Good luck to all in CPRG, happy holidays.

Annie Tueller

A Response To Coffee Making

Dear Prez:

Been meaning to write you on this one. COFFEE. I too have been involved in numerous caffeine related discussions on river and off. As to the proper, best, or only way to make coffee. Some include: not the swing, but the egg shell method--where you drop egg shells into the coffee to make the grounds sink. The drizzle of cold water on top of the grounds, and, the beating of the side with your channel locks. I prefer a bit of the drizzle method (who has cold water--I use what there is!), along with the swing method--but ever since seeing a pot fly--I don't do the "round the world"... But I must agree--the most important thing is simply <u>having</u> coffee and making sure its strong enough to hold a spoon up. I fill the lid up with grounds--in a <u>heaping</u> manner and then add a touch more for a full pot (probably five handfuls!)

But the worst is simply not having any. And second worst is what I experienced on my last trip--filled the <u>can</u> of coffee with packets of coffee he found in the warehouse. They were INSTANT CRYSTALS! Whoever put them on the shelf in the first place should have to go thru what our fellow guide did--for the <u>seven</u> days we had to suffer thru instant coffee mornings. Thanks for visiting the other day--your vegies are delightful!

Carol Van Steeter

THE TAILINGS TASK FORCE

The Atlas Uranium Tailings Pile Near Moab

Dear Friends:

Thank you for your participation in the Atlas Tailings Public Information Meeting on November 16, 1995. Many of you have asked what you can do NOW, prior to the release of the Draft Environmental Impact Statement (DEIS). Our suggestions and an update follow:

1) If you haven't already done so, PLEASE REQUEST THAT A DEIS BE SENT TO YOU AT YOUR HOME STATE ADDRESS. Send this request to:

Mr. Myron Fleigel, Project Manager
Uranium Recovery Branch
U.S. Nuclear Regulatory Commission
Division of Low-Level Waste management
NMSS (5E2)
11555 Rockville Pike
Rockville, MD 20850

2) William Sinclair of Utah's Department of Environmental Quality has expended a tremendous amount of energy and support on behalf of this project. You may also WRITE A "THANK YOU" AND "PLEASE CONTINUE SUPPORTING THE INTEGRITY OF THIS PROCESS":

William Sinclair, Director
Division of Radiation Control
Department of Environmental Quality, State of Utah
168 North 1950 West
P.O. Box 144850
Salt Lake City, UT 84114-4850

3) We plan to put together work groups to review the numerous technical areas within the DEIS. If you have expertise in a particular subject, special interest in a topic, or just want to help, please call Oni Butterfly at (801) 259-8683.

4) Since the meeting, Oakridge National Laboratory (ONL), an independent lab hired by NRC to prepare the DEIS, contacted the Task Force to ensure that they understand the scoping issues. It appears that they are making a concerted effort to address the Community's concerns. It remains to be seen how detailed the analysis will be regarding these specific areas of concern. The Task Force feels it would be premature to react to what we THINK might be in the DEIS so we are NOT encouraging you to contact any Congressional delegates at this point in time. However, this plan of action might be a VERY VIABLE one once the DEIS is released and had been reviewed.

Thank you for your continued support.

The Tailings Task Force

Editor's note: CPRG received the DEIS on February 20.

COBBLE TALES

by BRETT LECOMPTE

Like ancient black seeds
clustered together
on high, blond, alien sandstone,
lost cobbles
strain to recall
a jagged, icebound homeland
known as
Mountain.

In hushed whispers
beneath a sun too hot and dry,
they speak
of their savior,
of thick, cool, liquid wind
called
River.

The cobbles remember
the pilgrimage:
tumbling together,
smoothing youthful rawness,
collecting wisdom.
They cry,
"Why have you abandoned us,
O' Blessed River?
Return
and take us into your arms
again."

Insolent sandstone mocks
the mournful cries
of the odd, rounded Old Ones,
yet also dreams
of an afterlife of oneness
with
Ocean

Wilderness Medicine Seminars
Winter and Spring 1996

WILDERNESS MEDICINE INSTITUTE, INC.
P.O. Box 9; Pitkin, CO, 81241; (970) 641-3572

A. WILDERNESS EMERGENCY MEDICAL TECHNICIAN

This course is designed for outdoor leaders, search and rescue members, backcountry rangers, rural ambulance attendants, and other individuals who provide emergency care in remote settings. While fulfilling the DOT requirements for certification, this 180 hour program significantly expands the required topics to address the issues involved in extended care and introduces backcountry rescue techniques.

Classes are held in Pitkin, Colorado: January 1 to 26
Cost: $1,470 - $1,495 May 20 to June 14
Phone: (970) 641-3572 July 31 to August 25

Price includes tuition, lodging and meals. Please call for additional listings.

B. WILDERNESS FIRST RESPONDER

This course is designed to provide outdoor leaders, guides, rangers and travelers with the knowledge needed to deal with emergencies in remote settings. It is an 80 hour curriculum, meeting all the DOT national standards for First Responder with additional protocols for extended care situations. Emphasis is placed on prevention and decision-making.

Classes are held in various western states from January to June, 1996. Please call for course information and prices: (970) 641-3572.

C. WILDERNESS/RURAL EMT MODULE

This module combines wilderness/rural issues with applications of emergency and rescue. The curriculum is based on the NAEMSP Rural Committee's guidelines and Wilderness medical Society's WPHEC curriculum. Approved by the National Registry of EMT's for continuing education credit.

Classes are held in Pitkin, Colorado: April 18 - 23; $224; (970) 641-3572
Classes are held at the University of Utah: May 12 - 18; $TBA; (801) 581-4512

D) WILDERNESS FIRST AID: MAY BE USED AS A WFR REFRESHER

Offered since 1975, this two or three day course is used by many organizations to introduce first aid and long-term patient care to trip leaders, camp counselors, guides and rescue team members. In addition it is often used for recertification by those with previous training.

Classes are held in various western states from January to June. Please call for course information and prices: (970) 641-3572.

E) WILDERNESS EMT/WFR REFRESHER

This recertification program qualifies as an EMT-B refresher for the State of Colorado and the National Registry of EMT's. In addition we will review and update the SOLO-WEMT and WFR curriculum. many other states will accept this refresher. Call the certification authority in your state to confirm acceptance.

Classes are held in Pitkin, Colorado: April 18 - 23; $224; (970) 641-3572
WEMT Refreshers are $225. WFR Refreshers are $180. Price includes tuition only. Please call for lodging and meal information.

GUIDE AND OUTDOOR EDUCATOR TRAINING FOR THE 1996 SEASON

CANYONLANDS FIELD INSTITUTE, INC.
P.O. Box 68; Moab, Ut, 84532
(800) 860-5262; (801) 259-7750; Fax: (801)-259-2335

A. AMERICAN RED CROSS EMERGENCY RESPONSE: April 15 - 20, 1996

Instructors: Sheri Griffith and Jim Braggs

This 48-hour course is designed for any professional who may be called upon to give first aid in the line of duty; especially for outfitters and guides (replaces/exceeds Advanced First Aid, includes CPR). Lectures, videos, outdoor practicals. Provides 3-year ER and 1-year CPR certification.

Fee: $195 ($180/CFI Members). Deposit: $75.

Note: Emergency Response Recertification Courses start in 1997.

REFRESHER - WILDERNESS FIRST RESPONDER: January 15 - 18, 1996

Instructor: Steve Lyons*

32-hour refresher course for those renewing Wilderness First Responder certification. Includes CPR. Provides 3-year WFR and 1-year CPR certification.

Fee: $225 ($210/CFI members). Deposit: $75 (Optional lodging/meal plan available).

B. WILDERNESS FIRST RESPONDER: **January 20 - 29, 1996;**
March 24 - April 2, 1996; May 28 - June 6, 1996

Instructor: Steve Lyons*

This 72-hour course emphasizes backcountry care in a prolonged transport context. Includes CPR and exceeds requirements for Red Cross Emergency Response; preferred by National Outdoor Leadership School (NOLS) and Outward Bound. Lectures, videos, outdoor practicals. Provides 3-year WFR and 1-year CPR certification.

Fee: $400 ($385/CFI members). Deposit $150.

C. EMT REFRESHER COURSE WITH WILDERNESS EMT CERTIFICATION: March 11 - 19, 1996

Instructor: Steve Lyons*

This 56-hour course provides EMT-B recertification and provides Wilderness Upgrade based on recommendations of the Wilderness Medical Society. Meets State of Utah continuing education requirements for EMT. Outdoor practicals.

Fee:$400 ($385/CFI members). Deposit $150

*Wilderness Professional Training courses taught by Steve Lyons, president, Wilderness Professional Training, Crested Butte, Colorado. Endorsed by the Wilderness Medical Society.

D. Ask about our: WHITEWATER ACADEMY FOR TEENS (ages 13 - 18): June 16 - 21, 1996

E. 1996 INTERPRETIVE AND RIVER SKILLS WORKSHOPS

Co-sponsored by Canyonlands Natural History Association, Utah Office of the Bureau of Land Management, National Park Service, Utah Guides and Outfitters Association, Colorado Plateau River Guides and Canyonlands Field Institute.

1.LEVEL I INTERPRETIVE SKILL: MAY 4 - 5, 1996

For first-year guides, this course presents an introduction to geologic principles, Colorado Plateau life zones, common plants and animals, use of field guides, naturalist "toolkit", and basic backcountry teaching skills. Outdoor practicals/video feedback. Based at Professor Valley Field Camp. Meals included.

FEE: $50 ($45/CFI members). Deposit: $15.

2. LEVEL II INTERPRETIVE SKILLS: May 11 - 12, 1996

For trip leaders and experienced guides, this course presents special topics selected from ecology, geology, cultural history and public land issues. Included are principles of communication and course design. Bring your favorite "bag of tricks" to share. Outdoor practicals/video feedback. Based at Professor Valley Field Camp. Meals included.

FEE: $50 ($45/CFI members). Deposit: $30.

3. LEVEL I RIVER SKILLS - COLORADO RIVER: April 19 (evening) - 21, 1996 or
May 31 (evening) - June 2, 1996

For novice river guides and private boaters, this course offers an introduction to river ecology, boat rigging, rowing and paddling skills, throw ropes, safety practices, basic boat patching, low-impact camp routines and etiquette. One night at Professor Valley Field Camp and one night on the Colorado River. Meals included.

FEE: $100 ($90/CFI members). Deposit: $30.

4. LEVEL II RIVER SKILLS - DOLORES RIVER: May 17 - 19, 1996

For boaters wishing to hone their paddling, rowing and river-rescue skills on technical (rocky) water. Exercises in "catching" eddies, strainer and foot entrapment rescues, shallow-water crossings, Z-line/boat wraps and boat repairs. Trip leadership, orientation talks, risk management, rescue protocol. Moab class session, two nights river camp. Meals included.

FEE: $150 ($135/CFI members). Deposit: $50.

5. WESTWATER CANYON RIVER RESCUE - Colorado River: April 26 - 28, 1996

An intensive course for experienced boaters. Class session in Moab followed by river trip on Westwater Canyon. Special consideration for rafting high-volume rivers: instream rescues, rigging, swimming rapids, righting flipped rafts, Z-line/rope work, safety talks, trip leadership, rescue/evacuation scene management. Moab class section, 2 nights river camp. Meals included.

FEE: $250 ($235/CFI members). Deposit: $80.

F. SCHOLARSHIPS

1) Full scholarship: Joy Ungricht Memorial Scholarship are awarded each year to women guides. One scholarship awarded for each interpretive and river skills/rescue course.

2) Half-tuition Scholarships: CFI Educator Assistance Scholarships are awarded to men and women guides, teachers, rangers, etc. to apply toward any guide course (medical, interpretive and river skills.

G. IN ADDITION TO SCHOLARSHIPS, you can earn up to 2/3 of your tuition prior to a course through volunteer service at CFI. Please contact CFI for more information about scholarships, applications, and volunteer credit.

The Saga of Frank Dodge
Part Two

edited by John Weisheit

For Part One please see The Confluence Issue 2, Volume 2. From a USGS publication compiled by the Tucson Office of the USGS in 1944. Brackets indicate editorial comment. Special thanks to Bob Webb.

1923 [Grand Canyon USGS Survey]

We left here [Lees Ferry] August 1, my birthday, and Mrs. Cockroft [wife of the USGS hydrographer stationed at Lees Ferry] had baked a cake and stuck in eighteen pieces of a candle, all she had, as a parting gift.

Freeman [Lewis R., boatman] had advocated the use of a 14-foot folding canvas boat for the rodman so I started off in that with my tongue in my cheek. It was easy to portage around rapids, such as Badger and Soap Creek, but below that I tried to run through a secondary rapid and the first wave slapped me out of it, filled the boat, and we went through side by each. The excitement that little upset raised makes me smile now. However, it wasn't long until, in lining it down a rapid difficult to portage [Cave Springs Rapid], someone either held a line too long or let go a line too soon. Anyway, it was crushed in the rocks and all we salvaged were the oarlocks [see photo next page].

We were running a stadia traverse, using a miniature plane table and special alidade with Beaman attachment. Our tie at the lower end were three monuments set up by Burchard [R. W., topographic engineer] the previous year at the end of the Canyon. This was to supplement the topography already done in the Park. Of course, as we went downstream from two to four miles a day, Burchard would sketch in roughly what was visible and intersect rim and intermediate points. It was good enough tie for latitude and longitude and there were already levels run in to the river at the Little Colorado, Bright Angel, Havasu and Diamond Creek.

I gave my Abercrombie and Fitch sleeping bag that Birdseye [Claude H., chief topographic engineer and trip leader] furnished, to the cook [Frank Word]. Those early bags were built for vertical rain only and had too much red flannel sewed in them for August weather anyhow. I was tough then so all my bedding consisted of was an 8 X 8 foot canvas; going almost naked, it meant that when I jumped ashore, I was practically landed for the night.

Not having a boat to run through a rapid and not wishing to be a bystander if anything could be done to help, and knowing the first boat through was always in danger of cracking up, perhaps injuring the boatman, too, and without aid available, I made a practice of going to the foot of a rapid with a coil of throwing rope. I'd pick a spot I wasn't afraid of diving into if necessary, or a good rope-throwing spot, and wait for the first boat. Once LaRue [E.C., chief hydrologist] wandered down to where I was standing and asked, "Why do you always come down here, Frank, when the excitement is up at the top?" Well, I told him it was the only thing I could think of to give the first boat a hand if needed. "What do you mean," he asked, "Would you go after a boat from here to help?" And when I said, "Sure, I would," he turned about without another word and left me. I knew right then that in his mind I was nothing but a whopping liar. Several weeks later I vindicated my assertion. The lead boat [The Marble, Emery Kolb, lead boatman] went over a hugh rock, falling into a hole below, and turned over [Upset Rapid]. A third of a mile below it, there was I looking directly upstream and seeing all that went on. The boatman seemed to be muddled and was doing nothing except floating towards Yuma and points further south. The boat would pass me about seventy feet off, so judging its speed and my swimming, we met where I'd expected to meet. I grabbed for the painter and started back to shore. And was I a hero! That night Birdseye came to me and said, "I think you're worth a boatman's wages after this. From now on you're getting $200.00." Don't let the above make you think I thought I was a hero. Hell no; but I've never got over the attitude of non-swimmers to what is possible and what isn't. The least little agitation to the water scares 'em -- as it should -- but they keep thinking it's dangerous for all.

I forgot to mention there were four boats, two 18 1/2 footers [Marble; boatman, Kolb. Glen; boatman, Elwyn Blake.] weighing about 900 lbs. empty and two 16 footers [Grand; boatman, Freeman. Boulder; boatman, Leigh Lint]. With the loads carried, it brought the weight of the larger boats to at least 2,000 lbs., not to mention the oarsman and two passengers. Plus valuable equipment, maps, instruments, etc. Being strictly a business proposition, it was foolish to take chances. A lost boat would have meant the end of the survey. It was here Emory [Emery] Kolb used his head and Birdseye gave him his head. That is where Birdseye shone. Too many men hire a head boatman; then when on the river, seem to forget what he was hired for. And Emory was old enough to be able to read of others running a certain rapid and not let it influence his actions of the moment.

At Lava Falls the Little Colorado flood hit us. We'd been running on about 20,000 second feet and had camped at the head of the worst rapid in the river when at 10 p.m. the cook woke us all with a yell. He'd been almost afloat. I've forgotten the details, but I think the river rose in 24 hours to about 120,000 and the drift was a sight to be seen. Cottonwood trees battered and torn, road and railroad bridge timbers--well, let it go--you can imagine what 100,000 would pick up in the Little



LaRue Collection #362 - Wreck of the canvas boat *Mohave* at Mile 25.2. Photo courtesy of USGS, Denver.

Colorado basin. This held us up three days. In due time, we tied into the three reference points Burchard had established near the end of the Canyon and from there on we just rowed and sailed into Needles making that port on October 20.

[In 1924 Dodge goes to Alaska and does more survey work for the USGS]

1927 [Pathe-Bray Movie Production]

...a man named Bray in Los Angeles [wrote him a letter] asking if I would accept the job as head boatman for a movie outfit and what would be the price. Would I! I spent the night mentally jumping from $500.00 per month (Emery Kolb's salary on the USGS trip, and too much) down to $200.00 and finally decided they'd pay $300.00, which seemed fair to my unwise money brain. Later I discovered that LaRue was signed up as technical advisor at $250.00 per week and had a six month's contract. 1927 was a high peak in movie spending and if I'd asked $1000.00 I'd have got less not less than $750.00 in the end I know.

On meeting Bray in Los Angeles, I found out he was so-called originator of the animated cartoon--that his wife wore the pants and controlled the purse strings--that in New York he had thought up the idea of making an educational or historical picture depicting Powell's river trip of 1869--that not having quite sufficient funds he must tie in with some going concern which turned out to be Pathe--that for the next four months, while I practically marked time in L.A. on $450.00 a month ($150.00 was for living expenses), they squabbled. All Pathe wanted was the gate receipts and they insisted on romance. There must be Love and plenty of it or who would care to look? So it was To Hell with Powell and let's call it "The Bride of the Colorado" with John Boles in the leading part to pull some female from those "terrific rapids". Four months were spent at the Joslyn Hotel with frequent telephone calls to Mrs. Bray dunning her for money. About twice a week I made a trip to Wilmington, to the Fellows and Stuart yard to inspect and give them a payment on the six boats being built



LaRue Collection #358 - A miner's cache discovered. Inventory: rubber boot, bucket, saw, brace, three bits, coffee grinder, shovel, 15 traps, hammer, tin snips, stew pan, gig, rivet punch, ax, awl, plate, flour sieve, piece of leather, and a handful of nails. Dodge is far right. Photo courtesy of USGS, Denver.

there. Once I took them an eleven hundred dollar check which bounced and I was nearly killed when I showed up the next time. A check needed both Mrs. Bray's and the Pathe treasurer's signatures to be any good and this I'm sure she knew, but from the start to the end we all had trouble getting paid. I think she was working on the assumption that if she held out on us and the picture failed, she then wouldn't lose so much. If the picture was a hit, everybody would be sitting pretty, but we weren't in on a gamble; they were the gamblers, not us.

LaRue with his $250.00 a week had an air-tight lawyer's contract with every i dotted and t crossed so was O.K. when calling for his check, but anyone who accepted Mrs. Bray, sight unseen, was just begging for trouble.

They had hired a young publicity man named Barber who was about six feet four and had exceptionally long and narrow feet; on pavement one had almost to run to keep up with him. Feet had always interested me for it's feet I think that puts a man in his proper place and as Barber was apt to brag, I'd look at his face and then at those long pointed shoes and think, how come? He'd rowed boats all over the World--had sailed a schooner single handed from Kingston, Jamaica to New York, and had been a regular hell cat in the great out-of-doors. One day after making a recommendation that the Company supply one rifle for the whole party and ban private guns and cameras just to save space, Barber looked up and said, "Listen, I've got a .30-06 that I used in Mexico and I'd be glad to take it along for the gang." Then he continued to tell how many Mexicans fell to this gun while I figured it'd save buying a new carbine. Later, three days out of Green River, Utah, Barber brought forth an old Krag-Jorgensen musket with wood running up to its muzzle and using our very good, but now seldom seen, .30 U.S. Army cartridge, sometimes called the .30-.40. A crowd hovers around Barber as the first .30-06 shell gets half way in and sticks. A lot of arguing is going on so I pulled LaRue aside and told him the only similarity between the two was that both were .30 caliber and so were a lot of other guns, but the similarity ended there. "Better throw it in the river," I said, "and then get used to going without meat now and then." This LaRue did while Barber looked fit to be tied.

My first and only experience in Hollywood left

me with the impression that the place is run entirely on plain unadulterated "bull". Barber's feet turned out as I thought they would. Off the pavement he was helpless and if he'd sailed as he said he had, then I was the skipper of the *Merrimac*.

I saw to it that Owen Clark [Dodge met Clark at Lees Ferry in 1920; probably a part-time USGS employee] was engaged as a boatman and tried to get Cockcroft [Lees Ferry hydrographer], but his wife wouldn't allow it. Too dangerous, she said. That's a woman for you! So LaRue and I scoured the beaches, picking up a young college student who was a life guard at a pool. Hired two Russians who were expert swimmers and oarsmen, from the life saving business and, as LaRue had a friend in Alhambra who was crying to go, I took him as the sixth boatman. He, Val Woodburry, is one of Alhambra's leading men and a fine fellow he turned out to be, but I always think of him as my political boatman. He had the spirit just like Louis R. Freeman had, but he wasn't equipped physically. There was about 200 lbs. of him, set low over little tiny feet. There goes feet again. That leaves only large broad feet that are any good and that's correct for there is a heck of a lot of footwork to do in taking a "heavy party" through the Canyon, all on or over rocks both above and below water.

In August someone spotted a newspaper clipping about one Clyde Eddy leaving Green River, Wyoming [Green River, Utah] with a bunch of volunteer college students in three boats. That item almost wrecked our picture. "Why?," I asked and they replied, "Don't you see what their publicity will do to our publicity?" I didn't see, but then, I wasn't used to Hollywood's shenanigans anyway. Well, Eddy came through with only a couple of mutinies, a praying cameraman who quit here, near starvation and losing one boat, or was it two [one]? Parley Galloway (son of the old man!) [Nathaniel Galloway] did the trick really (If you can call it a trick?). The biggest trick is to get the young ones to do their proper share of the chores!

In some miraculous manner we got to Green River, Utah about Nov. 1, (1927) with the Governor and a bunch of school children to see us off. There were six boats and 13 men for the take off. LaRue, as technical advisor, was in charge. There was a movie director and two cameramen and Barber. Also a loaned Army sergeant to spread the bull via radio (which never worked) and John the cook, from Vienna. And of course, "us-uns", the boatmen.

I'd like to say we had exceptionally low water when I think of Cataract Canyon and our heavily laden boats, but I'm afraid someone might look it up and make me a liar [average 9000 cfs]. Anyway, in Cataract in one day we made but nine-tenths of a mile. As we quit in late afternoon we could look upstream and see smoke from our morning's fire.

LaRue had left word to expect us here at Lees Ferry in about three weeks. We were here in 21 days! And so Hollywood, thinking it good publicity, not having heard from us by radio decided to increase gate receipts by claiming we had met "disaster" and were long overdue. They sent back to New York for Eddy [Clyde] to come to Lees Ferry to rescue us, incidently tying him up in a nice contract that prevented him from writing anything on his own trip.

In some hokus pokus way they got an army plane to come out from Texas and scour the canyons for us. This plane was wrecked near Cedar Ridge. By the papers and radio they had Indian runners out, skipping from crag to crag, and returning with "No-see'um." All this we knew nothing about. We saw no plane and certainly no Indians hopping from point to point. On arrival and on full stomachs, they spread the news that "The Colorado River explorers" were starving and had missed death by only a hair's breadth. They were building up interest in the coming De Mille [Cecil B.] super.

I met Eddy for the first time and he was just another business man with a dream come true. He had conquered the Colorado!

We piled into Buck Lowrey's Lodge [Lees Ferry; Dodge first met Buck at The Gap Trading Post in 1920] (now the engineer's house) or I should say Owen Clark's bailiwick since Buck had been living with him and did until the bridge [Navajo] was completed. Buck had an 18 year old Mormon girl from the ranch helping in the kitchen and I remember her standing in the doorway joining the two rooms, mouth agape and a dull glaze in her eyes as she tried to take in the wise cracks of these "Hollywood bigshots." She'd come to the door with plate and dish towel, stand wiping awhile until, unconsciously her hands would drop and she'd just look! Then she'd remember her hands and up they'd come again to resume work.

The gang knew about the battle of the checks so when we received ours here with only Mrs. Bray's signature on them we decided to strike. However, when LaRue and the landborn representatives of the Company took up the fight for us, we decided to go on to Phantom Ranch, but no further. We sent word around by car to Grand Canyon that it had to be cash this time or we'd be whittling the boats up for kindling. We knew the actors were to be at Hermit Camp and use Hermit rapids some 20 miles downstream for the love shots so we'd still be in good position at Phantom to make demands.

Halfway through Marble Canyon Eddy came to me and asked, "Frank, what have I done to make certain of the men in camp dislike me?" "Well, Eddy," I said, "You've just done gone and grabbed off too much of our publicity, don't you know. The blighters don't like it," or words to that affect. You see, some of them didn't like having him come out and rescue us and he being rather small it was sort of natural to have him resented in camp. Hell, it wasn't Eddy's fault. He was just being payed to act. As long as we got paid and ate well I could see no reason to dislike the son-of-a-gun so when

we parted at Phantom, Eddy said, "You'll be hearing from me; I have plans." Those plans turned out to be a river trip down a part of the upper Nile, but Owen said later that he understood it to be the upper Euphrates or Nile; it doesn't matter for Eddy was able to scare up only $35,000.00 of $100,000.00 asked for.

Our checks turned out to be of the single signature variety again so we settled at Phantom for an indefinite period with a guard at the boats. We'd change guard every two hours and about every two hours the phone would ring, a call for some boatman. When at last my turn came the conservation went something like this: Hello, this you Frankie?"--"Now, Frankie, I promise you those checks will be good"--etc.--"Mrs. Bray, this has been going on since July and we gave you notice--cash or nothing. We don't move without cash." In two days it was there, made up of certified checks, express orders, cash and what have you. They rustled around on top and got it somehow and I learned later that a high Pathe man had arrived and, being shocked to find how Mrs. Bray was handling things, had turned to and helped out of his own pocket.

It was tough to have to leave those thick steaks and Blue Ribbon beer, but we finally waddled down to the boats and took off for Hermit's rapid.

On Arrival, there was quite a gang waiting, half tourists and about half made up the cast, some hundred odd people altogether who cheered the lousy strikers as we come in sight.

That must have been a cold winter for mush ice began running pretty thick though not thick enough to interfere with crossing and recrossing at the head of the rapid. We'd arrived at a flat rate of $25.00 for each boating stunt pulled off and, as they wanted to show Boles and the girl in action, they picked Owen for the female, (he was the nearest size) dressed him as a girl with golden curls and, as I was nearest to being Bole's size, we swapped clothes. They wanted us to capsize, but didn't have the heart to ask for it, only kept saying, "Come as close to that sunken boulder and wave as you can." Well, Owen lay down on the after deck making sure to expose his pretty knobby legs, (the curves were in the wrong places) while I manned the oars. The first wave hit us broadside at the top and over we went. We had an empty boat and I'd forgotten the difference there is between one that is loaded and
one unloaded and had taken this on the side on purpose to be able to maneuver better later on. About six cameras were clicking as we sped past, the while I was wondering and looking around for Owen and working to the stern and the long U bolt to hoist myself atop the bottom. When I made it I found Owen at the bow, hoisted him up and, remembering the cameras, clasped him in my arms saying, "I'm doing this for money, not because I like your looks for you look terrible." He had a gash across his cheekbone and was bleeding freely. A stocking had come loose from a garter and yellow hair plastered his face and altogether he looked not as a heroine usually does. But a wave caught us in this embrace and over we went again so we slid into quiet water as we made the top the second time.

We spent a week here I think, running the rapid time after time in different poses, pulling dummies off wrecked airplane wings and at the end cut the boats in two leaving just a thread of wood at keel and rails and then shoving them out in the current hoping they'd break up in the rapid. One finally did come apart.

They told us the trip would end here for they were loaded with film so we climbed mules for the top about Christmas time with two weeks more to do in Hollywood for interior shots.

On getting into Los Angeles what should we see but a long string of studio cars lined up at the curb with painted banners telling the world that "The Colorado River Explorers return," "Colorado River Finally Conquered" and such tripe. We were scattered among the cars and when they ran out of beards and old clothes they waited until they'd found enough likely looking bums to place one of them or us an outside rear seat. Then we zigzagged through town--up main street and down broadway until finally we hit the studio and a banquet laid out on planks and sawhorses. Liquor flowed freely-- even the cops took too much [prohibition was repealed in 1933] to drive their motorcycles home to L.A.--but maybe they were studio cops! The next two weeks is just a hazy memory of doing the bidding of cameramen or directors mostly in camp scenes, but what does stand out clearly is that we were told we had to make a bow at the opening of a new Long Beach theater. They promised us we'd be well soaked and our senses dulled at the proper time which quieted the objectors. On this night we arrived early by a studio bus--were ushered to the rear and into one side wing off the stage and in peeking through the peep hole, we could see about ten pretty girls and several men occupying chairs in a semi-circle of about 50. The theater was filling up while someone started to make a speech when the door opened in our compartment and a voice said, "Here you are boys, help yourselves." There on the floor lay half a case of scotch, a pitcher of ice water and glasses. In respect to drinking, Hollywood is efficient. Here they had a bunch of punks in a new role and they weren't going to let us down. By the time we reached the stage singly, each one taking a bow, no one cared whether school kept or not. You'd have to stand there with a silly grin on your face while the Master of Ceremonies recited your great courage, but some non-believer high up in the gallery kept giving us the razzberry. Evidently a person of high intellect for everyone else clapped. Then a gentle push would send us to a chair where we just sat it out with Hollywood's best.

For more information please read the following books: Rough Water Man, a biography of Elwyn Blake, by Richard Westwood. River Runners of the Grand Canyon, by David Lavender.

AMERICA OUTDOORS CONFERENCE

by Michele Reaume

America Outdoors (AO) held their *Confluence* (the name of the AO conference) in Reno this December. AO is the alliance of Western River Guides Association and Eastern Professional River Outfitters. The slogan for this conference was *Improve Your Profitability* and there were workshops galore. These meetings addressed management stuff like strategies for risk management, hiring employees, teambuilding, peeking into customer service issues and hints to make for a productive staff meeting. Office concerns enveloped on how to increase marketing by working with travel agents, writing an operation plan in respect to agency permit policies and displaying retail items to increase in-house sales.

Also on the agenda were political issues. This, I believe, is the primary function of America Outdoors. Membership dues provide funds to pay Scootch Pankonin, a lobbyist, to maintain outfitter interests on Capitol Hill. Our own Action Alert's reflect some of these issues.

There were meetings at the regional level. Brian Merrill, of Western River Expeditions, is presently the delegate for Utah, where matters are first fielded in the America Outdoors chain. This permits a trend to be identified on the regional level or as a national eruption requiring intervention on the Hill.

Another activity encouraged the sharing of ideas amongst the attendees. The sessions were titled *Operations Network*. Thirteen tables espousing a mediator for a twenty minute discussion about such topics as: evaluating employee performance, contract labor/workman's compensation, dealing with drugs & alcohol, employee benefit programs, guide school and training, what's new in river rescue, conducting orientations, maintenance and care of equipment, and an equal amount of office topics. There were many outfitter/employer ears at these sessions. These sessions could serve as a neutral ground for expressing guide perspectives and can add to our knowledge of guide circumstances at the national level. Digested, this could add clarity to a guides future. I suggest CPRG make an alliance with AO--to act as a subcommittee on appropriate issues.

Beth Harper, founding owner of Man of Rubber, represents the commercial members voice on the America Outdoor board of directors. Beth is an exhibitor, not an outfitter, and also chairs the committee examining guide schools and training. This is an example of a possible alliance CPRG could undertake with America Outdoors. Who better to regulate the guides than a guide association? CPRG already has a committee researching into this topic (Consider this an invitation for you to document your concerns and write CPRG). Recently the commercial members have been granted voting rights on AO general policy. This inclusion indicates a dynamic to empower those affiliated with the outfitter/touring business. Guides should be represented too. Do you agree?

Richard Clark conceptualized a professional guide training program and stipulations were ratified. He is the steering committee chair for the Professional Guides Institute (PGI). During *Confluence* Richard also conferred with Karla VanderZanden, of Canyonlands Field Institute, concerning our proposed PGI for the Colorado Plateau.

Attention guides: we each need to motivate a personal involvement. Standards are being set for us and there *is* room for your input. PGI proposed that guides or candidates become members of PGI and that after completing 50 credit units of instruction become a certified interpreter of natural history. To remain qualified, the guide must stay active in continuing education classes. Guides or candidates can attend universities, PGI, Colorado Plateau Professional Guide Institute (Canyonlands Field Institute), or various firms specializing in appropriate material supported by PGI standards for professional guides. This meeting acknowledged that CPRG is investigating the merits of guide certification program utilizing the PGI curriculum.

Until December 31st, 1995, membership dues of $30.00 will list an individual as a charter member for life. Beginning January 1st, 1996, dues will be $35.00 annually.

Last year, Don Brigg's video about the ancestors in the Grand Canyon debut at *Confluence*. This time David Brown, AO Executive Director, aired a twenty minute video detailing the steps to planning and executing a community river clean up. The video hosts a glimpse of riparian ecology, emphasizes safety, and contends with the nuts and bolts of organizing a location, the volunteers, media coverage, equipment needs, entertainment for a festive atmosphere . . . the video wonderfully documents all aspects involved in an urban river cleanup.

Next year, the *Confluence* will be held on an island off the Georgia coast. AO is plugging for outfitters to bring as many staff members as possible. If your company could use some teambuilding, or you recognize other merits by attending, you might want to plug your employers to sponsor your attendance next December.

Editor's Note: CPRG is a member of PGI to stay current with their correspondence and to be involved with decision-making processes.

From the Recovery Program for the Endangered Fishes of the Upper Colorado

by the U.S. Fish and Wildlife Service, Denver

A Fact Sheet

Interactions between non-native and endangered fish in the upper Colorado River basin.

Background

The information in this fact sheet was compiled primarily from biologists with the Colorado Division of Wildlife, Utah Division of Wildlife Resources and the U.S. Fish and Wildlife Service. Additional information was provided by technical experts at the Bureau of Reclamation, Western Area Power Administration, BioWest, Colorado State University's Larval Fish Laboratory and Utah State University.

During the past 100 years in North America, 40 species and subspecies of fish have gone extinct; another 364 fish species are threatened with extinction. Biologists studying these fish believe the primary causes are habitat changes, such as construction of dams and introductions of non-native fish. For example, in some Western sates non-native brook trout have displaced many native greenback cutthroat trout, bull trout and arctic fluvial grayling. The U.S. Fish and Wildlife Service has received petitions to list each of these three native fish species. In California's Sacramento River Basin, striped bass have become the major predator on salmon smolt.

Only 14 fish species are native to the upper Colorado River basin; eight of these now are either listed as endangered of are candidates for listing. More than 40 non-native fish species have been introduced. In fact, though comparative numbers of native fish is quite low. For example, at the confluence of the Colorado and Green rivers in Utah, biologists have found that 95 percent of the fish species are non-native; only five percent of the fish found in this part of the river basin are native.

Several studies have shown that certain non-native fish adversely affect native Colorado River fish. For example:

*In field studies on Utah's Duchesne River, Utah State University researchers found that 1 to 3 year-old Colorado squawfish constituted five percent of the diets on northern pike, even though squawfish made up a much smaller portion of the available food base in the river. The researchers also concluded that a single northern pike could consume more than 100, year-old squawfish per year.

*Researchers at Colorado State University's Larval Fish Laboratory have documented red shiner predation on razorback sucker larvae.

*At least four studies have shown predation by channel catfish, green sunfish and carp on razorback sucker eggs and larvae.

*In a study of predation on Colorado squawfish and various non-native fish, largemouth bass showed a strong preference for native fish, eating twice as many young squawfish as red shiners and as much as 20 times the number of squawfish as green sunfish.

*Young Colorado squawfish have been found in the stomachs of channel catfish collected in the Dolores River, even though squawfish are very rare in this river. Also, researchers have found a handful of squawfish that died trying to eat channel catfish whose spines become lodged in their mouths.

U.S. Fish and Wildlife Service Role

The U.S. Fish and Wildlife Service is the federal agency responsible for implementing the Endangered Species Act. Section 7 of the act states that federal agencies shall ensure their actions are not likely to jeopardize the continued existence of any threatened of endangered species.

In occupied habitat of endangered fish, the Service favors removing existing non-native warmwater fish, where this is realistic and cost-effective. For example, northern pike exist in the Gunnison and Yampa rivers, but are not managed by state wildlife agencies. The Service believes controlling this species in these waters will help recover endangered fish. Given that state agencies have primary responsibility for managing fish species that are not federally listed as endangered of threatened, the Service will work toward controlling non-native warmwater fish only in partnership with state wildlife agencies.

The Service does not advocate eliminating warmwater sport fisheries in the upper basin and never has, even in designated critical habitat. To the contrary, the Service actively supports developing recreational fisheries in the upper Colorado River basin as long as such fisheries are consistent with endangered fish recovery. For example, the Service operates national fish hatcheries in Jones Hole, Utah, and Hotchkiss, Colorado, that annually produce 3.5 million trout each year. The Service stocks these trout in Colorado River reservoirs for recreational fishing purposes. In addition, the Service recognizes that some streams have been dramatically altered, making it impossible to recover endangered fish to their historic numbers or range.



Photo courtesy of Katharine Rinker

Florence Barnes stands next to a Colorado squawfish caught in the Yampa River during the early 1930s. Colorado squawfish were called 'white salmon' and were said to have grown as long as 6 feet. Now endangered, they exist in the Colorado River Basin and nowhere else on earth.

*Trout can be stocked without review anywhere in the upper Colorado River basin, even though there were minor adverse impacts on endangered fish. (Trout dominate sport fishing in the West. For example, the Department of the Interior's 1991 "National Survey of Hunting, Fishing and Wildlife-Related Recreation" reported that 91 percent of Colorado anglers fished for trout, compared with only five percent that fished for catfish or bullheads and only three percent that fished for muskies [sterile hybrids of northern pike and muskellunge].)

*Smallmouth bass can be stocked without review upstream of Flaming Gorge Dam in certain standing waters separated from rivers occupied by endangered fish.

*Black crappie, bluegill, channel catfish and largemouth bass can be stocked without review in certain standing waters or isolated ponds and reservoirs.

*Proposals to stock walleyes, yellow perch, wipers or tiger muskies will be reviewed case-by-case according to proposed stocking location, potential for the fish to escape into habitat occupied by endangered fish, measures that could offset harm to endangered fish and other criteria.

Non-native fish stocking procedures

To address the sometimes competing goals of recovering endangered fish and stocking game fish, the Service and sates of Colorado, Utah and Wyoming jointly developed interim procedures for stocking non-native fish in the upper Colorado River basin. The document spells out those situations in which non-native fish species can be stocked without review, those where stocking is prohibited altogether and those in which proposals will be reviewed case-by-case. Following are other highlights:

*In Colorado, ongoing stocking of non-native fish, as allowed in certain existing lake management plans, can proceed without review. This is the case for the following lakes and reservoirs: Rio Blanco, Hallenbeck, Mack Mesa, Chipeta Lakes, Crawford, Narraguinnep, Puett, Summit and Totten.

*In stretches of river currently occupied by endangered fish, stocking of non-native fish species other than trout is prohibited.

Control of northern pike

The Service and the Colorado Division of Wildlife have agreed to work cooperatively to remove a number of northern pike from the Yampa and Gunnison rivers. The

approach being considered is to capture northern pike when they congregate during the spawning season and to relocate them to lakes for sport-fishing. The Colorado Division of Wildlife has approved the Gunnison proposal and plans to haul the live-captured fish to Harvey Gap Reservoir.

Control of channel catfish

The Utah Division of Wildlife Resources, with funding from the Recovery Program, is evaluating methods for suppressing populations of catfish and other non-native species. This report should be available in fall 1995 and then will be evaluated by the Recovery Program.

Conservation groups have expresses concerns that endangered fish would be harmed by the stocking of non-native fish in the Upper Colorado River. Also, fish such as bluegill, black crappie and largemouth bass are currently held in ponds that are in the 10 - 50 year flood plain. Colorado Division of Wildlife had previously agreed to remove non-native fish from private ponds in the zero to 10 year flood plain. This would be a voluntary program involving landowners who are willing to participate. Once non-native fish were removed, the proposed procedures would allow for restocking the ponds with trout. Trout are not considered a threat to endangered fish and could continue to be stocked anywhere in the upper Colorado River basin.

FROM A NEWS RELEASE OF SEPTEMBER 11, 1995.

Construction of endangered fish "refuge" ponds got the thumbs-up on September 7, as decision-makers working to recover rare Colorado River fish endorsed funding for pond excavation in Grand Junction and Craig, Colorado., and Big Water [near Lake Powell] and Ouray, Utah. Biologists will use the waters to maintain various genetic strains of endangered razorback suckers for adult brood stock, stocking and research.

The Implementation Committee (IC) is composed of representatives from federal and state wildlife and water-resource agencies, private water user groups, hydroelectric power distributors and environmental organizations.

"These ponds will give us more space to hold and protect endangered fish, which will directly impact our ability to recover these species," said John Hamill, a U.S. Fish and Wildlife Service biologist who directs the Recovery Program. "We need to have adequate facilities in more than one location. Then if an accident occurs at one site, we still have a backup population of fish in another."

Endangered fish currently are held in ponds on the Horsethief Canyon State Wildlife Area near Fruita, Colorado, the Ouray National Wildlife Refuge near Vernal, Utah; and the Valley City National Wildlife Hatchery in North Dakota.

The number of razorback suckers has dropped dramatically in recent years. Upstream of Lake Powell, there are only about 500 wild adult razorbacks left. Researchers believe the primary reason for the fishes' decline is lack of suitable habitat, caused primarily by dams, which have blocked fish migration paths and altered river flows, and non-native fish, which are believed to compete with the prey upon endangered fish.

The IC also endorsed construction and evaluation of a fish ladder around Redlands Diversion Dam on the Gunnison River.

FROM A NEWS RELEASE DATED October 9, 1995

A public survey concerning the endangered fish of the upper Colorado basin was conducted by Colorado State Human Dimensions in Natural Resources Unit. The survey found that 66 percent of the 897 respondents support efforts to protect endangered fish, another 21 percent oppose such efforts and 13 percent had no opinion.

The research team collected the data last year via a telephone survey of residents of western Colorado and eastern Utah. Of the 897 respondents, 168 were elected local officials, 300 were anglers, 125 were members of environmental groups and 304 were members of the general public.

Along with specifically supporting recovery efforts, 59 percent of those contacted voiced a "positive attitude" toward saving endangered fish. Twenty-five percent had no opinion and 16 percent said their attitude was negative. Eighty-one percent agreed that these endangered fish are as important as endangered birds and mammals. Seventy-two percent agreed that fish should be recovered whenever possible. Thirty-eight percent thought the fish should be recovered to become sport-fish. Seventy-five percent thought stocking non-native fish in the river basin should be permitted only if it does not harm the endangered native fish.

Overwhelming majorities of elected officials, anglers, environmentalists and representatives of the general public thought endangered fish have a right to live in the river basin if they can be recovered. That opinion was expressed by 98 percent of the environmentalists, 95 percent of both the anglers and general public and 88 percent of elected officials. Just 29 percent of those surveyed said the existence of endangered fish was not important to them, while 76 percent thought it was valuable to have self-sustaining populations of fish.

FROM A NEWS RELEASE DATED
November 29, 1995

Connie Young, information and education coordinator for the Recovery Program for Endangered Fish of the Upper Colorado River Basin, would like to offer to CPRG members their free newsletter subscription. Also, educational brochures, color posters, historical accounts booklets, fishing license holders, field identification card and fact sheets.

The educational items mentioned above would be a great compliment to your ammo can library. We reviewed many of the these items and found them to be of high quality and of a great educational worth, especially the publication, ***Historical Accounts of Upper Colorado River Basin Endangered Fish***. We feel that it is important not to underestimate the great interest our guest's have concerning our fish populations.

Contact:
Connie Young
U.S. Fish and Wildlife Service
P.O. Box 25486
Denver Federal Center
Denver, CO 80225

(303) 236-2985, ext. 227

Publications Order Form

RECOVERY PROGRAM FOR THE ENDANGERED FISHES OF THE UPPER COLORADO

Your name _____ Organization _____

Address _____

(In the blanks below, please write in the number of publications you would like to order. All are free.)

Quant.	Publication	Quant.	Publication
	Newsletter about endangered fish recovery		Fact sheets about endangered/native and non-native fish
	Report on attitudes toward endangered fish		
	Sfatus report on recovery program activities		Fishing license holder with map showing where endangered fish are found
	Color poster of the Colorado River		
	Color brochure about endangered fish recovery		Booklet describing historical accounts of endangered Colorado River fish
	Angler info. card with photos of endangered fish		

Please send form to: Colorado River Recovery Program
U.S. Fish and Wildlife Service
PO Box 25486, Denver, CO 80225

Or fax to: (303) 236-0027

A W 1893

by Jim Knipmeyer

In the October 25 entry of the notes for his 1947 float trip down the Green and Colorado, river-runner Harry Aleson briefly mentions seeing a "hand-lain rock wall" at the mouth of an unnamed side canyon on the left bank. He and companion Georgie White [Clark] camp immediately below. After dinner they went up along the canyon wall and ascended the talus to a ledge at the level of a dry waterfall. They found the hand-layed rock wall to be a part of a stock trail. Just above the level of the built trail, Harry went down along the shelf a short ways until it narrowed. Upon returning, he found lightly scratched with stone at about head level: A W 1893.

Often times Harry did not take maps along on his float trips. In his river notes he would meticulously log every side canyon and point of interest passed, but instead of locating them by mileage he would carefully note the time, such as 2:31, 2:32, 2:44, etc. So, while a precise location of a particular feature is sometimes difficult to pinpoint, a general location is possible. Thus, a search for the "A W 1893" inscription, which I had never heard of before, except in Aleson's diary, could be narrowed down to a two or three-mile stretch of the Green River. But the exact location would depend on his physical description of the spot.

The location was finally found at about Mile-82 (depending on which map or guidebook you are using!). Harry's "hand-lain" rock wall, actually a built-up portion of the stock trail, was spotted from the river first. There also was a small side canyon, which entered the Green over a dry "waterfall", and talus just to its left which would provide access. An examination soon revealed not one, but three "A W 1893" inscriptions, one of which, however, had the added notation just below it, "Bristol, N.Y."

Who was "A W" and just what was he doing in the upper part of Labyrinth Canyon along the Green River in 1893?

The answer was found in a 1964 letter from Hazel B. Ekker, long-time resident of the town of Green River, Utah. Arthur Wheeler was one of three brothers who, in 1884, settled some twenty miles south of the San Rafael River. She described them as "all bachelors from the state of New York." They planted alfalfa and fruit trees and "engaged in the business of stock raising". Arthur left for the Yukon River country in quest for gold in 1898.

So, Arthur Wheeler was in the area in 1893 and probably kept some of his cattle down on the small bottom along the Green River below the "dry waterfall" of the side canyon. While by river mileage it is some fourteen or fifteen miles from the inscription site to the Wheeler brothers' ranch, because of the winding and twisting course of the Green, from the head of the old stock trail where it tops out on the east rim of the canyon,it is only about eight or nine miles over relatively flat plateau surface to the ranch area. Even today, dirt tracks of vehicles lead between the two points.

This also may have been the location described in a newspaper article in The Denver Republican of June 4, 1893. The article, by reporter and correspondent Lute H. Johnson, was telling of the April-May trip of the steamer "Major Powell" down the Green and Colorado rivers to Spanish Bottom at the head of Cataract Canyon. While Johnson's description sounds more like the so-called Horsethief Trail much farther down the Green, he also stated that, "Three years ago (1891), after a systematic search, it was discovered by Arthur Wheeler, a cattleman of the locality, and has since been known as Arthur's Pass.



Jim Knipmeyer at the inscription site. Photo by Jim.

Editor's Note: The Wheeler's assisted Frank Kendrick and Frank Brown in 1889 for the DCC&PRR survey.

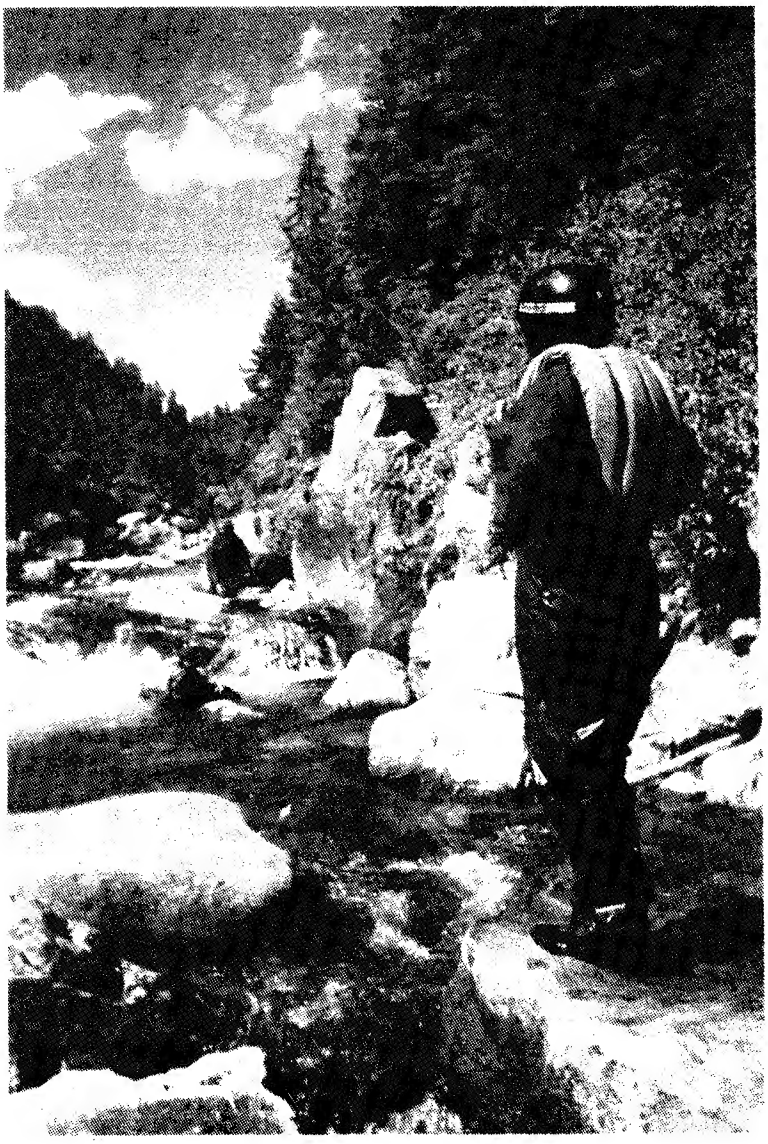
Three Gals on the Piedra

by Michele Reaume

High Water marked the cubic feet per second (cfs) charts for this 1995 river season in Utah. High water was also said to be seen in Colorado. My two companions and I were not interested in high water. We simply desired to run a creek, since there'd be water flowing late into the summer. Karla VanderZanden, Tamara Wiggins and myself, Michele Reaume, rendezvoused in Durango, Colorado, with our sights were on the Piedra River; we moseyed down the Animas River first.

I ran the Piedra in the spring of 1994 with Geoff Burbey, a co-owner of Highlands Unlimited, a horse outfitter out of Durango. Geoff hopes to lengthen his pack season with a combination tour of trail riding and paddling the Piedra; that spring trip was a logistics exploratory.

But this is 1995; three on the Animas River. Karla and I are in inflatables kayaks and Tamara is in a hard-shell kayak. We were told the river had dropped significantly overnight. The Animas River provided a fine float despite that fact.



Loathsome stretch beyond Mudslide. Photo by M. Reaume.

Santa Rita was an interesting ledge hole. Tamara warned, "Steer around it." We eddied behind the bridge abutment. Other kayakers surfed, agitated and surfed some more; a fine showing. The kayakers signaled, "It's your turn." Tamara indulged the crowd after their coaxing. She crept into the edge--held her position--
soon satisfied--she paddled out. Tamara confides that this is her first time entering *Santa Rita*.

The kayakers signal again. Me? I shrug--then nod--why not attempt to surf! My attempts were paltry--I choose to shift my weight--I am kneeling near the bow of the Achilles inflatable--I paddled upstream, timing a gentle drop into the ledge trough. *Viola*! *Surfing*! But how the hell do I get out? I dump out--self rescued--get to shore and drag the boat upstream to do it again. That's the kind of exhilarated challenge the *Santa Rita* can induce.

After the Animas, we soak in a hot spring and ruminate. What will the Piedra be like with this enormous cfs drop? We don't care. Tamara's boyfriend, Dave Derosiers, is up from his Grand Canyon ranger job, celebrating his birthday and driving our shuttle. We decide to commit to a descent of the Piedra.

Dave leaves us at the Hunter Bridge camp. On the water, right away, Karla drops behind a sleeper, however, it's a keeper. Karla lodges a low brace. Her boat responds by bucking in place. Karla doesn't look amused nor panicked. She applied herself to avoid a swim.

The boxes were boulder choked. Our first congestion was circumnavigated by lining the boats. We were very elaborate. Soon, we began dragging the fuckers. There was no water! And Tamara was concerned about pinning. Piedra is not a Spanish word for rock for nothing. The Piedra hosts a variety of traps at this level, so it's easy to support Tamara's instincts regarding portaging.

Then Karla swept up upon a rock. The inflatable sticks. Karla is on a rock budging her boat. I'm on land now. I receive her toss of the rescue bag. We lift the line for oncoming Tamara to glide beneath. I am pulling. Karla demonstrates we should use another angle. By this time, Tamara joins me. Heaving, the boat comes free.

The ruse to portage Mudslide is executed after a nap in the sun. The section beyond is loathsome. Kala and I labor the inflatables over rocks. Tamara discovers a kayak paddle wedged in the rock array along her route. After this section, the paddling is smooth until a thirty foot tree lies across and on the surface of the Piedra. Our boats are easily lobbed over top.

The vehicles are in sight. Over beers kala is heard to utter, "There were moments when the Piedra had epic overtones of the Karnali River in Nepal (Kala was part of the first descent of the Karnali River.) It took ten days to travel the first twenty miles of the Karnali. We had to work our way downstream lining and portaging. Hiking out was not an option. Our headspace queried, when are we going to get out of here?" It took three of us eight hours to travel ten miles on the epic Piedra.

ICEBERGS IN CAT

by Peter Winn

Disclaimer: This story is as true as any 20 year old river story can be.

Scenery: Mother Nature
Lights: God
Director: Fate

Scene I - Christmas Eve at the Slide

Whhoooshhhh!!! At first John thought a beaver had attacked his Yampa. It was one of the first models, only two main chambers, and suddenly one of them was acting like a hotcake. Or maybe coldcake is a better word. A sharp piece of ice rotating on an eddy fence had cut a liquor bottle sized hole in it. To fend off hypothermia, John rowed like the devil and made it to shore just as his oar lock settled into the river. Some of you may remember John Thomas, he was a Westwater guide and ranger in the 70's, then a Grand Canyon ranger. His name is on an old oar blade in the ranger station at Westwater. Now he's a dad, married to Jen Lawton, also a Westwater guide and old Grand Canyon river ranger, living in Salt Lake.

When's the last time you read the directions on a can of Barge? It says "Use at room temperature." What if room temperature is 20 F? One thing I know about river guides, they're innovative. First we did what we always did, which was ignore the directions and just put the stuff on, which of course didn't work - we couldn't get the brush into the glue. So we put the glue into a double boiler and put a gas lantern up next to the bottle of Southern Comfort that was stuck in the hole so the water would drain out. When everything was warmed up, we drank the Southern Comfort and hoped the patch would hold. We didn't have a chance to think about what our families and friends were doing that evening until we got the tube to hold air.

I can't even remember what we had for dinner. I do remember it's the only trip I've ever packed food for where we put the meat and other stuff we wanted to stay frozen into uninsulated metal boxes, and put the stuff we didn't want to freeze into insulated boxes without ice. We didn't need to bring any ice, it was everywhere. Big sheets of it, sometimes almost blocking the river. The eddies were completely frozen over, and the river was slush in the morning. Sounds awful, but it was great, as long as it was your turn to row so you could warm up. When the sun was shining, it was like a perpetual sunset.

We'd originally planned to spend three days hiking in the Needles and three in the Maze. In the winter, there's water everywhere out there, so you don't need to carry a gallon a day (of course, you've got to carry twenty-five pounds of extra clothes, etc). After the ice bite experience, we decided to blow off the Needles hike, figuring we'd need three extra days in Cat to patch the rafts. We had enough fuel, glue and booze to get through safely, we just needed the time. Little did we know how badly we'd need it.

Scene II - The Maze, Three Days Later

We'd brought along a copy of The Monkey Wrench Gang, first published the year before, and found Hayduke's last stand (this was long before the sequel, Hayduke Lives). What an incredible place. We did a loop within a loop, the big loop taking three days. We went from Spanish Bottom up to the Dolls House, then out over the top of Tibbett Arch (I think, see Disclaimer), to Lizard Rock, then over to Beehive Arch and upper Jasper, then back to Spanish Bottom from the north. At Lizard Rock, we did a little loop, down into one finger of the Maze, near Hayduke's last stand (those mice have got prime real estate!) and out another finger, it's as easy to get lost as the name suggests.

There were eight of us, four men and four women. We forgot about the river ice and how sharp it was. Instead, bizarre ice worms in the pot holes and spectacular hoar frost crystals took over. George Ruffner, a biologist from the Museum of Northern Arizona, owned and rowed the second raft. He, Gwen Waring and I had planned the trip over Thanksgiving during one of those three foot snowstorms Flagstaff is famous for. Both of them are now parents. Gwen and her husband, Larry Stevens, own Red Lake Publishing, which is the source of There's This River, a collection of Grand Canyon river stories.

At the Confluence, the Green was also choked with ice, so it took a long time to row down to Spanish Bottom. It was Beth's turn, and she had a lot of trouble getting her oars into the water. They had a tendency to bounce off the ice, and if you rowed too hard, you just added an ice anchor under the raft. If you've lived in Moab for a few years, you might know Beth, she's another parent, along with her husband, Phil Roy (busy, aren't we). Fortunately, she had a bottle of Bristol Cream Sherry, so it was easy to be patient.

The lack of open water sufficient for rowing raised another issue - Lake Powell. Could it melt all of these icebergs? What if it couldn't? We had topo maps of Cat, but nothing for Lake Powell. We didn't know how we'd escape from the canyon if the lake was frozen.

Scene III - New Year's Eve at Odin's Temple

It's a good thing there was a lot of firewood at Waterhole Canyon. We were numb. Numb with cold, numb with fear. We'd nearly lost a loaded boat where the river flowed under the ice at the head of the lake. And we thought Cat was going to be the big problem. Fortunately, the rapids broke up the icebergs, so we didn't get any holes in the rafts, just lots of slush. I didn't fall in and die of hypothermia, or this would be a Paul Bunyan tale (see the Disclaimer). We built a fire that was eight feet long and two feet wide so we could all stand around it, and drank Black Russians. It makes me shiver just to remember this scene.

Beth was rowing the lead raft below the Big Drops when the ice began to build up on the banks. First a foot or so, then more. We were looking for a place to pull over for lunch when we came to the ice dam at the head of Lake Powell. We signaled to John to pull over, and Beth had no choice but to crash into a six foot bank of ice on river right. George and Gwen found handholds, and I climbed the ice bank with the stern line looking for a tie down. I nearly fell into a crevice almost immediately before George pulled me back. It went down into the river, brrrr. With some help, I managed to get to the boulders above the ice, a bad spot to camp. We finally found few flat spots about 100' up the talus slope. Hauling our gear up there really warmed us up.

The river flowing into Lake Powell was frozen over, big time. Huge bergs which had formed after the rapids were being whipped like cream. If we hadn't stopped we'd have become

fossils for sure. The ice was thick, at least ten feet, full of crevices, covered with snow, and it went as far as we could see. No escape that way. So John and Mike and I trudged off a mile or so downstream to the first side canyon, Waterhole, looking for a way out. After several failures, we found a fifty foot crack and managed to climb up high enough to see that a route to the rim was feasible. As we headed back, it started to snow.

The next morning, the ice on the lake had advanced upstream so far that George's raft was stuck in it. Getting the raft out of the ice was an engineering feat. Then we had to haul both rafts 100' up the talus slope so we could deflate and stash them. When we opened the valves, no air came out. We had to breath on the valves until the ice seal broke so we could deflate them. Bizarre! It took us almost all day to stash everything. We even pissed on the rolled up rafts (at least the guys did) so the rats wouldn't use them for nesting material (good thing we had some biologists along). Then we hiked to Odin's Temple for an eight foot long fire and a less than enthusiastic New Year's party.

The next morning, Mike and I climbed the crack, but this time all the hand and foot holds were covered with snow. Frozen fingers are no fun at all. Climbing was so much more difficult than it had been the previous day that we decided to just drag the other folks up, using the raft bow and stern lines tied together. When Nancy reached the top, her heartwarming smile was gone for the first time. Her smile had been a barometer of the trip spirit, and it was now obvious that she thought we were in trouble. We spent that night on sloping, snow covered ledges, tied together so we'd act as anchors for each other. Brrrr again.

It took another day to make it to the rim and the jeep trail from the Maze area to Hite. It was still over forty miles, or three days, to Hite. It was space walking. Everyone was in their own space, enjoying the scenery as best they could while nursing numb feet. Nancy practiced smiling again, while Beth, Gwen and Laurie, all musicians, played symphonies in their heads. Mike mourned his frozen camera, John and George wondered if the piss would keep the rats away from their rafts, and I wondered how many friends I was going to lose.

Epilogue - Odin's Temple
Three Months Later

After the ice melted, we drove back to the head of Waterhole Canyon and climbed down to the rafts. The piss had worked, the rafts held air. We put them in the water and rowed to Hite. There was evidence on the river bank that the ice had gotten to be twenty feet thick. It's a good thing we found a way out of Cat or we'd have become icebergs ourselves. It was the kind of adventure that makes for an unbelievable river story. Of course, it's best told in July, when you're dying for some ice.



Photo courtesy of Peter Winn.

High Water Redux

by C. V. Abyssus

Regarding "High Water Remembered" (The Confluence, Vol.2, No. 3, Summer/Fall 1995), John Weisheit may be both right and wrong when he stated that it "(s) eems Frank Wright and the Mexican Hat Expeditions crew in 1957 got to experience the Colorado River at a flow of 100,000 cfs and held that [high water] record until 1984." It is not evident whether the author is referring to a record on the Colorado River in Cataract Canyon or not, but there were several parties boating in the Grand Canyon around the same time.

At least one oar-powered and three motor-powered trips left Lees Ferry (LF) in June, 1957, and boated during the flows of over 100,000 cfs. The Harris-Brennan outfit took off Thursday, June 6, as the river was up to 85,000 and rising fast. The LF gauge recorded 107,000 two days later. Marston's three motor boats put-in the afternoon of the 10th with that day's flow at 118,000. Georgie White launched June 17, with the gauge reading 104,000, but back up on the 18th to 114,000. All three of these trips were motored-powered; Harris-Brennan and Marston used hard-hulled boats, while White ran a G-rig comprised of a 27-foot and two 22-foot pontoons. Exact completion dates are not now known by this author to correlate river flows with trip dates.

P. T. "Pat" Reilly was once again readying hard-hulled, oar-powered boats, leaving Lees Ferry shortly before Dock. Reilly first boated Grand Canyon with Norm Nevills in 1949, then with Frank Wright, and the Rigg brothers of Mexican Hat Expeditions (MHE) in the early 1950s. Getting away from "cataract" of "sadiron" boats, Pat, leading his own non-commercial trips, started building or finishing hard-hulled craft, pre-cursors to dories.

Reilly camped at President Harding Rapid on the 12th. Sometime that night, the peak of 126,700 cfs passed. Reaching Bright Angel Creek on the 16th, one hour and thirty-two minutes from Hance, Reilly's party cached their boats and hiked out; they retrieved the boats the next year. The entire run of Marble Canyon and part of the Grand Canyon had been done over 114,000 cfs, the highest water ever attempted by oars through these canyons of the Colorado River.

Information regarding these trips, dates, and flows came from copies of Reilly's river logs, part of the P. T. Reilly Collection, housed at the Cline Library, Special Collections and Archives Department, Northern Arizona University, Flagstaff, Arizona. Permission to quote from the collection for publication is required from P. T. Reilly.

****

Response from John Weisheit

Thanks for the information C.V! I have a copy of the USGS Water Supply Paper from 1957 for the Colorado River Basin. I have transcribed it below as a table.

June 1957
Lees Ferry USGS Gauge

Day	Discharge	Day	Discharge
1	49,100	16	106,000
2	55,400	17	108,000
3	60,800	18	108,000
4	65,200	19	102,000
5	72,900	20	93,800
6	83,400	21	90,800
7	95,800	22	91,800
8	107,000	23	95,800
9	113,000	24	97,800
10	118,000	25	90,800
11	121,000	26	85,500
12	124,000	27	87,600
13	123,000	28	90,800
14	114,000	29	93,800
15	106,000	30	94,800

Note: The flow stayed in the 90,000 cfs range for the first week of July.

I apologize for giving incorrect information concerning Frank Wright and Mexican Hat Expeditions as holding the 1957 Colorado River high water record and am therefore am wrong in concluding that Cataract Canyon guides broke that record in 1984 with a flow of 114,900 cfs. P. T. Reilly maintains such a record to the present time.

I do challenge the rig you described for Georgie's 1957 run through the Grand Canyon. Such a rig (using 27 and 22-foot pontoons) was described by Georgie in her river log concerning a trip she completed through the Grand Canyon in 1955. If you will refer to The Confluence Vol. 1, No. 3, Summer 1994, page 4, you will notice a picture of Georgie's rig as it appeared on her 1957 Cataract Canyon traverse. I perceive this picture to show a rig that consists of three 33-foot (could be 27-foot) bridge pontoons tied together with the center pontoon off-set by about four feet to accommodate an outside motor compartment. I would think that the same rig went through the Grand Canyon in that same month of 1957.

Green River at Green River		Colorado River below Dolores River		Cataract Canyon without San Rafael Flow	
Date	Peak in cfs	Date	Peak in cfs	Date	Peak in cfs
05/19/95	26,300				
06/03/96	40,400				
05/29/97	63,000				
06/25/98	23,500				
06/27/99	48,200				
00					
01					
02					
03					
04					
06/10/05	33,900				
05/31/06	36,500				
06/11/07	48,100				
06/21/08	25,000				
06/13/09	62,000				
05/16/10	28,800				
06/21/11	27,600				
06/12/12	54,600				
06/02/13	26,700				
06/02/14	50,800	06/03/14	65,600	06/03/14	114,300
06/14/15	19,200	06/13/15	33,600	06/13/14	52,400
05/12/16	30,300	05/11/16	46,900	05/12/16	77,200
06/27/17	66,700	06/19/17	73,200	06/19/17	131,000
06/25/18	43,300				
05/30/19	19,900				
06/03/20	49,100				
06/16/21	64,100				
06/12/22	45,800				
05/31/23	42,000	05/29/23	47,100	05/29/23	87,200
05/22/24	24,300	06/16/24	49,900	06/16/24	63,600
06/04/25	20,100	06/01/25	27,700	06/01/25	46,300

Green River at Green River		Colorado River below Dolores River		Cataract Canyon without San Rafael Flow	
Date	Peak in cfs	Date	Peak in cfs	Date	Peak in cfs
06/18/57	42,600	06/10/57	63,400	06/11/57	101,200
06/01/58	37,900	05/30/58	48,800	06/01/58	81,700
06/22/59	16,400	06/11/59	21,200	06/16/59	35,700
06/11/60	15,200	06/06/60	25,200	06/06/60	37,700
06/04/61	13,100	05/31/61	20,500	06/03/61	32,400
05/15/62	31,600	05/14/62	43,800	05/14/62	75,300
05/15/63	9,370	05/21/63	12,100	05/21/63	19,860
05/26/64	21,000	05/28/64	28,600	05/28/64	48,900
06/15/65	29,800	06/19/65	37,000	06/18/65	64,800
05/13/66	13,800	05/11/66	17,200	05/11/66	28,400
05/30/67	22,300	05/27/67	20,500	05/27/67	39,200
06/09/68	28,800	06/07/68	30,600	06/07/68	58,000
05/16/69	20,500	05/23/69	19,000	05/22/69	38,000
06/12/70	23,200	05/24/70	35,000	05/24/70	56,600
06/21/71	21,900	06/19/71	22,800	06/20/71	44,400
06/11/72	19,700	06/10/72	19,000	06/10/72	37,700
05/25/73	30,300	06/16/73	41,600	06/16/73	66,400
05/14/74	26,800	05/12/74	24,700	05/12/74	49,700
06/11/75	27,900	06/09/75	29,200	06/10/75	54,800
05/26/76	18,000	06/07/76	15,600	05/26/76	29,200
06/10/77	7,600	06/10/77	4,970	06/10/77	12,570
06/16/78	23,100	06/17/78	30,800	06/17/78	53,900
05/31/79	28,800	05/30/79	44,600	05/30/79	73,100
05/27/80	23,300	05/23/80	38,400	05/25/80	58,000
06/12/81	12,000	06/09/81	11,800	06/09/81	23,700
05/08/82	19,900	05/06/82	22,200	05/06/82	37,000
06/27/83	44,200	06/27/83	60,500	06/27/83	104,700
05/20/84	47,200	05/27/84	69,500	05/27/84	114,900
05/12/85	26,800	05/06/85	43,200	05/10/85	68,200
06/08/86	35,400	06/08/86	34,100	06/08/86	69,500
05/21/87	13,600	05/19/87	30,500	05/19/87	43,000

Green River at Green River		Colorado River below Dolores River		Cataract Canyon without San Rafael Flow	
Date	Peak in cfs	Date	Peak in cfs	Date	Peak in cfs
05/09/26	24,000	05/27/26	47,500	05/27/26	71,200
06/19/27	32,700	05/20/27	48,400	05/21/27	78,700
06/01/28	44,400	06/01/28	62,200	06/01/28	106,600
05/29/29	41,900	05/27/29	58,600	05/27/29	99,300
06/04/30	22,500	06/01/30	40,200	06/01/30	60,200
05/21/31	12,800	06/09/31	17,400	06/09/31	27,150
05/26/32	36,600	05/24/32	49,600	05/26/32	79,700
06/19/33	27,400	06/13/33	42,700	06/13/33	68,300
05/17/34	6,260	05/13/34	16,800	05/13/34	22,600
06/16/35	30,700	06/16/35	53,200	06/16/35	83,900
05/21/36	28,800	05/18/36	38,300	05/18/36	63,300
05/21/37	26,800	05/17/37	39,200	05/19/37	63,900
06/02/38	30,600	05/31/38	51,400	06/02/38	78,800
05/07/39	17,400	05/24/39	25,000	05/24/39	40,700
05/17/40	15,700	05/14/40	25,000	05/14/40	38,600
05/30/41	26,800	05/15/41	63,400	05/15/41	83,400
05/31/42	32,000	05/28/42	50,000	05/29/42	76,500
06/05/43	29,300	06/04/43	32,700	06/04/43	59,300
06/04/44	27,900	05/17/44	51,900	05/18/44	72,500
06/09/45	23,000	05/13/45	32,400	05/16/45	59,400
05/02/46	18,000	06/19/46	26,600	06/12/46	43,300
05/14/47	32,600	06/22/47	38,100	06/22/47	60,300
05/26/48	27,600	05/23/48	50,800	05/23/48	75,600
06/21/49	32,700	06/21/49	53,200	06/21/49	85,900
06/06/50	29,800	06/04/50	23,300	06/04/50	52,100
06/03/51	30,300	05/30/51	29,100	05/30/51	55,600
05/11/52	45,200	06/10/52	56,300	06/10/52	100,200
06/18/53	27,800	06/15/53	38,000	06/16/53	60,700
05/27/54	18,400	05/23/54	12,200	05/25/54	27,100
05/29/55	14,200	06/10/55	17,200	06/10/55	27,400
06/03/56	29,500	06/04/56	30,000	06/04/56	59,000

Green River at Green River		Colorado River below Dolores River		Cataract Canyon without San Rafael Flow	
Date	Peak in cfs	Date	Peak in cfs	Date	Peak in cfs
05/22/88	16,900	05/20/88	14,300	05/22/88	28,600
05/16/89	7,840	05/25/89	9,670	05/15/89	15,210
06/14/90	11,000	06/12/90	12,200	06/12/90	22,700
05/24/91	12,400	06/16/91	18,400	05/24/91	30,000
05/14/92	10,700	05/29/92	17,100	05/29/92	24,600
05/31/93	25,100	05/29/93	47,600	05/30/93	70,700
05/22/94	11,700	05/21/94	15,000	05/21/94	26,600
06/19/95	29,300	06/19/95	51,400	06/19/95	80,700

Flows of historic river trips.

Expedition	Date in Cataract Canyon	Flow in cfs
Clyde Eddy	July 2, 1927	54,200
Pathe/Bray	November 6, 1927*	8,800
Glen and Bessie Hyde	October 22, 1928	8,210
Harold Leich	August 27, 1933*	3,970
Bus Hatch	August 1, 1933	5,640
Nevills/Clover	June 23, 1938	59,400
Nevills/Goldwater	July 14, 1940	3,890
Aleson/Georgie	October, 31 1947	9,810
Aleson	September 6, 1951	5,050
Georgie	June 13, 1957	88,600
Somerville (up-run)	July 4, 1965*	36,200

*Estimated date.

Professional Guide Training
Coming Soon To A River Near You

By Tamara Wiggans

"Comparing Notes: The Art and Craft of Guiding"
The Colorado Plateau Professional Guide Institute

Familiar with either? The first is the them of this spring's annual Guides Training Seminar organized by the Grand Canyon River Guides. The second is being developed by the Utah Guides and Outfitters, Canyonlands Field Institute, the Bureau of Land Management, U.S. Forest Service, National Park Service, Utah State University and College of Eastern Utah, Colorado Plateau River Guides, and Canyonlands Natural History Association.

As we speak, there are plans to create a nationwide Professional Guide Institute under the auspices of America Outdoors, the national guide and outfitter organization. The Colorado Plateau Professional Guide Institute may ultimately be a regional chapter of this national program.

National Program Purpose

To improve the guiding and outfitting industry by promoting:

* Resource protection.
* Responsible shared use of public lands.
* Professionalism and ethical behavior in guiding and visitor contact work.
* Working partnerships among outfitters, guides, land managers and agency seasonal employees.

Additional Goals on the Colorado Plateau

* To stimulate understanding, appreciation, and stewardship of the natural environment and cultural heritage of the Colorado Plateau.
* To stimulate visitors to consider their roles as stewards of natural and cultural resources in their own regions.

This All Sounds Great But

There seems to be a big push right now to train guides. God knows we need all the training we can get. And the rivers need all the advocates they can get. But where is the push for training coming from and are we as guides asking the right questions?

Perhaps some of the impetus for developing guide training stems from the new concessions/contract prospectus requirements happening at the Grand Canyon (and coming our way soon), which asks outfitters to outline their guide training program. Formerly, guide training involved a trainee working trips for no pay (swamper, baggage boat, intern) until he or she had enough trips to get a license.

Professional guide training goes beyond rowing the boat to teaching guides how to talk to their passengers. Interpretation, interpersonal skills, problem solving, and familiarity with public land issues are just a few of the components of a training curriculum being developed right now on the Colorado Plateau by Canyonlands Field Institute.

The nuts and bolts of presenting workshops, classes, trips, or printed materials gets more complicated, especially here on the Colorado Plateau. We have many rivers, with many miles between us. Who pays for the training? Will training remain optional? Will there be a formal certification? Could certification eventually become a requirement for employment? What skills, specifically, do we need to learn or improve? Will certification really reflect a guide's value? Do we lose diversity of character and style by requiring everyone to fit into a mold, i.e., "the certified guide". Do we lose people, like a friend of mine, who has a completely different interpretation and style in just about everything he does? The people on trips invariably adore him even though he is, quite frankly, a blatant yet entertaining liar.

The permitting agencies want guide training. The outfitters also want it. Mixed feelings are what I'm getting from other guides I've talked to, especially about certification.

"We don't need no stinking badges" was one response a few years ago from a Grand Canyon river guide. We have a long tradition of learning from each other and from the river itself. There's no greater teacher than plain old mileage -- experience. But eventually, most guides also agree that they want to improve their skills and they are all for broadening their guiding horizon with training.

There's no point to the whole thing if the guides don't participate. Financial sponsorship by outfitters and permitting agencies would help too. Classes or trips could be held in different towns, on different rivers, and not during the peak boating season when everyone in on the river working. These are just a few ideas. In typical guide fashion, I have plenty of opinions and advice, but I'm too busy boating to be on the committee.

In a profession where knowledge, techniques, and skills are evolving at an amazingly accelerated pace, I still believe, that when in doubt, Keep It Simple Stupid. It will, as always, be interesting.

What do you think?

Colorado Plateau May Be Rotating Around Monticello, Utah

Taken in part from an article that appeared in the Salt Lake Tribune.

A recent study suggests the Colorado Plateau is rotating clockwise at a rate of a little less than your fingernail grows. Vernal, Utah, is moving eastward one millimeter each year, or about three fifths of one mile every million years. Flagstaff, Arizona, is moving west northwest at 2.5 millimeters annually. Pie Town, New Mexico, is moving west 3.5 millimeters annually, or somewhat more than 2 miles every million years. This news was released this fall after the meeting of the American Geophysical Union.

Some scientist are skeptical, saying that part's of the earth's crust is stretching out in the West. The Jet Propulsion Lab in Pasadena, California, used surveying data collected from 1980 to 1993 by radio telescopes in the above mentioned towns. The telescopes measure how long it takes light to arrive from distant quasars, which are super-bright objects in distant space. Slight changes in arrival times provide precise measurements of the motions on Earth's ever-shifting crust.

Some scientists have argued the Colorado Plateau is a "microplate" rotating within the North American plate. The study indicates the Plateau is rotating around a pole about 40 miles west of Monticello, which would roughly be in the Dark Canyon Primitive Area. Some studies have suggested the axis may be in west-central Colorado.

****

From: Earth Science Expeditions

Needed: First Descent Participants for the Man Wan Gorge of the Mekong River, SW Yunnan, China; April 19 - May 9, 1996.

Earth Science Expeditions (ESE) is seeking kayakers, oarspersons and passengers. Flows exceed 30,000 cfs and participants need big river experience. The climate is mild. Maximum expedition size is 10.

Cost: $5000. $4500 if you make a $500 deposit before March 15. If you bring your own kayak the cost is reduced 10%. Approximately $1500 of the fee is tax deductible. Round trip airfare to Hong Kong is an additional $700 to $1200, depending on where you live. ESE is planning additional trips in October, 1996.

For more information contact:
Peter Winn
202 North Avenue #102
Grand Junction, CO 81501
970-242-7108; Fax: 970-243-9226;
e-mail: pswinn@aol.com

River Madness July 21, 1996

Support the Muscular Dystrophy Association

Two events on the Fisher Tower Daily:
Down River Race
The Outrageous River Parade

For more information contact:
Paul at The Club Rio in Moab
801 259-6666

****

Small Boat Seminars for 1996

The following small boat seminars will be offered by Canyon Voyages. Classes are taught by certified instructors of the American Canoe Association (ACA). They are designed for kayaks, canoes, and touring boats.

Whitewater and Flatwater Instructor Certification.
Classroom time with practicals on the Fisher Tower Daily. April 11 - 14.
Instructor: Kent Ford.

River Rescue for Kayakers.
June 29 - 30.On the Fisher Tower Daily.
Instructor: Ken McCarthy.

Play Boat Clinics in Westwater Canyon.
Must have Class III kayaking skill.
April 27; sponsored by Prijon.
October 4; sponsored by Perception.

Kayak Demo Day on the Fisher Tower Daily.
July 6. Try before you buy.

Raft Demo on the Fisher Tower Daily.
June 22. Sponsored by Jack's Plastic, Aire and Maravia.

Kayak Lessons and Roll Clinics.
Ongoing - April to October
In the pool or on the Daily; beginning to intermediate levels.
Instructors: Various ACA certified instructors.

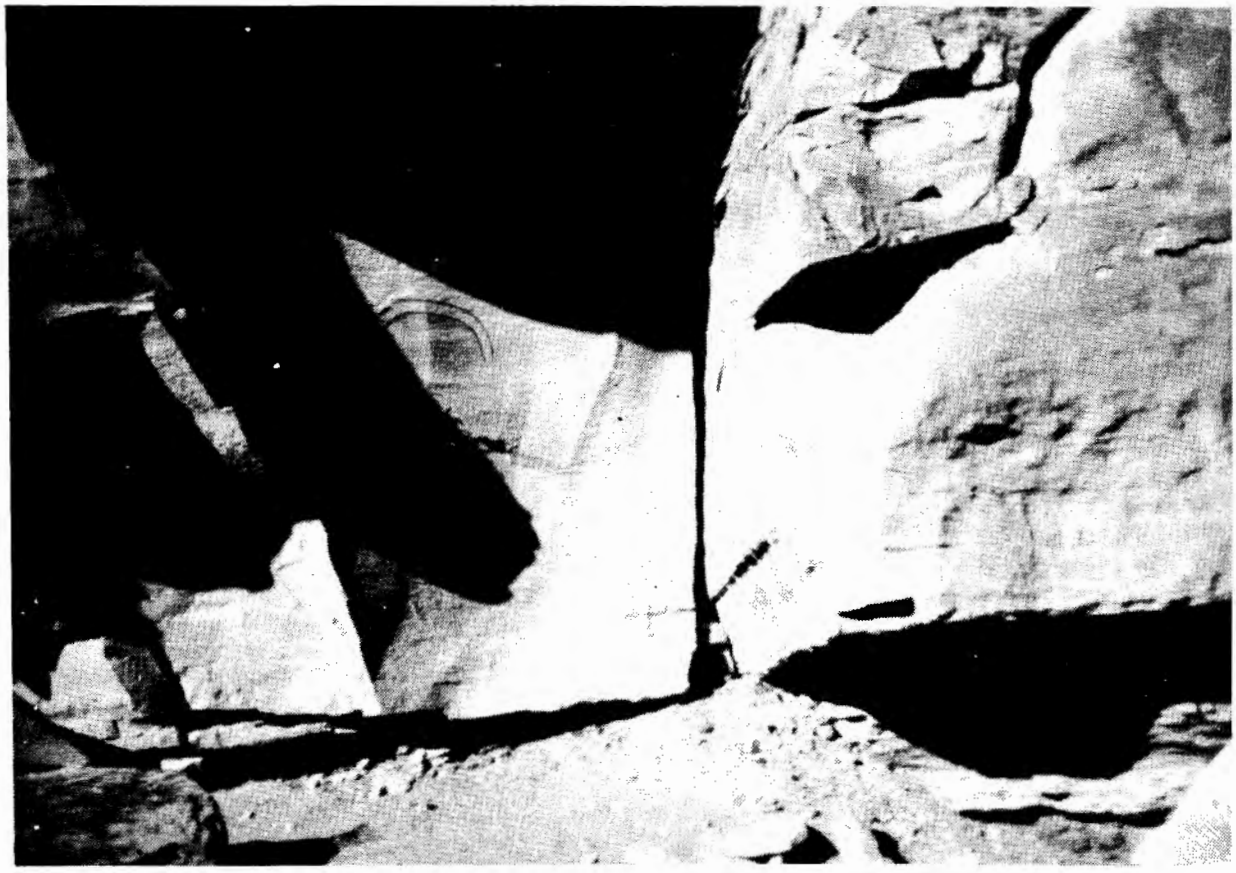
For more information contact:
Canyon Voyages
P.O. Box 416
Moab, UT 84532; 800 733-6007

The Pictographs at Big Bottom (Lathrop Canyon)

by Dave Focardi

What do these mean? "These" being the petroglyphs and pictographs you take people to see. Who knows what the meaning is? You can't even tell what the artwork created by your friends means, let alone thousand year old pictographs. However, I can describe some interesting observations of the Lathrop pictographs; meaning the Big Bottom pictographs on river left across from Lathrop Canyon.

This article refers only to the "rainbow" pictograph furthest upstream, near the granaries. On the summer solstice, the overhanging roof creates a triangular shadow, the point of which moves down the panel. From the time the roof shadow forms to the time the point reaches the bottom of the rock face takes about 2 1/2 hours, moving fastest toward the bottom. As the point moves down, it just touches the leftmost side of the rainbow at about 9:30 am. Before and after the solstice, it is to the right. Leading up to the solstice and afterwards, when viewed at the same time of day, it would appear to move left, stop at the left edge of the rainbow, and then move to the right.



Big Bottom Pictographs. Photo courtesy of Dave Focardi.

What happens during the winter? I was there the day after the winter solstice (not 1995, as the park was closed) to see what would happen. Observational data are that the shadows appeared and moved off the panel in a 2 1/2 hour time period. There were no obvious alignments with the pictographs.

So much for observational data--here's the fun part. What could this mean? First of all, there is plenty of evidence elsewhere in the southwest for Aanasazi solstice markers--pick up a copy of "Living the Sky" from your local bookstore or "The Book of the Hopi" by Frank Waters.

Obviously, I feel the panel is at the least a summer solstice marker. The shadow moves fast enough to see even to a casual observer between 8:30 and 11:00. On the winter solstice, the shadows are interesting, and move rapidly, although there is no obvious alignment that jumps out at you as on the summer solstice. Jenny, my wife, pointed out that watching the shadows for a few years would certainly let you know where you were in relation to the solstices, which leads to some interesting questions. If the shadows on that panel act as a calendar, so would shadows anywhere, so is that panel solarly significant? I haven't been there on an equinox, so I don't know what happens then, although I am hoping that the roof shadow is on the small circle to the right of the rainbow. Another shadow forming feature is a knife blade of sandstone hanging in a crack of rock to the left of the roof point. Is this a natural rock feature? When did it form? Was it placed there? If so, when and by whom?

After observing the shadows the last week of October this year, I had hoped the knife blade shadow would pass over the small

circle on the right on the winter solstice. Not so. It would however, have passed over the circle a few weeks before the solstice. Could it have been a mark for a Soyal (Hopi winter solstice ceremony) type ceremony that begins several weeks before the winter solstice?

Some interesting information from Nancy Coulam, the Park archaeologist, was a carbon date of 1215-1275 A.D. for the granary on the point. Also there is little or no evidence of year round occupation, so the site was probably occupied only while farming the bottom lands. The Anasazi also became more concerned with time and planting schedules toward the end of the Pueblo III period (corresponding to the carbon dates). As you can see, the questions are so numerous and unanswerable, and as easy to support as refute, that we'll never know anything to any degree of reliability. However, if you can watch the panel between 9 and 10am four days before or after the summer solstice, its an interesting show. For even more fun, when the moon is really bright, it also makes interesting shadows. Bear in mind that the moon is opposite the sun. That is, when the sun is high in the sky during the summer, the moon is low in the sky (where the sun would be in the winter). Theoretically, the solar and lunar shadows should be similar during the equinox. Guests and boatmun can be entertained at all hours of the night and morning watching these phenomena. Feel free to send photos to CPRG or to me, Dave Focardi at Sheri Griffith River Expeditions or at PO Box 1367, Moab, 84532. Please include the date and time. Or, just call me and tell me what you saw, because if you are anything like me, you may take photos, but you will never get around to sending them.

****

Boating the River of Sorrows

It started as a fun summer job, getting paid to do what I love, and to do it with friends. In fact, if it wasn't for my friend Steve Arrowsmith's love of rivers, and especially the Dolores River, I may have avoided a 10-year unintentional career (sound familiar?). Steve loved the Dolores so much he offered trips at half the price of other commercial outfitters just to get people, himself, out on the Dolores. Although McPhee dam would foreseeably thwart any more 8,000 cfs high water years like the one in 1983, Steve none-the-less based his company, Humpback Chub River Tours, and his hopes, on the Rio de Dolores -- the River of Sorrows. I wrote the following story about a day on the Dolores after my first season with Humpback Chub, it brings back memories, of a special place, and a special person -- enjoy!

It's hard to get up, the warmth of my sleeping bag beckons me back and a heavy dew leaves the smell of grasses blowing across a yet shadowed valley. I finally manage to shake off the sleepish effects of the wine we had with our lasagna dinner last night, followed by the sharing of music and tales from our first day of rafting. Looking around I see a few folks squatting around a small fire, cherishing a quiet moment, and the warmth of a fresh cup of campfire coffee. It's cool now, but soon the sun will hit camp, raising temperatures and spirits, turning thoughts from the warmth of the fire to the call of the river.

The Dolores River, that is what brought us all down here to southwest Colorado. Originating in the San Juan Mountains, the Dolores grows is size as it descends west through the higher mountain elevations, then turns northward near Dolores, Co., where our journey began. From our camp this morning we will journey further through canyons of red sandstone and towering ponderosa pines, all capped by a pure blue sky. We are guests here, guests of the Dolores. Often we sit back on our rafts and spend lazy hours floating by a continually changing panorama of beauty, to which mere words can do no justice.

Today however, is the day we hit "Snaggle Tooth", a rapid aptly named for a jagged tooth of rock which proves a hearty challenge to the boatmen, and keeps the hearts of everyone along beating strongly. But that is still hours away and right now my attention turns to the beauty of a new day on the Dolores dawning clear and bright. A brightly colored Western tanager chirps gaily on a nearby branch. The sun is now upon me as I watch a soaring hawk glide silently across the sky.

Floating the Dolores also gives one time for personal reflection and thought. An inner peacé fills me as I relax and abandon myself to the slow and steady pace of the river. I share these feelings with my companions, who seem lost in similar feelings. Our trip will bring all in our group a bit closer together, river trips always seem to provide new friends. Before we're off today one of our crews reads an excerpt from Down the River, written by Edward Abbey, a fellow river runner trapped by the beauty of the Dolores River. "Sandstone walls tower on the left, five hundred feet above the Dolores River. The walls are the color of sliced ham, with slick, concave surfaces. Streaks of organic matter trail like draperies across the face of the cliff. Desert varnish, a patina of blue-black oxidized iron and manganese, gleams on the rock. A forest of yellow pine glides by on our right, so that we appear to be still in the high mountain country while descending into the canyonlands."

So having put our thoughts again on the river, we continue our journey, a journey I wish could continue indefinitely. The sun is getting higher, a voice I cannot quite hears beckons me on, and I must go. Off again floating free, wind, sky, sun, water, trees, cliffs -- I love them all.

In memory of Steve Arrowsmith. Tim Thomas.

The Creative Fix-It Shop

by T-Berry

Field repairs are misfortunes that every outdoor enthusiast experiences at some point in time. Most likely in order to accomplish the repair(s) one might not have all the tools, materials and/or creative luck required. Since the equipment that fails is following the "Laws of Murphy" and no other basic physical concepts, the enthusiast is required to make the repairs with what is on-hand. So within this article you will find some field repair ideas that pertain to basic river trips or to normal repair problems.

STOVES and BLASTERS

Blowing sand can wreck havoc while in the kitchen. You say your stove burners don't seem to work with much gusto? Try the following tips:

For the small burners on the PARTNER stoves unscrew the burners on one side. Plug all the pipes leading into the missing burners with your fingers (or someone else's fingers). Open all burner controls and blow air back through the one vacant burner tube with your raft pump. Air should blow back out where the propane usually comes in. Work your way from the burner farthest away from where the propane hook-up is. After the first one is pumped-out good, close the burner valve and continue on the next one in line. After all are clean reassemble and try again. Theoretically sand comes in at the propane hose hook-up and goes down the burner valves. There it clogs the jets leading out to the burners. You need to blow air in the opposite direction of the propane flow to dislodge the sand that robs the stove of it's high performance.

For the big blaster/hot water heater burners you actually need to disassemble the burner from the frame. Unscrew the brass jet/valve that leads to the cast iron burner at the iron pipe or rubber hose that carries the propane to the burner. When the brass jet/valve is of it's own space you can use a bread wire tie to ram inside the valve and clean the debris that clogs it. Be sure to open the valve and clean in the opposite direction of the gas flow. Use a pump as needed. When reassembling put a small amount of high-temperature silicon or TEFLON tape on the threads of the brass jet/valve where it screws onto the iron pipe or rubber hose that carries propane to the unit.

Stove repair is tricky. Don't attempt the repair if you are going to damage the stove. No stove is worse than one that hardly works.

Above I mentioned high-temperature silicon for repairing stoves. The high-temperature works wonders on old dish buckets that rip on the seam. Just goop the silicon on the leaking seam and let dry. When its dry you can go back to heating the pail on the stove with no worries. This only works for the remainder of the trip -- replace it when you get home.

PUMPS

Sand can cause pumps to lose air pressure. To fix take apart and clean thoroughly with a paper towel and re-oil with a vegetable oil from the kitchen. I've found that a continuous splash of kitchen oil every once and awhile will make the pump work better for a longer duration. Most folks use graphite or heavy lubricants; when added with sediments and/or sand it creates some of the most durable and malleable sandstone ever found within the Colorado Plateau. This sandstone really isn't the best lubricant or sealant for a pump. So by using something a little more water soluble, like olive oil, and re-oiling periodically, your pump problems will almost go away. Another thought about the "more water soluble" oil is that it will be easier to clean when you disassemble/assemble the pump.

COOLER LIDS

Everyone knows about putting plywood on the lids to a cooler. Right? The plywood makes it more rigid and keeps the shape of the lid from being disturbed while using it as a seat. When the shape of the lid is compromised the seal is also compromised which causes the cooler to lose ice sooner. Unfortunately the plywood adds weight to the lid and every time you open and close the lid the hinges break a little sooner too. So when you put the plywood on the lid, take the hinges off the cooler and shoot the vacant screw holes full of LIQUID NAILS or something similar in hardness like epoxy. Reassemble the hinges to the cooler and let dry for several days. Theoretically the screws should be anchored into the injected glue stuff. Once hardened the screws will have a harder time stripping-out and causing hinge failure.

OUTBOARDS

Your water pump dies. You have no spare motor or spare parts. So take the existing remains of the water pump out and reassemble. Where the return or exhaust water is "pissed-out" of the motor, there might be an adapter or connector in the hose. Take an old fuel line with it's priming pump and connect the old fuel line to the return/exhaust water hose at the above mentioned adapter. Make sure the the direction of the flow on the fuel line is going to pull the water through the engine (an arrow on the priming bulb dictates the direction). Use a glove and have a friend or another boatmun pump the water through the system manually. The glove is needed on the pumping hand, i.e., the hot water coming out of the engine is going to get pumped through the priming bulb held in the pumper's hand. Oh yeah, don't expect to run at full throttle; manage your speed and manage the temperature of the water you are pumping. If it is really hot, then slow your motor down. You will not be able to cool the engine as well with this system. If care is taken you will get home and the motor can be fixed with very little expense.

There is a good chance you need not pull the old water pump out. I've seen this work with the old pump in place. But as most motor savvy folks know, the water pump might be dead from a blockage of sediment. By removing it you might realize you can fix-it by clearing the obstruction.

Well hopefully there are some ideas in the above article for everyone. Next time I'll try a topic like field repairs for vehicles, major raft repair, or major outboard motor repair. Plus, if any interested reader has some ideas -- send them in. Especially if there really bizarre -- like repairing burned-out lower units on an outboard with kitchen oil, bailing wire, and a plastic jelly jar shim.

****

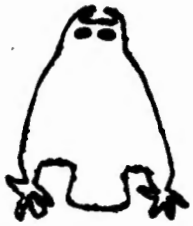
Affordable Housing for the Moab Area

The next page is designed to be filled out, torn out and mailed to: **CPRG, P.O. Box 344, Moab, UT, 84532.**

If you do not live or work in the Moab area, you can still participate in the survey. The information you provide will help Affordable Housing Projects for the future in other communities. Please maintain your anonymity but do indicate in the margins where you live and work.

Colorado Plateau River Guides

P. O. BOX 344 @ MOAB, UTAH 84532 @ (801) 259-8077



SEASONAL LAND AND RIVER GUIDE HOUSING QUESTIONNAIRE

The Colorado Plateau River Guides (CPRG) is a member of the Grand County Affordable Housing Working Group (AHWG). The AHWG was formed by Grand County and Moab City, Grand County Housing Authority, Southeastern Utah Association of Governments, Utah Job Service, Moab Chamber of Commerce, Grand County School District, and a diverse group of local business owners. The group's goal is to implement policies designed to increase the number of affordable units in the area.

With the financial assistance of both the Moab City Council and the Grand County Council an independent consultant has prepared a study of the existing housing situation in the Grand County area. *The Moab City/Grand County Affordable Housing Needs Assessment Study* identified a substantial need for housing units that would service the seasonal worker group. That's us.

CPRG has been an active participant in the AHWG meetings with the specific goal of identifying methods to remedy the housing problems that seasonal land and river guides experience each spring. A strategy presently being explored by the AHWG is to modify existing local zoning codes that allow landowners and developers to build affordable owner-occupied, single-family dwellings for residents who work in the schools, hospital and service sectors. Theoretically, this approach could make available a number of rental properties presently occupied by people who could qualify to purchase a home. If successful, this approach should help those guides and workers who live in the community year-round.

The CPRG supports this approach for permanent community housing but is of the opinion that other options might better address seasonal workers who spend the off-season living and working outside of the Grand County area. The CPRG believes that most landlords would prefer to rent their dwellings to people who could commit to long-term leases, rather than rent to seasonal guides and workers. This approach does little to modify the existing housing problem for seasonal workers.

The AHWG has examined the potential for the construction of both dormitory-type housing and/or improved campground facilities as a way to accommodate seasonal workers. These two less-expensive housing options could be modeled after the "co-housing" model that has been successfully instituted in numerous communities and universities nationwide. The most notable component of co-housing developments is shared kitchen, laundry and community rooms. Bedroom areas are exclusively private. This approach is typically far less expensive than traditional home designs. In campground facilities vans, campers, and tent sites could substitute for private bedrooms.

Grand County Code has been modified to allow certain dormitory-type developments in commercial zones. Moab City Code does not presently allow this development. If the idea gathered additional support, perhaps the Moab City Council would consider amending its code to allow these uses.

As part of the CPRG's contribution to the working group's effort we have developed a questionnaire to gather information on seasonal guides housing conditions; and, what types of alternative housing options may work here. Please take the time to read the questionnaire and respond to the questions as best as you can. Hopefully, the results of this questionnaire will assist the AHWG in selecting housing solutions that best fit our specific needs. Thank you for your cooperation on this important issue.

John Weisheit
Secretary/Treasurer, Colorado Plateau River Guides

SEASONAL LAND AND RIVER GUIDE QUESTIONNAIRE

Instructions. Please respond to the questions listed below to the best of your ability. If a question asks for additional information please respond. You can use another piece of paper is you need additional space. Please print your legibly-so we can read and/or decipher your responses. Thanks!

SECTION I-DEMOGRAPHICS

1. What is your gender? Male _____ Female _____
2. What is your age? _____
3. What is your marital status? Single _____ Married or Partnered _____

SECTION II-GUIDING HISTORY AND INFORMATION

4. How many years have you been employed as a seasonal guide in the Grand County area?

   _____

5. How many years do you anticipate being employed as a guide in the Grand County area?

   _____

6. What month of the year do you arrive in the area for seasonal work?

   _____

7. What month of the year do you leave the area after completing your seasonal work?

   _____

SECTION III-DESCRIPTION OF LIVING SITUATION IN THE GRAND COUNTY AREA

If you have worked as a guide in Grand County in previous years please answer Questions 8 & 9.
If this is your first season guiding in Grand County please proceed to Question 10.

8. Tell us of your housing situations when employed as a seasonal guide in the Grand County area? Please circle the appropriate letter (s) and note the number of years spent in each living situation.

   a. Rented Apartment _____ b. Rented House _____

   c. Rented Trailer _____ d. Rented Trailer Space _____

   e. Camping on Public Land _____ f. Camping on Private Land _____

   g. Company Provided Housing _____ h. Other _____

9. Did you enjoy this living arrangement? Yes _____ No _____
   If you responded no, answer why not.

   _____

SECTION IV-INCOME HISTORY

10. What is your gross monthly income from guiding? _____

11. What do you consider an affordable payment for living quarters? _____

SECTION V-LIVING SITUATION PREFERENCES

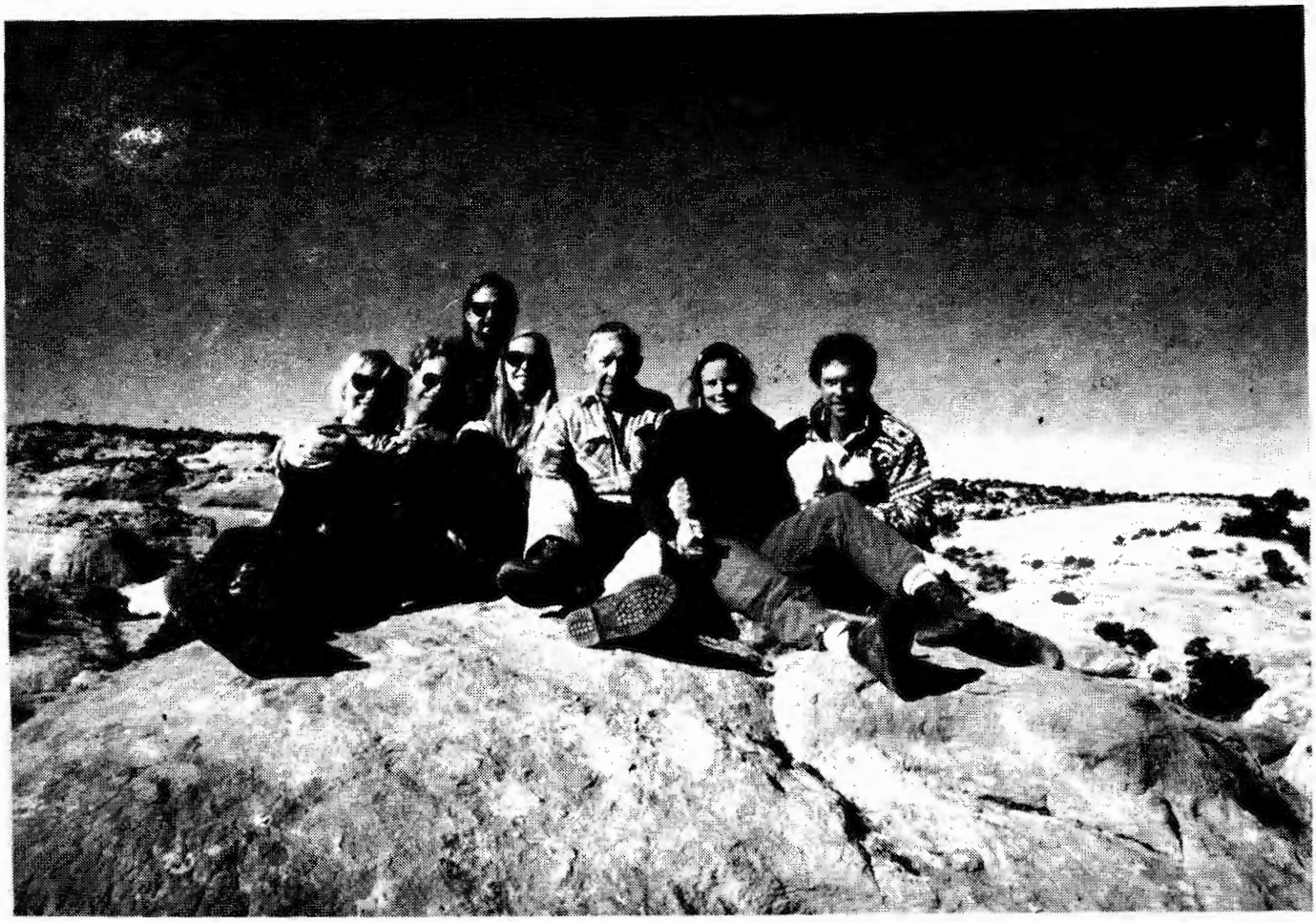
12. Would you consider living in a facility that had a community kitchen with locking refrigerators and storage space, shower, and laundry? Dormitory/Rooms_____ Vehicle/Tent Camping _____

13. Would you prefer a single company facility? _____, or a multi-company arrangement? _____

Please mail this completed questionnaire to CPRG, P. O. Box 344, Moab, Utah 84532 . Thank you.

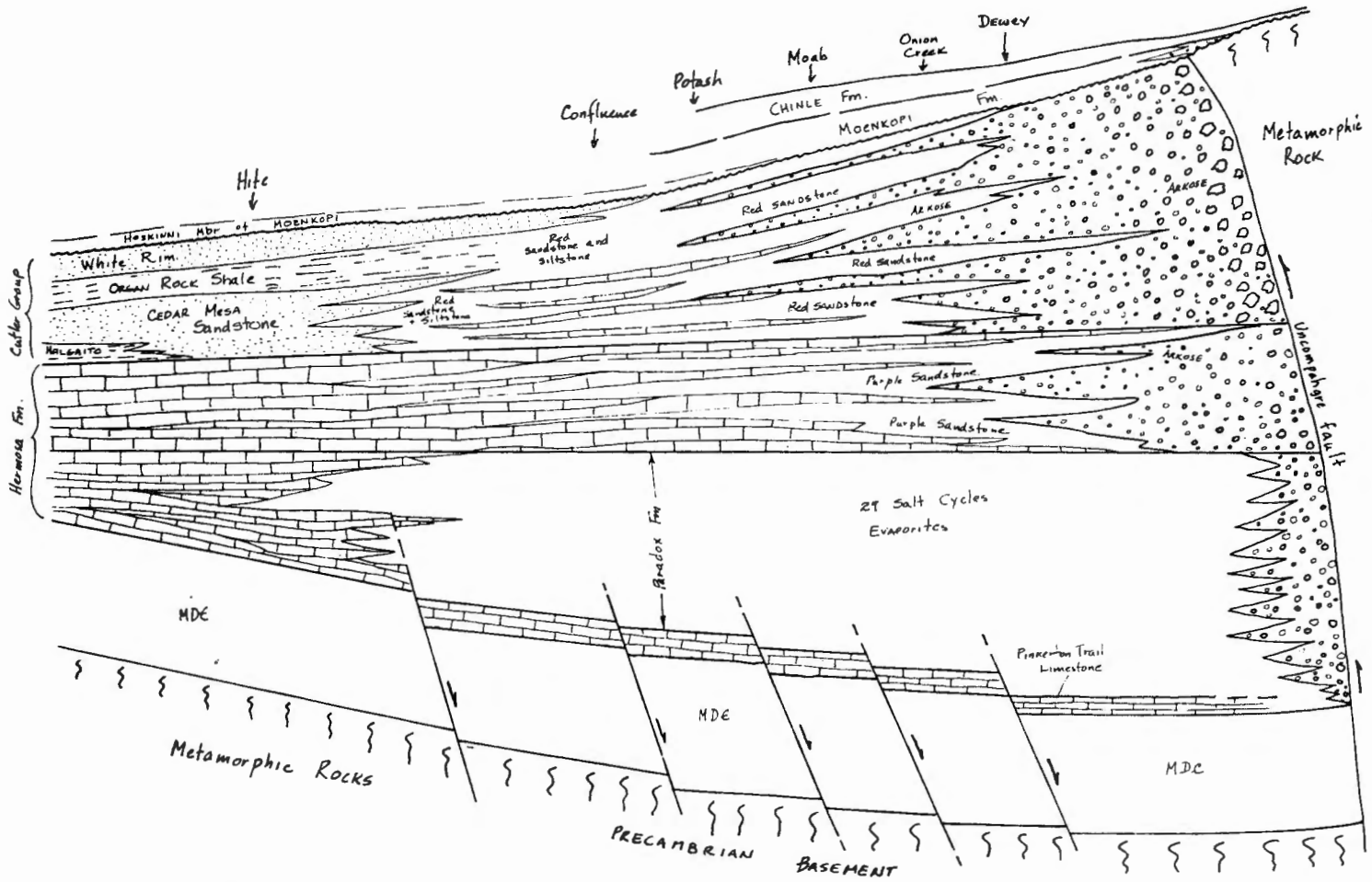


Hiking after the CPRG Spring Meeting, 1995.
From left to right (by the elbow): Tim, John, Susette, Joe, Nancy, Jose, Rose, Steve.



A Moab/Monticello Connection. Hiking on Kent Frost's birthday in the Canyon Rims Recreation Area. Left to right: Susette, John, Don, Denise, Kent, Carol, Kita and Scott.

Geologic chart here



Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

The Confluence

The Journal of Colorado Plateau River Guides
Volume 3, Issue 2, Spring 1996



Jet Skis

CNP River Management

John Sumner

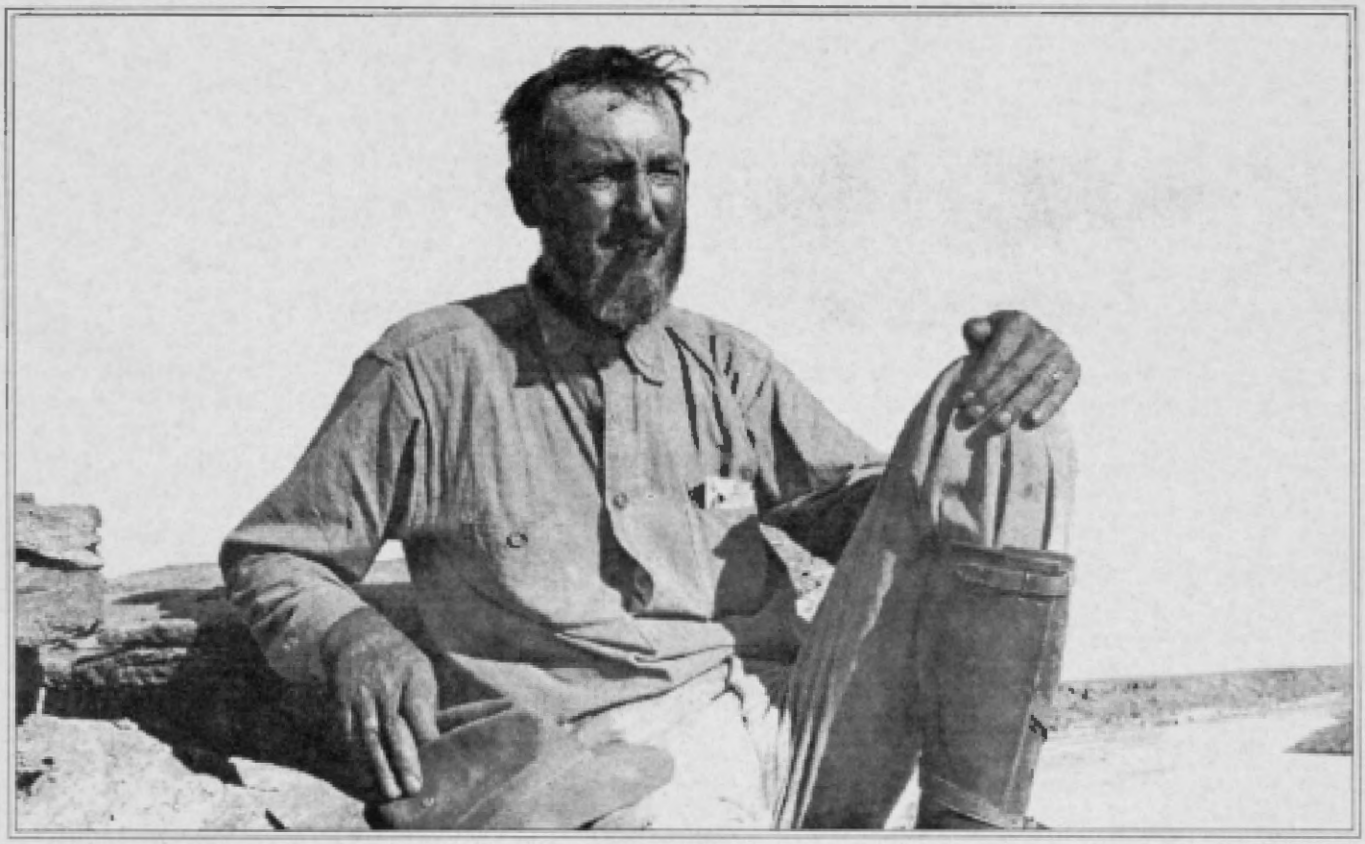
Grove Gilbert

Jewel of the Colorado

Westwater Canyon

USRS in 1914

Use in River Canyons



Eugene C. LaRue on the canyon rim of the Little Colorado River in Arizona. LaRue Collection #1493. Courtesy of the United States Geological Survey Photo Library, Denver Federal Center.

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (c) (3) non-profit organization dedicated to:

*** Protecting the rivers of the Colorado Plateau.**

***Setting the Highest standards for the river profession.**

*** Providing the best possible river experience.**

*** Celebrating the unique spirit of the river community.**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau.

General Membership is open to those who love the rivers of the Colorado Plateau.

Membership dues:

$ 20 per year.
$100 for 6 years.
$195 for life.
$295 Benefactor.

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Susette DeCoster-Weisheit
Vice President	Michele Reaume
Secretary/Treasurer	John Weisheit

Directors

Bluff	Tim Thomas
Green River	Sean Brown
Moab	Steve Young
Vernal	Tom Hicks

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077
Faxes accepted: Please call first.

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Microsoft Word on an IBM PC. If you use a word processor, we can translate most programs. Otherwise, please send your text double-spaced. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

E-mail: cprg@sisna.com

Editor: John Weisheit

ISSN # 1078-425X

A Disclaimer

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing or supporting viewpoint please send your comments to CPRG.

From the Eddy

For Volume 2 of *THE CONFLUENCE* only three issues were printed, which was our projected goal, as decided at the 1994 Fall Meeting. I personally desire this journal to be quarterly. As we are a voluntary force of river activists, all we can do is keep trying. I encourage you to submit that article you've been meaning to write. Also, if your interested in sharing editorial responsibilities, please let me know, as I can use the help.

Board Member Status

Special thanks to Tom Rice for serving as the first Bluff Director of CPRG. Tim Thomas, from Durango, has agreed to accept the vacancy. Tom Hicks has agreed to be the Vernal Director. Directors are watchdogs for the districts they serve.

CPRG Honorary Member

The nomination of Jeanne Treadway as the first CPRG honorary member for meritous service to our mission statement was accepted at the Spring Meeting.

Special Thanks To:

Bob Jones for a Six-year Membership.
David Desrosiers for a Lifetime Membership.
Jene K. Vredevoogd for a Lifetime Membership
Richard Quist for a Benefactor Membership

A Special Thanks to Westwater Books

CPRG collaborated with Loie Evans and Buzz Belknap of Westwater Books for their new edition of A River Guide to Canyonlands. This river guide now includes Horsethief and Ruby Canyons. Westwater Books gave CPRG a generous $100 donation and listed our purpose and address in this new colorful edition.

CPRG's New Computer and Printer

The CPRG Board agreed to purchase a new printer; it is a Hewlett Packard LaserJet 5P. CPRG also bought a sophisticated DELL computer system. The money to purchase this computer came from a willing lender. We bought the computer and printer using our umbrella non-profit status from CNHA/CCV. At the Spring Meeting we approved making quarterly payments to our lender, who does not desire interest payments. This computer and printer is available to any member who wishes to contribute to our mission statement.

Guide Training River Trip

The river clean-up/interp trip in Cataract Canyon was a real success. Special thanks go to the following: Utah Guides and Outfitters, Richard Jones and Bob Jones; NPS for Canyonlands, Arches and Glen Canyon; BLM; CNHA; Kent Frost, Dan Murphy, and our trip leader—the CPRG Prez. Also to Classic Helicopters for the on-site demonstration on landing and evac protocols at lower Ten Cent.

MORE STUFF

River Rendezvous

The CPRG Committee in charge of organizing the River Rendezvous has decided to postpone this event until 1997. The plan is to conduct a joint meeting with Grand Canyon River Guides with special talks and events. Watch for developments.

Canyonlands River Management Plan

Public comment concerning the river management plan in Canyonlands National Park is minimal—if not disappointing. It is very important that this process be guided by informed citizens such as the professional river guide. Please take the time to send a thoughtful letter to:

Mr. Dave Wood
Canyonlands National Park
River Management Plan
2282 SW Resource Blvd
Moab, UT 84532

During the Guides Interpretive Training Trip, in Cataract Canyon this Spring, we discussed the following question: Should we ban motors from the Green River in Stillwater Canyon? The issue was raised, defended and argued mostly by the Green River Navy. We decided that it would be advantageous to call a special meeting for guides to discuss this and other such issues as a forum. We will try to develop this concept in the coming months.

A Letter to the Prez

Dear Susette:

Just spent the weekend paddling the Colorado Daily in the rising teens. Arrived at Professor Rapid with a roar of rushing water AND jet skiers motoring upstream. Wow! What a shock to see seven jet skiers zoom past us, as well as pop a few wheelies around us. The flock of twenty Canadian geese seemed a bit disturbed when, to our shock and disbelief, a jet skier veered off his original path, crossed the river and crashed into the resting flock. The duckie in our group had the opportunity to converse with one of the jet skiers on the water as the jets circled his inflatable kayak before zooming off, leaving the duckie to surf out the resulting wave.

As the numbers of recreational boaters increase (just try getting on Westwater, Deso, San Juan or Cat, let alone the Grand), our river corridors are becoming more and more crowded. Our impact on beaches, wildlife and one another is significant. Now is the time for us to decide what levels of impact we are willing to tolerate. Personally, I would rather jet skiers limit their activities to areas outside of the Colorado Daily; there are several stretches of water accessible by car and trailer above Hittle Bottom and below the BLM takeout.

Legally, jet skiers are able to run from Cisco to Potash. If we want to change this, we must urge the Grand County Commissioners to pass a law prohibiting jet skiers on the Colorado Daily (letters, phone calls, faxes are all important). Contacting the Utah State Parks to voice our opposition against jet-skiers on the Daily also helps.

If a jet skier illegally creates a wake within 150 feet of your boat, you may file a complaint with the Grand County Attorney's office.

It is important to have a positive ID of the jet ski's serial number, a physical description of the driver, if possible an ID of the tow vehicle and pictures, pictures, pictures.

Commercial guides have the ability to influence policy decisions on the rivers we work and travel. But, our influence is only as powerful as our voice. We must be heard to be noticed. Now is the time to speak up.

Rose Kaszuba

A Poem

Slickrock Joseph and Canyon John
The Early Years

by Suzanne Wilson
Smithsonian Associate

I

'Twas in the early summer of '96
From all corners of the nation there formed a strange trail mix
Of flatlanders seeking relief from low ground:
You might say, we were upward bound.
For this lowland malaise, what could be the rehab?
Quoth the Prophet Smithsonius — "Moab!"
"Moab?" We wondered at this cryptic allusion,
For, what did we know of igneous intrusion?
What, indeed, of synclines and stratification,
Of salt dome upheavals and denudation?
Why, the West we knew was more Bill Hickock,
And other desperadoes, than Wingate or slickrock.

II

But, heeding the Prophet's promise of a cure,
We all booked a Smithsonian study tour.
And, as befalls travelers in strange lands, I'm sure you know,
In Moab the group fell into the hands of a notorious duo
Known far and wide for their peccadilloes —
The hombres called Canyon John and Slickrock Jos.
Both fancied themselves factotums and raconteurs;
They were river rats, cliff dwellers, wayward hat rescuers.
Slickrock could identify snakeweed and morning glories,
And in the same breath regale us with Mormon stories.
Legendary lore of the Old West and New West was his calling,
While Canyon John's specialty was drawling
About run-offs and strata, gorges and grabens,
To the point where a hiker once screamed, "Someone stop him!"
He'd a keen sense of rock formations, both temporal and spatial,
And a delivery which at times was — well — glacial.

III

This pair we were destined to follow
As we rambled down canyons and into hollows.
Under their tutelage we gained an education
In Jurassic and Cretaceous sedimentation.
We saw arches majestic, both major and minor —
And though on this earth there is little that's finer,
We were often so hunched over from hunger pangs in our bellies.
We resembled a tribe of latter-day Kokopellis.
At such time Joe and John would become downright butlery,
Preparing and serving a meal with undifferentiated cutlery.

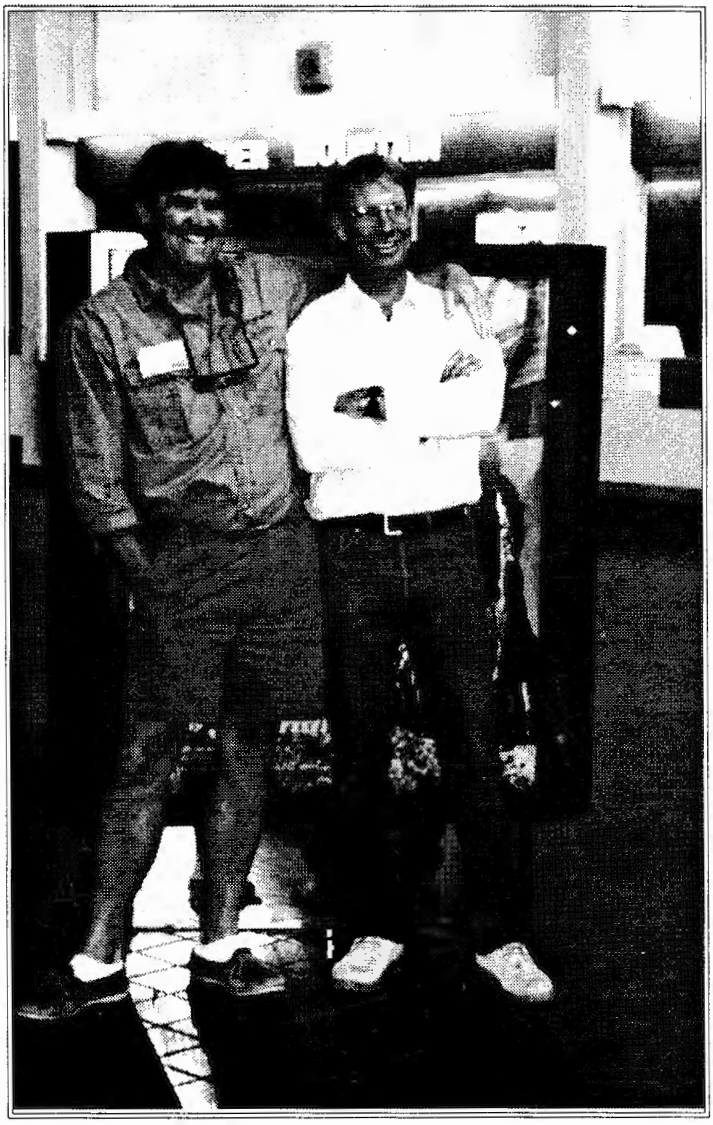
IV

In their hands we truly could not have been safer,
We thought, until we "fit" the trail at Shafer.
Like a bighorn ram did Slickrock Joseph climb the peak,
While throughout the truck came a faint cry of "eek!"
As we leaned away from the edge, tight as we could squeeze,
Hoping to avoid the fate of Thelma and Louise.
We were up Salt Creek without a paddle!
And worse, we didn't have an atlatal!
Perhaps it was Fate, or the angel Moroni, or just luck,
That, to our great relief, delivered that truck,
So that, safe at last, we stopped counting the ways ya
Could ricochet down off of canyon and mesa

V

We lived through this expedition, and worse,
And though the complaints we made were few—they were "cherce!"
(Like the time a keen-eyed hiker on a rise searching for petroglyphs
Observed in the river our Tag-A-Long raft was adrift!)
But when we start counting up all we have gained
From our Canyonlands sojourn—we find naught was in vain:
Now at cocktail parties we don't seem so dopey,
When the conversation turns, as it must, to Moenkopi.
And we know better than to chatter of Chinle
Formation, when the topic is Mt. McKinley.

The key to this metamorphosis, we've surmised,
Is, like all who visit Utah, we've been canyonized!



Joseph and John at the Grand Junction Airport for the grand finale of a Smithsonian Tour in Canyonlands during the Institute's 150 year celebration of its founding. Here is absolute proof that a land guide will work with a river guide—at least for a week anyway. Joseph is going into guide semi-retirement and we wish him well in his new endeavor of bringing professional theater to Moab. John thanks Joseph for showing him that there is life beyond whitewater, which basically involves following those wondering footsteps of Kent Frost.

Photo by James Togashi, Smithsonian Associate

A Westwater Canyon History

Text Compiled by John Weisheit

CPRG thanks Mr. Roger Green for his kind permission to publish this letter and for providing related newspaper articles concerning his Westwater experience in 1956. Thanks also to Scott Solle for sharing this information for publication in The Confluence.

Dear Scott:

While rafting with you on the "Half Day" last Sunday, I promised you some information about my trip through Westwater in 1956. Enclosed are several 1956 newspaper articles and a 1963 map drawn by my guide, Les Jones, that covers my finding of a human skeleton at the rapid now known as "Skull".

The articles also cover the finding of a counterfeit cave by the Sheriff while he was trying to locate the skeleton we found. Some articles indicated that they thought it may have been a man named "Shipp" who was lost in the river near Grand Junction, but another doubted that it could have been him. I tend to agree because of the age of the skeleton.

The newspaper articles are incorrect in some details because of lies we told to cover up our moving the bones and because of miscommunication. The true story to the best of my recollections is as follows.

Les Jones, an experienced river runner and map maker, took us on a two day trip through Westwater Canyon. It was Les Jones' first trip in Westwater and the remaining four of us had never seen a rapid before. We were young and adventurous and thought it would be great fun. Our group was composed of three men in a six man World War Two raft and two in a Grumman aluminum canoe bulk-headed for white water. We put in at Westwater Ranch above the canyon.

The trip was great fun until the raft capsized in a rapid upstream of "Skull" as I was taking movies of their run. One of the three men disappeared from my view as he was under the boat. After lining the canoe at that rapid, I finally caught up with the group on the right bank downstream. The individual that nearly drowned under the boat was in a state of shock and wanted to climb out by scaling the walls. After convincing him of this impossibility, we continued on down the river until we reached what is now "Skull".

All of us novices now had a fear of the unknown and no longer trusted Les Jones, similar to John Wesley Powell's men. We overruled Les Jones' advise to continue on and decided to spend the night on the rocky slope on the left bank across from the "Room of Doom".

It was a terrible place to bed down, but in our fearful state of mind we were grateful to get off of the river. We hauled the raft up onto the rocks for shelter and settled in for the night. It was at this time that I wandered downstream of the rapid looking for firewood.

It was a low water time of the year and an abundance of driftwood was to be found. While gathering a pile of wood to haul back to our makeshift camp, I looked down into a pocket formed by some large rocks and there I found a nearly intact human skeleton. Being young and from New York, I thought skeletons were lying all over the "West" and continued gathering firewood.

When I returned to our group, I joked that I had found some other poor soul that had tried to run this canyon. After telling them it was a skeleton and showing it to them, one of the party set the skull on a rock and proclaimed the rapids "Skull Rapids". I recall that he also tossed an arm and leg bone out into the river.

After a night on the rocks, we carried the boat around "Skull" and continued down river to a point on the right bank where three of us hiked out and back to our car at Westwater Ranch.

When we finally all got together and were loaded up for trip back to Salt Lake City, we reported our find to a lady that lived in Cisco, who represented the Salt Lake City area newspapers. We left out the part about disturbing the remains as by now we realized that it was not the proper thing to do.

The rest of the story is in the newspaper articles. I assume that the later high water that year washed away the bones we disturbed and the rest was covered by sand. Enclosed also is a newspaper article written in 1974. This was when I first realized the rapid would forever more be known as "Skull". [*1974 article not included in this feature.*]

I did return to Westwater Canyon in 1988 (thirty two years later) with Dee Holladay, owner of Holiday Expeditions, and crawled around our bedroom on the left bank once again. I found no new skeleton, but while I was there I did watch a kayak support boat capsize and a young lady go through the terror of being "kept" by the rapid before it released her to safety. The fear I saw in her eyes was very much akin to the fear our party was feeling at that spot those many years before.

I was told that Dee Holladay's first trip through Westwater Canyon was with the same guide that took us, Les Jones.

I did somewhat overcome my fear of the river and obtained a raft of my own during the late fifties and early sixties. I spent many days on the Green, Snake and Salmon rivers, but I had no desire to go back to Westwater Canyon until 1988.

I appreciated your knowledge of both the current and past history of the Colorado River in the Moab area. I hope my story will add to your repertoire.

Sincerely, Roger Green

Article from the Salt Lake Tribune, March 27, 1956. The story was also published in the Deseret News on March 26, 1956, the Times-Independent March 29, 1956, and the Daily Sentinel.

Moab — Part of a human skeleton found in a remote area near here will be inspected Tuesday by Grand County Sheriff John Stocks.

The remains are believed to be those of a Salt Lake man, Kent Milford Shipp, 48, drowned last July 30 during a fishing trip on the Colorado River a mile south of Westwater Ranch.

A Sunday fishing party discovered the bones at Big Hole, about two miles downstream from where Mr. Shipp was last seen, Sheriff Stocks said.

Sheriff Stocks was notified of the find by Mrs. Carolyn Sceley, Cisco. She said five fishermen told her of finding the bones. Mrs. Seeley said the five identified themselves as Rulon C. Briggs, Salt Lake City; Paul H. Hurd, R. H. Green, Les Jones and Duane Oxman.

The group came upon the upper part of the skull and farther downstream found the rib cage. Sheriff Stocks said if the lower jaw could be located it would aid greatly in identification through dental work..

Mr. Shipp drowned when a boat overturned throwing him and two companions into the turbulent waters. Glen A. Yearout and E. R. Miller, both Grand Junction, Colo., escaped. Mr. Shipp's body was never found.

Additional information provided by Roger Green concerning the "Counterfeit Cave" in Westwater Canyon below Little Dolores Rapid, river left. From a Times-Independent article published on April 12, 1956 and written by Beatrix Simpson. The article starts out by explaining Sheriff Stock's search for the skeleton by boat, which was not found, and continues as follows:

....Instead of solving the mystery, Sundays shooting of the rapids added another. Stocks and his companions found a hidden cave in

the wild country into which they had extended the hunt, and uncovered an old camp. A letter, one seeking the promotion of the mine, and dated in 1903, was the only clue, and the time had made it impossible to read the name on the letter.

The occupants of this ancient camp either left hurriedly, or intended to come back, and never made it. Why? Your guess would be as good as anyone's.

... If there had ever been a mine there was no trace of it left by time, but the letter indicated they were trying to interest capital in the mine they had somewhere..

This article stated that Sheriff Stocks did not believe the bones found by Roger Green were those of Mr. Shipp. The article closes with a letter written by O. L. Simpson:

[In] 1914 - 1922 we ran the general mercantile store and post office at Westwater, Utah. During that time, possibly in 16 or 17, a small, elderly foreigner (Swiss, we think) worked on the D&RGRR section crew, Charlie Salitino, foreman. He lived in a RR tie house on our land and traded at the store. His aim in life was building a row boat to run the rapids below Westwater and he devoted every leisure hour to that work. We remember him as a pleasant and polite man who talked with an accent, wore silver knob earrings, smoked Union Leader "Oonion Leadah" tobacco, and would not listen or be dissuaded from his purpose of running the rapids, though no one had been known to accomplish it. Afterward, and while we were still there, a river explorer, Ellsworth Kolb, did it.

This man worked months on his boat and oars and, during high water in June, we think, loaded and took off. No one knew anything about him, nor what happened to him, though some of us tried to find out.

We wonder if this discovery of a bleached skeleton could be the answer to his fate?

From an article in the Times-Independent of May 24, 1956, about a letter submitted by Elwood Malin of Santa Ana, CA.

... Malin, a former resident of the Westwater area, dug into his memory of places and events of the early years of the 20th century and came up with some bits of history that reveals some of the answers needed.

Malin said the first time he came to Westwater in 1904, he was down at the cave and was told a band had been using the place for making bogus money. The cave then was occupied by an old man by the name of John Warren.

There was a little store and post office on the Westwater Ranch, and run by a widow woman. Warren carried the mail from the post office to the depot once each day. He carried the mail out at 9:00 a.m. and brought the mail back from the depot, then got in a boat, cross the river and walk down to the counterfeit cave and prospect. He would stay overnight in the cave and return the next morning.

For his chore of carrying the mail, he received $15 per month and lived on this income for five years. He was from New York. He also had a cabin on the river bank, close to where the big ranch pump house is now, but closer to the bank which has since washed away.

When Malin first went to the cave, there was a little iron cook stove, a table, two cedar pole bunks, two chairs and a makeshift cupboard, a few old dishes and a couple of frying pans.

The widow who had been operating the store and post office married a man named Ed Bowdle, and her new husband began to carry the mail. Deprived of his mail route income, Warren went to Grand Junction, bought a new suit of clothes, hat, shoes, and a big suitcase and "pulled stakes".

That was the last they ever heard of him. The general opinion at the time was that he had been panning gold during those five years at Westwater, and that was where he got the money to leave on.

In the winter of 1905 Malin lived in a tent about 40 yards from the old John Warren cabin. It was while looking around the cabin that Malin discovered Warren was also an assayer, and saw lots of equipment in his cabin.

Malin recalled that in 1908 or 1910, two men came to Westwater, bought a boat from Ed Herbert, and went down the river on a prospecting trip. One of them was a one-armed man named Rich McGrooder, but Malin did not recall the name of the other. They lived in the counterfeit cave for some time. They tried to interest an eastern outfit to put up money for mining equipment, and shipped 50 pounds of black sand to the company in New York. But the offer was rejected by the New Yorkers.

Disappointed, the pair pulled out. They left bedding and supplies in the cave, and was going to come back, but they never did. That is how Malin accounts for those items found by Sheriff Stocks in exploring the cave.

...[The cave] used to be reached by a trail that came down into Little Hole, about a mile downstream and cross the river to reach the cave according to Jack Malin, son of the California man, and still a resident of the Westwater area.

Malin also recalled the little Swiss prospector that was recalled by Mrs. Owen Simpson in a letter written after the story of Stocks discovery was first published.

Malin said that this man went to Leadville, Colo., upon leaving this area and recalled that he (Malin) went to the train with him when he left. The little Swiss never visited Counterfeit Cave, Malin said, and recalled he often wanted Malin to guide him to it, but never made the trip.

Jack Malin recalled too, that Charlie Salitino, also recalled by Mrs. Simpson as the foreman of the railroad section crew the little Swiss worked for, was living in Grand Junction during the late 1940s.

From World Wide River Expeditions

As with all boatman stories, that seem to make the fish longer and the rapids much bigger, we've heard lots of rumors about the World Wide River Expeditions auto accident. So to put to rest all those "big fish" stories, here is what really happened.

Saturday, June 22, around 4:30 p.m., five World Wide guides were coming back from Hite through Blanding in a 15-passenger van. As the driver was passing a motor home, the World Wide van lost control in a turn, hit an embankment, tipped onto one side, and slid to a stop. No one was seriously injured. Tim Payne and Jane Miller had only bumps and bruises. Annie Tueller and Chris Jones had mild concussions and forgot, for a time, who they were or what they were doing (which isn't unusual for some river guides). And, Jeff Green suffered a dislocated hip (we heard the EMT that transported Jeff is recovering nicely from his bite!). All are back to work in various capacities except the white van which will be laid to rest with great sadness (since it probably won't be replaced until next year).

JOHN C. SUMNER



1840 - 1907

Text compiled by John Weisheit

Courtesy of the Marston Collection at the Huntington Library, San Marino, California.

The Following is taken in part from a biography written by William Culp Darrah and published in the UTAH HISTORICAL QUARTERLY, VOLUME 15, 1947. Mr. Culp wrote the biography Powell of the Colorado in 1951.

"John Colton Sumner was born in Newton, Indiana, May 16, 1840. A year later his family moved to Western Illinois and shortly thereafter took up land on the Cedar River in Northeastern Iowa. Jack spent most of his youth on the farm, but had several years' schooling in a local academy. He hunted for market and became a first-rate marksman and a good boatman. At this time millions of ducks, passenger pigeons and prairie chickens were slaughtered for commercial markets.

"On August 8, 1862, Sumner enlisted for three years' service in Company E, 32nd Regiment, Iowa Volunteer Infantry. At the time of his enlistment the company muster roll records Sumner was five feet five and three quarter inches tall, had auburn hair and a light complexion. The regiment was in constant action, but it participated in only two important engagements: the Battle of Bayou de Glaize, Louisiana, May 18, 1864, and the Battle of Lake Chicot, Arkansas, June 6, 1864. Sumner remained a private until August 15, 1864, when he was promoted to the rank of corporal. Sumner was mustered out August 24, 1865, at Clinton, Iowa, and given his bounty and back pay.

"Jack Sumner's sister, Elizabeth, had married William N. Byers at Muscatine, Iowa, in 1854 and later moved to Denver where Mr. Byers became editor of the *ROCKY MOUNTAIN NEWS*. Sumner spent the winter of 1865-66 in Denver, but was not cut out for city life. With a small amount of capital in the spring of 1866 he set up an outfitting and trading post in Middle Park where he drew the patronage of mountaineers, Indians, and an increasing number of tourists who came to see the scenic wonders of the Colorado country. It was at this outfitting shack that Major Powell found Sumner during the early summer of 1867. The Major had heard of Jack from Bayard Taylor, a popular lecturer who, during an extensive tour of the West, had been guided by Sumner and Byers through part of Western Colorado.

"In 1867, when Major Powell went to Denver on his way to the Park Country, he obtained a letter of introduction from Mr. Byers to Jack Sumner. Sumner acted as a guide for some of the Major's trips in Middle Park in 1867. When the Major returned in 1868 to make preliminary preparation for an exploration of the Colorado River Jack Sumner closed his trading post and threw his lot in with the Powell party. He had enlisted the services of O. G. Howland, Bill Dunn and Billy Hawkins, and thus was responsible for the engagement of these mountaineers for the Major's Colorado River expedition.

"Sumner was a man of slight build in his younger days, fearless, dependable and loyal to his friends. He had a pride which was easily offended and, when ignored in later years by Major Powell, bitterness was engendered in his heart.

"On June 30, 1873, he married Alcinda Jane Norris at Muscatine, Iowa, and three sons eventually were born to them. Soon after his marriage Sumner returned to Colorado, living for a time at Jewelsburg and then at Denver. He soon located at Rawlins, Wyoming, but about 1885 moved to Grand Junction. For some time he was superintendent of the Hawarden Placer Mines on the Dolores River and he took a prominent part in building Mesa County's Big Ditch. His second son, Edward, established a livery business at Vernal, Utah, and after the turn of the century, Sumner spent much of his time there. His last years were plagued by chronic illness. In 1903 he began correspondence with Robert Brewster Stanton who was preparing a history of the Colorado River Country. In his last months he completed a story of his part in the 1869 expedition.

"Sumner was a typical example of the restlessness that went hand in hand with the Western tide of migration. He was lineal descendent of the Massachusetts Sumners, a grandson of Governor Robert Lucas of Ohio, who was later governor of the State of Iowa.

"Jack Sumner died at Fort Dusquene, Utah, on July 5, 1907, in the country he helped to explore and pioneer. He was buried in the family plot at Denver. His widow survived to January 5, 1935, when she died in Salt Lake City at the age of 86. Jenny, as the family called her, was interred at Cedar City. Their youngest son, Ernest Maitland Sumner died at Price, Utah, November 27, 1928, and their second son, Edward Carson Sumner, at Cedar City on January 15, 1948. The eldest son, Charles G., who was born at Greeley, April 12, 1874, is the only child still living. For 20 years editor of the *POCATELLO TRIBUNE*, today he lives alternately at Pocatello and Ketchum, Idaho, where he engages in free-lance newspaper and other work.

Sumner's diary follows in the Utah Historical Quarterly. It is also available in bookstores as part of the text in a book called The Great Unknown by John Cooley.



Letters Concerning John Sumner

The following are letters that were located in the Marston Collection at the Huntington Library in San Marino, California. Special thanks to persistent transcribing by Rosalyn Jirge.

A letter from Edgar A. Rider, 729 Ute Avenue, Grand Junction, Colorado, dated May 14, 1903, to Frederick Dellenbaugh.

Dear Sir:

"I have just ordered a copy of your book "ROMANCE OF THE COLORADO RIVER" for Jack Sumner.

"I had the pleasure of going over the book (of which I possess a copy) with Jack this past winter and you can appreciate the added value and interest in the work when supplemented by his comments.

"You may be interested to know that Jack is well and hearty and though nearly 64 years old, can out-walk and out-shoot many of us that are several years younger. I have worked with him off and on for nearly 17 years and have never before this winter been able to get him to tell me anything of that wonderful trip of which he and "Bill"



729 Ute Avenue in Grand Junction, CO, as it appears today.

Hawkins are now the only survivors, and I want to thank you most heartily for your kind acknowledgment of Jack and his work and for furnishing that which has finally opened to me his stories of trial and adventure during that only "first trip" through the unknown cañon.

Yours very truly,
Edgar A. Rider

A letter from Jack Sumner dated February 7, 1904, to Frederick Dellenbaugh.

Dear Sir:

"Your letter to Mr. Edgar Rider is before me. In reply will state I have commenced to write my version of the so-called Powell's Exploring Expedition which will differ some from Powell's report and the reason the Howland Brothers and Dunn left us and my reasons for thinking they were not killed by Indians as reported by Andy Gibbons [next word illegible] who was sent out from Saint Thomas by Parnell.

"Will describe as closely as I can the place where the boys left us. Will also point [?] you right on some points in your great mark. I will also criticize Powell report of the geology [?] of the Henry Mountains, as I have been mining there for the last 14 years. I think I am better able to judge than parties who only spent a few weeks there and evidently had neither picks nor shovel. [*See article on the Report of the Henry Mountains in this issue.*] Yes, I probably could give you some points in regards to the early history of the West, as I was born in James [?] Territory and have been in camp 90% of the time since 1847. Have had the pleasure of speaking acquaintance with one of Lewis and Clark's men and intimate acquaintance with such frontiersmen as Bridger, Baker, Carson, Lon Anderson, and met Fremont twice and old Bonneville once. Yes, I have some pictures of my [?] taken about '74 and a [?], since all earlier pictures lost. As I am as paar as all frontiersmen are, I have to dig like a badger to feel, as all of my kind of people have cashed in and all the game gone. I am writing as I can spare time from russelling grub. At the request of my oldest son, who is the newspaper man who insist that I copyright it, I would very much like to have some personally and hope that someday we may meet and bust a bottle and make a pipe with you.

Yours most truly
Jack Sumner
607 Ute Street
Grand Junction, Colorado

A letter from Sumner to Dellenbaugh dated February 15, 1904.

Dear Old Friend,

"As you seem to me, though we have never met. I have read your book and it seems as you state in your letter to me. We seem to be old acquaintances and I am sure that that we will meet some day and be good friends ever after.

"I have been busy lately writing as I cannot spare the time, but I find it is a bigger job than I bargained for and it will take me some time to get it done and I doubt very much whether it will be worth a damn or what [?] as I am an uneducated man, never having a day's schooling except what I have wrenched from the School of Nature by hard knocks. I will give you soon as I can my impressions of the frontiersmen you speak and many others. No, I never met [illegible name] Powell. I have not heard before the receipt of your letter that Walter Powell was in the Big House, but it did not surprise me any as he had rats in his garret when he was with me and I knew

it was only a generation of time until he went to the Wild Bunch. Yes, Fred, I believe Andy Gibbons [?], a Mormon Danite, killed the Howland Brothers and Billy Dunn. I have evidence that satisfies my mind, but no proof. You will find my reasons for thinking so when you get my version of exploring expedition. As to the criticisms of your book, it is very brief. The D. Julien 1836 marks on the rocks were probably made by Andy Hall, as he was always up to some prank. The Ashley Falls mark are authentic. You state in your book that no one has traveled the river entire from Green River, Wyoming, in the Green. That's a mistake, my bag. I have trapped on Green River from 100 miles above the station down to the station and Andy Hall and I went to the head of the Green. As Hall is dead I probably am the only one that has done it. So you can send me a chromo off of a tomato can. That's all the criticism as to the Henry Mountains. I have been mining there for the last 14 years and I find gold, silver, copper [?], coal at the base and about a fine prospect of uranium as I ever have at. As to copper I find it all through [?] the mts. I have ran five first class uranium claims near the mts. and will go out there about April 1st to mark them. I know of a copper\uranium ledge, 10 ft. wide, that can be traced for a mile that is now recent [?]. So if you know of any parties that want to tackel such a proposition, the vacant claim probably contains the new metal radium, as I hear the experts are using electricity to reduce it [?] and there is [?] very close. It looks to me a game proposition. Fred, don't take too much stock in the hospitality of Jacob Hamblin and the other Saints: they are experts in policy and diplomacy. I've known them for 50 years. You speaking of dropping in on me some day, Good, Good. I will be in Grand Junction until about April 1st. Will then be in the Henry Mts. My post office will be [?]. Fred, if you know of anyone that [?] handle uranium, I think there is money in it for both of us. As I have probable tired you out I'll close hoping to hear from you soon.

Yours most truly,
Jack Sumner

A letter, undated, from Mr. Rider to Dellenbaugh.

Dear Sir:

"Your favor of recent date at hand. I have just returned from an evening's visit with Jack Sumner to whom I read your letter. It pleased him very much and he promised to sit right down and write out what you wanted.

"Jack is living here permanently now. He is not as robust as he was last year, owing partly to a fall from scaffolding while carpentering last fall.

"I was with him a number of times while he was in bed from his injuries and he promised me then that he would write a sketch of his life as soon as able. But like many frontiersmen he does not seem to think his part amounted to much.

"I wish you could get acquainted with him, you could then get at what you want so much better than through writing.

"Tonight I asked him some about the cañon trip and the Howland and Dunn incident. And for fear he again procrastinates, I will jot down what he told me while it is fresh in my mind even at the risk of boring you. If he ever does write his version of the matter, you will of course destroy this. I wish I could put in his peculiar, lisping drawl, even at times making him hard to understand.

"Jack served four years in the Civil War. After he was mustered out he came direct to Denver and wintered there.

"In the spring of 1866 he went to "Hot Sulphur Springs" in Middle Park to trade with the Indians (Utes, I believe).

"In 67 or 68 Major Powell came to him with letters from Denver parties and engaged him to help get natural history specimens.

"While working together Major tried to get Jack to go on a trip to the Badlands in Dakota on similar work, but Jack suggested a trip down the canyons instead. Major "hooted at the idea", claiming that it was preposterous and the trip impossible, etc. They talked it over for three days and Jack finally "outwinded" him.

"Jack drew the plans for the boats and they completed the scheme—the details of the start you have, of course.

"The wreck at Disaster Falls was caused by Major Powell's failing to give the signal properly or promptly and Powell claimed that it was caused by blundering on the part of one of the Howlands (I haven't your book by me, so don't know which of the named Howlands or Dunn were brothers), but each laied the blame on the other at that time and quite a quarrel ensued from then on. Major Powell made it very uncomfortable for Howland and the party seemed to have taken sides to some extent, till when Cataract Cañon was reached, an open breach occurred. Major Powell told Dunn (I think it was) that he could either leave the party there and make his way to the settlements as best he could or pay $50 a month for his grub for the rest of the trip. Whereupon Jack jumped to his feet and told Major Powell: "He couldn't come any damned military there", meaning he says that he could not be so autocratic and abusive as he might were the men enlisted under him and "further, that his (the Major's) carelessness [had] nearly caused disaster now three times; that from now on by—he (Jack) was going to command the movement of that expedition, that the Major could geologize and do the scientific act, but he couldn't run that trip another mile". The men were called upon for their opinions and they all agreed with Jack except Captain Powell, who sided with the Major and started to upbraid Jack till Jack drew his gun and offered to settle with the Captain there at once—a truce was patched up and the party proceeded without any breaks to mention till they came to the head of "Sockdolager" Rapids [*Rider confused Sockdolager with Separation Rapid*] where they spent a day trying to figure out a way to get through. Toward evening the Howlands and Dunn told Jack that they had decided to quit the party, that their chances in the wilderness and a pleasant parting looked better to them than the canyon with the continued strife and they started the next morning for St. George. Jack can tell you about their killing, but it won't do to put on paper for a generation or two. That morning was the last any of the two parties saw of each other.

"Jack feels that you do him an injustice in stating, he says, that no one ever went through the canyons and down to tidewater. He says that after Powell left him and his partner [?] [Hawkins] they went about 50 miles further down and wintered and that the next season he went on down to Yuma.

"If this is true, then he is the only man that ever went or probably ever will go through all the canyons down the whole river from Green River, Wyoming, to Yuma.

"I wish you could talk with Jack yourself that you could see how he impresses one as truthful.

"I have heard him talk of incidents and locations that I was [?] on and he did not know it and his statements have always "checked". He has no copy of the diary of the trip, but depends on his memory. I believe that most of the foregoing is true. Of course some of his gunplay at Captain Powell may have been put on for my edification, but I have known Jack for 17 years and have been West 26 years, so he is not apt to add anything just to "string me for a tenderfoot", as we all may do on occasions. If this is of any value to you, I shall be satisfied, though I think it would be better that you do not use it for some time, that Jack may have a chance to make good his promise.

"If you want to write to him, his address is 607 Ute Avenue, or if you feel that you can get better results through me, I shall be pleased to help. I have heard people say that have tried that they never could get Jack to talk about his past life and I know it was

years after I got acquainted with him before I could and never about the canyon trip till after we went over your book together.

"I shall stir him up once in awhile and report progress. If he don't send you a picture soon, I shall. I have a good one of him taken last summer and I know can get another.

"Pardon this extremely long epode [?], but I couldn't cut it off.

Yours very truly
Edgar A. Rider



Where John Sumners house was. Now the Grand Junction Police Station

A letter dated July 11, 1907 from Rider to Dellenbaugh.

Dear Mr. Dellenbaugh:

"I enclose a clipping from a local paper that will be of interest to you. Our friend, Jack. [h]as gone to his reward. As he told me one day years ago—"Neddie. I have been a rough man and have lived a rough life, but I have never harmed anyone intentionally, except in self-defense and I am willing to let the Master balance the books."

"And knowing Jack as I did I have no fear for the result for him.

"He was a true friend and a good companion.

"He was an authority on things pertaining to nature. Could give the scientific name for most of the flora\fauna of this region.

"I should like to have heard his opinions on the Roosevelt\Long controversy, but I have not seen him for 6 months.

"We frequently expressed a hope of meeting you some time and looked forward to the meeting with considerable pleasure.

"You will see in the article enclosed that the manuscript he prepared is in the hands of his son, Charles, from whom you may get some notes that would be of value to you.

Yours very sincerely,
Edgar A. Rider.

A letter from Charles Sumners, Jack Sumner's son, to Mr. Clyde Eddy.

Cedar City, Utah
Febr. 26 - 36 [?].

Mr. Clyde Eddy
Port Washington N. Y.

Dear Sir.

"Your letter of February 5th, at hand. And about all I can say is from memory. In the month of September 1895, I went with my Father to the Henrys Mountains. And was with him for three years we were alone a great part of the time, and as you know, a kid can ask questions and they generally bring forth a correct answer.

"And Father would tell of the trip down the river and how it was first talked of by Powell and himself. In 1868 Powell was in Middle Park, with a body of college students and Dad acted as guide. Having a pack outfit, which was used by the party.

"And both being interested in this unexplored part of U.S.A. decided to make the trip the next year. And from what Dad said it was up to themselves to finance the job, at any rate they began to get things in shape that winter, to start in high water time as they would have a better chance to pass over the big bolders, and falls, if any. At this time Dad was holding what is now Hot Sulphur Springs, Colo, for his brother Ed. C. Sumner, who was Post Master of Denver. And from all accounts it was some job, as about all the company he had was Indians. But that was what the old timers wanted. Hunting, trapping, fighting and new country to look over. Most men that were in the civil war, and come out alive, were very much on the go. And no doubt but Powell and Dad would not be satisfied with to much population. So all the money that Dad could get hold of went into equipment for that trip. At one time he said he sold his mules and saddle horses for $1000, besides what furs he sold. So as I knew Dad no doubt but that it all went into the pot. And if any left it would be to have a little party before the start, as money would be of no value on that kind of a trip. The object to find out what was there and if it did not suit forget it.

"When the boats arrived at Green River City Wyo, they were unloaded, and Dad often said he was dissapointed as they were not what he had ordered. But Powell explained it was the best he could do with the cash on hand, as there were a lot of things to get, and as the start was in the making, Father said it looked that if he wanted to go it was no time to kick and there was no use of stopping on account of boats. The dates of departure I cannot call. Also the names of all the party, but some I do recall, which is not necessary to menshion. Eleven in all, and thing were not much eciting, until the

first bad waters, Lodore Canon. But Dad did not say so much about that, above it there was a large valley, I suppose what is called Brown Park.

"But at Ashley Creek, what is Jensen Ut. now, two of the party threw up the white feather as Dad would say it. Good men. But they seem to have found what they were looking for and why go on. The names of these two men, Ed Gray and Frank Goodwin. They both settled in the country, and died there. I knew them and talked many times and was thinking what a time I would have when Father arrived in Vernal which he did. But at the time Gray was sick at Jensen, His home, Goodwin in Wyoming and before they arrived on the scene Father was taken with a stroke, and the big event in my case never happened. So what I could of heard is all a mistery. I was in the livery business at Vernal.

"From there on it seems that most of the party became some what sore or was in doubt if it was a good deal or not.

"Dad often said there was not so much of importance only looking out for some one or boat going over, and the waters were so noisy they were all getting so they could not talk and understand, all places look bad, and on reaching Cataract Canon, then unknown, things did look bad for sure, and he believes if there had been any idea as to how far it would be to some settlement, they would of sure tryed to make. There was nothing to do but go on, and he said at different times that there was no telling how many times all their lives, was not worth a tinkers dam.

"But they got through, all alive, but wet hungry and not so much grub.

When coming to the Dirty Devil river there must of been a flood, as Father said it was about as nasty piece of water he ever seen, and called it by that name, if he was the first one, I do not know, But I suppose not knowing any other name, it would express his feeling.

"His report from there on I do not recall was so very hard until way down the river. He said he panned for gold at all side streams and at North Wash, or Cresent Cr. he found course Gold, and made a note if he got through this trip he would find a way into it, and not come down the river, which he did in 1890, from Grand Junction Colo. into the Henry Mts and discovered the Bromide Mine. And that accounts for my being with him.

"He also found gold in several other streams but they did not impress him so much.

"From some where around Escalante Creek the provishions were sure getting shore, and a lot of trouble started. As every one blamed Powell and Dad often said it took a lot of bluff on his part to keep some of the party from killing Powell and his Nephew Walter. And more than once the gun was on Powell, and some one telling him what they was going to do to him. But Father was not so slow on the gun stuff, as he was never without a gun on his hip, when on a trip.

"He has said he wanted to kill Walter more than once, as he always refered to him as: half Baked, and that would mean a lot when he would say it.

"It was more a less a quarrel from that point on. I asked him why the Howland boys and Dunn blew up.

"His reply was a long time in coming

"They were on the point of murder, and would of carried it out. But Dad stood for Powell, also Hall was with him and guns were out. But it seems Dad had the advantage, and started to talk and told them that there would be no chance of getting out of the Canon, if they killed Powell and not much of a one of getting if they went on. But that he would take his chances on the river. And any others that would go on with Powell must keep their trap shut. He would try to put them through or go down with the rest. And then asked Howland Bro. & Dunn to reconsider where they were. The Indians or Mormons would get them if they did get out the rim. If not they had a chance of dying of thirst and hunger. As there was very little to divide. That he would be more willing to drown, on the river than choke to death for the want of water. So they had an hour to decide to go or stay, and no more quarling. He said He held the fort until some one decided what they were going to do. The Howland Bros & Dunn finally said they were through, and wanted a few supplies to try and get out. So the grub was devided, and Dad often said it was not enough for one man for 3 days and the same amount went with the ones that stayed a piece of sow belly, fly blowed and flour that was water soaked, and they all faired alike, only the ones that stayed could live on water, of which they had plenty. He figured he got the best of the trade.

"The party started on and the three men stood on a rock and watched them go. And as Dad stayed with the party in fact was then the Boss, as Powell was at sea had nothing more to offer, or was to dumbfound to speak. Dad before pushing off put up the gun and offered his hand to all of them, which they accepted, and asked them to come on, as this surely must be the last bad one. But no, we are through, our chances are better than yours so goodby. Dad would often say he could see the boys very often in his sleep and also awake, and before they were out of sight of them. Made motions for them to come on as he could see ahead and there was no fall or underground passage in sight. He called this rapids separation, on account of the party dividing.

"From then on it was bad for a while and at last they came out in open water and the silence was hard to stand they were all pleased and did a lot of talking, but it seemed so loud that it was hard on the ears. And then is when they wanted to have a drink of something besides water. If I remember right Powell left the party at Virgen river, and returned to Salt Lake by way of St George, any way Father said Powell gave him $100.00 dollars and a Gold watch, and for to go on down the river to the ocean, and report to him by mail. So on they go, things were coming easy now more grub, and less fast waters. I think that left Hawkins Bradley Hall, and Father. At some fort in Arizona Hawkins and Bradley decided to stop. But Hall and Dad went on to the Gulf of California. And then there was no place to go so they sailed back. And were hunting for gold or game waiting for time to get some word from Powell. But as time went on and they did not receive any word from him, supplies ran low again and having no way of going overland. They began to figure how to get back to Denver or Salt Lake, or any railroad point. So they came up the river to some point around the Virgen river and decided to look around for horses or something to move with from the river.

"That was a part of Dads story I could never get clear. Not knowing any thing of the country, and did not pay so much attention to what he would say. But one day I asked him if he ever killed an Indian. Well he looked somewhat surprised. Yes I know of two, and how many before that I dont know, as it was with other parties.

But these two I do know for sure.

When Hall and I were at Virgin river I went out one day to look the country over and try and decide what to do or which way to go also try and get a deer. He was coming up through the brush a watching very careful for game, And a bullet whised by his head, well he said he fell like shot, and for a moment he thought he was, but kept low, crawled around under the brush, and kept a lookout. As he knew from former experances, that an Indian would not wait so long before he would take a look to see if the game went down. He said it seemed a long time before an Indian head appeared above the brush. But he waited until the Indian was sure the coast was clear, and when he raised to full hight I pulled down on his head. When it hit that Indian jumped clear of all brush and did not come up again.

"But as Indians go in pairs or more he still was not free. So by working around through the brush, looking for more of them, he seen another crawling towards the one that was down. So waiting for a good shot without any doubt, it soon came as the Indian was

getting more anxious. He exposed to much head and I know I killed those two, and was glad to do it, as it was them or me. I asked what took place then. Well I waited until dark and worked my way back toward the river. And was sneaking along when I heard Hall calling me. As he heard the shots and was thinking I had a deer. When I told him what happened, we decided to move and at once. So down the river once more and we were close to this Fort (which one I do not remember.) Where they had got supplies before, and was taking it a foot and came upon a possy of Soldiers. Who picked us up and took us to the Fort. The commanding officer told us, they had been a report that some white men had killed two Indians. And they would be held until things cleared up. Dad said I did not know what to do but suggested he would help hunt up this party. As they were on this river trip and had some knowledge of the country. The officer looked me over and said we see in the morning. Well they decided to let us ride with them without arms, which we did for two days. But could find no one, and as there was no one to say for sure I did it they could not hold us, if we wanted to go. We started back to Fort, and I was riding with the Officer in the rear of the rest of the troop. And was thinking how I was to get back to Salt Lake. The Officer turn and said you know what I think.

"I just looked at him, and was in doubt but what there was going to be trouble

"He said you or Hall are the ones that shot the Indians. And I believe it was you. I was feeling about ready to land on him, when his next words changed my mind. Well if you did it is all right with me. So you and your pardner can have a horse a supples, and get out of here tomorrow if you want it. Well I sure was thankful for that. But Hall said he would stay there. But I was ready to go. So I got the horse and he sure was a good one, as I did my own picking. I asked Father why he did not go east from there. But his answer it was closer to Salt Lake, by way crow flies. And he started overland from there and came throug the desert somewhere west of Las Vegas Navada, the way I get it. That trip from Dads lips was the hard one. As water was far apart, and he said he traveled for days, with nothing but brush and sand. And several times was about to give up, as to far for man or beast. At night would follow the rabbit trails and look for water. But so often when found it would be green. So horse and I would take a little and wait for it to cool and take more in the morning. But finally made it to Salt Lake and wired Brother Ed. and he sent me the money to return. I asked, so your trip down the Colorado was not a picnic and no money for the pleasure as wages.

"Well you do not understand just where the desire is, in trying to see the other side of the mountain. I could not rest if I had not gone and at the same time, I did not know what I was looking for. Just unrest, and a new place to go. And it seems to me the veterns of this party down the Colorado were willing to give their time to help make U.S. a safe place to live in. And alway looking for something new to conquer.

"Now Mr. Eddy. This, along with many talks, Dad and I had, prehaps would fill a book. But as it is not interesting to so very many. And hope it may give you some slant on something worth while.

"I was on the river in 98, 99 with the Good Hope Placer Mining Co Also worked for Stanton, when he put in the dredge for extracting gold. And By the way he did not prove anything. the Gold is there but he had the wrong idea, to Bad. Also knew Stone. Met him on the river, before he made his trip down the river. Was at Vernal when he passed through and shook hands with him when he started down the Green from Jensen, his boatman Than Galloway and I had the same tent while working for Stanton.

"Parley Galloway also. And if I had of known of your trip last year with Frazer, I don't know how you would of keep me from going along. I see by papers Frazier is showing films in Washington.

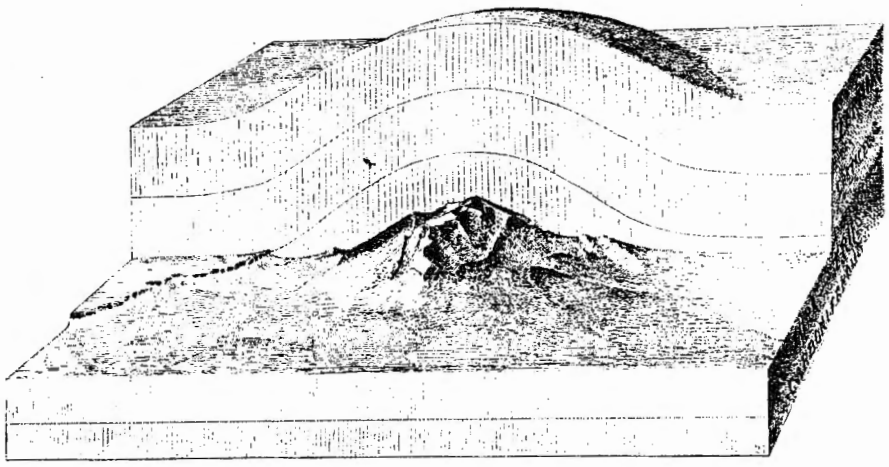
"In Vernal there was one old timer I knew but never had much a a chance of talking with about the Colorado. Who was a guide for Powell on his second trip, or I might say a supply man. Capt. Pardyn Dodds. He is dead now but sure was some character and his son Pard Jr. is living in Vernal. Well the old timers are gone and they say a lot of bad and good, and they were not so hot on records, after the adventure, if it did not suit hunt another. I want to go to the river and wash the gold a new idea and it works. But like Dad use to say find the idea and then enough to carry it through.

"But as things are now, we can prehaps tell our Great Grand Children, how we joined the F.E.R.A. and fought to the bitter end.

"With best wishes for your book, and if any of this will fill in use it. But if you do publish, I would like a coppy.

Sincerely Yours,
Ed C. Sumner.

"[P.S.] Father had a diary but it was destroyed in Rawlins Wyo by fire. The Goverment has all I know. I hope you find the above to be of some use.



From Gilbert: "Half stereogram of Mount Ellsworth, drawn to illustrate the form of the displacement and the progress of the erosion. The base of the fiqure represents sea-level. The remote half shows the result of uplift alone; the near half the result of uplift and erosion, or the actual condition." [Layers from bottom to top are labled: "Carboniferous, Jura—Triis, Cretaceous, Tertiary."]

A Published Work By: Grove Karl Gilbert

Transcribed by John Weisheit

Introduction

In past articles that I wrote for this journal I made casual reference to the work of Grove K. Gilbert, the brilliant geologist of the Powell Survey, who would became one of the most celebrated geologists in America. At that time, I used references from publications written by such latter-day geomorphologists as Charles B. Hunt. I decided it was time for me to investigate Gilbert's work first-hand and so while visiting the U.S.G.S. library in Denver, I discovered Gilbert's primary documents.

I was delighted with all that I read and the following transcription is what I felt to be the most beneficial. What is also interesting is Gilbert's modesty. He admitted how simple geologic investigation is on the Colorado Plateau. He felt that it would take years of research to study landforms in areas that are normally covered by soil and vegetation. The aridity of the Colorado Plateau is what made his work easy. This allowed me to ponder a simple fact: wherever you are in this world, it is as eternally beautiful and fascinating as the Colorado Plateau.

The text comes from various pages found within:

Report on the Geology of the Henry Mountains by Grove Karl Gilbert U.S. Geographical and Geological Survey of the Rocky Mountain Region John Wesley Powell in Charge



Grove K. Gilbert
From C. B. Hunt, GSA Memoir 167

"It is evident that the laccolites [Henry Mts.] were formed beneath the surface of the earth's crust, but at what depth is not evident. The problem is involved with the problem of the age of laccolites, and the two are connected with the general history of the Basin of the Colorado. Neither problem can be called, for the present at least, determinate, but it is possible to narrow them down by the indication of limits which their solutions will not exceed.

"So much of the Colorado Plateau region as lies within Colorado and Utah was covered during a geological age which it is convenient to call Cretaceous, by a sea, the waters of which appear to have become fresh toward the last. Then came elevation both general and differential. A great part of the sea bed became dry land, and the accumulated sediments together with many which underlay them were bent into great waves thousands of feet in altitude [example: the San Rafael Swell]. The crests of the waves were subjected to erosion and truncated. Then came a second submergence which was purely lacustrine [lake deposits]. In some way that has not been ascertained a lake basin was formed, and the region received a new system of sediments which is convenient to call Tertiary, and which not merely filled the troughs between the great rock-waves but covered the truncated summits of waves themselves [burial]. Then followed the desiccation of the basin by the cutting down of its rim where the water overflowed. The overflowing river as it deepened its channel and gradually lowered the lake, steadily extended its upper course to follow the receding shore; and finally when the basin was completely drained the river remained, its channel leading through what had been the deepest part of the Tertiary sea. [headward erosion]. That river is the Colorado. As portions of the lake bottom were successively drained they began at once to be eroded, and from that time to this there has been progressive degradation. The regions nearest to the central river were reduced most rapidly and have been completely stripped of their Tertiary strata, but broad areas of the latter remain at the west, and north and east [example: the Tavaputs Plateau].

"(The reader will understand that this succinct history is shorn for the sake of clearness of all details and qualifications. There have been complicating eruptions and displacements of oscillations at every stage, and if the full story could be told, it would not be by a single paragraph nor a single chapter [referring mostly to extensional rifting].)

"When the Cretaceous strata were thrown into waves the site of the Henry Mountains remained in a through, and it probably was not dried, but continued the scene of sedimentation while the crests of the surrounding rock-waves were worn away. Certainly it was not greatly eroded at that time; and when the Tertiary lake beds were thrown down it was favorably disposed for a heavy deposit. It is not extravagant to assume the four thousand feet of lake beds rested on the Masuk sandstone [an upper member of the Mancos Shale; non-marine; upper Cretaceous] at the beginning of the final desiccation

"In brief there may be distinguished—

1. The deposition of the Cretaceous.
2. The folding and erosion of the Cretaceous.
3. The deposition of the Tertiary.
4. The desiccation of the Tertiary lake basin.
5. The erosion which is still in progress.

"It is evident that the laccolites were not formed until the Cretaceous strata had been deposited; for their uplifts have bent

and tilted all Cretaceous rocks up to and including the Masuk sandstone.

"They were not formed at any late stage of the final erosion, for they conserve tables along the western base, which but for their shelter would long since have disappeared. From the end of the Cretaceous period to the end of the desiccation of the basin there is no event with which the laccolites can be directly connected. There is however a consideration which in an indirect way sanctions the opinion that the epoch of igneous activity was after the deposition of the Tertiaries and before their erosion.

"The Masuk Sandstone is at once the summit of the Cretaceous and the highest bed in the present Henry Mountain section. If it were restored over the entire range, the laccolites of the upper zone would have on the average thirty-five hundred feet of cover, and those of the lowered zone nearly seven thousand feet. This was the depth of their original cover, if they were intruded at the close of the Cretaceous age. During the epoch of Tertiary deposition and the subsequent epoch of erosion, the cover first increased in depth and then diminished, having its maximum at the end of the Tertiary deposition. If it can be shown that the original cover of the upper laccolites exceeded thirty-five hundred feet, the question of age will be reduced to comparatively narrow limits. In order to discuss the problem of the original depth of cover it will be necessary to consider another matter, of which connection will at first be apparent. ...

The Waste of Cliffs

"It is to this law that bad-lands owe much of their beauty. They acquire their smooth curves under what I have called the "law of divides", but the symmetry of each ridge and each spur is due to the law of equal declivities. By the law of divides all the slopes upon one side of the ridge are made interdependent. By the law of equal declivities a relation is established between the slopes which adjoin the crest on opposite sides, and by this means the slopes of the whole ridge, from base to base, are rendered interdependent.

"One result of the interdependence of slopes is that a bad-land ridge separating two waterways which have the same level, stands midway between them; while a ridge separating two waterways which have different levels, stands nearer to the one which is higher.

"It results also that if one of the waterways is corraded more rapidly than the other the divide moves steadily toward the latter, and eventually, if the process continues, reaches it. When this occurs, the stream with the higher valley abandons the lower part of its course and joins its water to that of the lower stream. Thus from the shifting of divides there arises yet another method of shifting of waterways, a method which it will be convenient to characterize as that of *abstraction*. A stream which for any reason is able to corrade its bottom more rapidly than do its neighbors, expands its valley at their expense, and eventually "abstracts" them. And conversely, a stream which for any reason is able to corrade its bottom less rapidly than its neighbors, has its valley contracted by their encroachments and is eventually "abstracted" by one or the other.

"The diverse circumstances which may lead to these results need not be enumerated, but there is one case which is specially noteworthy on account of its relation to the principles of sculptor. Suppose that two streams which run parallel and near to each other corrade the same material and degrade their channels at the same rate. Their divide will run midway. But if in the course of time one of the streams encounters a peculiarly hard mass of rock while the other does not, its rate of corrasion above the obstruction will be checked. The unobstructed stream will outstrip it, will encroach upon its valley, and will at last abstract it; and the incipient corrasion of the hard mass will be stopped. Thus by abstraction as well as by monoclinal shifting, streams are eliminated from hard rocks. [Consider the abandonment of the Gunnison River in Unaweep Canyon by the rejuvenation of the Uncompahgre Uplift.]

Land Sculpture

"*Résumé*.—There is a tendency to permanence on the part of drainage lines and divides, and they are not displaced without adequate cause. Hence every change which is known to occur demands and admits of an explanation.

"(a) There are four ways in which abrupt changes are made. Streams are diverted from one drainage system to another, and the watersheds which separate the systems are rearranged,

(1) by *ponding*, due to the elevation or depression of portions of the land;

(2) by *planation*, or the extension of flood-plains by lateral corrasion;

(3) by *alluviation*, or on the process of building alluvial cones and deltas; and

(4) by *abstraction*.

"(b) There are two ways in which gradual changes are effected:

(1) When the rock texture is variable, it modifies and controls *monoclinal shifting* the distribution in detail of divides and waterways.

(2) When the rock texture is uniform, the positions of divides are adjusted in accordance with the principle of *equal declivities*.

"The abrupt changes are of geographic import; the gradual, of topographic.

"The methods which have been enumerated are not the only ones by which drainage systems are modified, but they are the chief. Very rarely streams are "ponded" and diverted to new courses through the damming of their valleys by glaciers or by volcanic *ejecta* or by land-slips. More frequently they are obstructed by the growing alluvial cones of stronger streams, but only the smallest streams will yield their "right of way" for such cause, and the results are insignificant.

"The rotation of the earth, just as it gives direction to the trade-winds and to ocean currents, tends to deflect rivers. In the southern hemisphere streams are crowded against their left banks and in northern against the right. But this influence is exceedingly small. Mr. [William] Ferrel's investigations show that in latitude 45° and for a current velocity of ten miles an hour, it is measured by less than one twenty-thousandth part of the weight of the water (American Journal of Science, January, 1861). If its effects are ever appreciable it must be where lateral corrasion is rapid; and even there it is probable that the chief result is an inclination of the flood-plain toward one bank or the other, amounting at most to two or three minutes.

Consequent and Inconsequent Drainage

"If a series of sediments accumulated in an ocean or lake be subjected to a system of displacements while still under water

[submarine anticlines], and then be converted to dry land by elevation *en masse* or by the retirement of the water, the rains which fall on them will inaugurate a drainage system perfectly conformable with the systems of displacements. Streams will rise along the crest of each anticline, will flow from it in the direction of the steepest dip, will unite in the synclinals, and will follow them lengthwise [strike valley]. The axis of each synclinal will be marked by a watercourse; the axis of each anticlinal by a watershed. Such a system is said to be *consequent* on the structure.

"If however a rock series is affected by a system of displacements after the series has become continental, it will have already acquired a system of waterways, and *provided the displacements are produced slowly* the waters will not be diverted from their accustomed ways. The effect of local elevation will be to stimulate local corrasion, and each river that crosses a line of uplift will inch by inch as the land rises deepen its channel and valorously maintain its original course. It will result that the directions of the drainage lines will be independent of the displacements. Such a drainage system is said to be *antecedent* to the structure.

"But if in the latter case the displacements are produced rapidly the drainage system will be rearranged and will become consequent to the structure. it has frequently happened that displacements formed with moderate rapidity have given rise to a drainage system of mixed character in which the courses of the larger streams are antecedent and those of the smaller are consequent.

"There is a fourth case. Suppose a rock series that has been folded and eroded to be again submerged, and to receive a new accumulation of unconforming sediments. Suppose further that it once more emerges and the new sediments are eroded from its surface. Then the drainage system will have been given by the form of the upper surface of the superior strata, but will be independent of the structure of the inferior series, into which it will descend vertically as the degradation progresses. Such a drainage system is said to be *superimposed by sedimentation* upon the structure of the older series of strata.

"Fifth. The drainage of an alluvial cone of a delta is independent of the structure of the bedrock beneath; and if in the course of time erosion takes place of deposition and the alluvial formation is cut through, the drainage system which is acquired by the rocks beneath is not consequent upon their structure but is *superimposed by alluviation*.

"Sixth. The drainage of a district of planation is independent of planation is independent of the structure of the rock from which it is carved; and when in the progress of degradation the beds favorable to lateral corrasion are destroyed and the waterways become permanent, their system may be said to be *superimposed by planation*.

"In brief, systems of drainage, in their relation to structure, are

(A) *consequent*

(a) by emergence, when the displacements are subaqueous, and

(b) by sudden displacement;

(B) *antecedent*; and

(C) *superimposed*

(a) by sedimentation, or subaqueous deposition,

(b) by alluviation, or subaërial deposition, and

(c) by planation.



The Jewel of the Colorado

by Eric Trenbeath

I remember when seen and felt through the blissful senses of childhood, it was the most incredible place in my world. Camped with family and friends beneath the shelter of a massive sandstone alcove, we laughed and talked and peered out at the billion glittering stars while the firelight flickered and danced on the sweepingly curved, varnished streaked walls that surrounded us. When morning came we would load up into the boat and speed off to a new and equally magical spot. The place was full of them. Hundreds of side canyons, grottos, and glens that beckoned exploration. 1001 rock formations of every shape and size lay waiting to be climbed in every direction. And of course there was the water. Deep, warm, blue, and it filled everything.

My excitement could hardly be contained the few times my family made the journey down from the great city in the Land of Zion. We drove for hours across the fantastically barren desert. Beyond the towns and services. Passed promising places with intriguing names lake Goblin Valley, and Capitol Reef, where weird shaped rocks and ragged skylines rose from every horizon. Finally we would pass between the mountains. From the pass we could see far across the rolling red desert where a thin sliver of blue could be seen. The old chevy pickup with boat in tow crept onward. As we slowly crested each dune the mirage would grow and disappear, and then grow larger to disappear again until, when we crested the last hill of blowing sand and blackbrush, the shimmering blue waters of Bullfrog Bay spread before us.

I was eighteen years old when we took our last trip as a family to that marvelous place. My steady girlfriend was along. With a giant beach towel we stole away to the top of a red sandstone cliff where we cavorted in the blazing sun 1000 feet above the ribbon of blue that filled the canyon below. We proclaimed it the most amazing place on earth and swore to marry aboard a houseboat on that beautiful lake.

That night we sat late around the campfire until all had gone to bed and save for the occasional pop of juniper all was still and quiet. As we sat the damp and muffled silence flooded over us. Not a riffle moved across the surface of the water and it's inky depths were covered in blackness. I stared over the smooth dark plane. On the opposite side of the inlet one hundred feet of sheer rock rose from the surface forming an almost perfect right angle of water and stone. A faint splash was heard. Perhaps a pebble dislodged by a scurrying ringtail. As the soft reverberations faded into the dark, the smothering silence returned, and with it a pressure on my stomach that squeezed at my insides. And in my mind grew the thought that somehow I had missed something.

A few years later I was again at the world's most amazing place. No parents around that time and long gone was the steady girlfriend I'd sworn to marry. Present however was a houseboat and a ski boat, a jet ski, a keg of beer, plenty of other assorted partying essentials, and a dozen or so friends all set for a fun filled week on Lake Powell.

We chugged our way up and down the 180 mile long reservoir drinking, and sunning, and burning fuel at a rate of about three miles to the gallon. When the channel was calm, or a side canyon beckoned, we would unhook the ski boat and go for a spin. We water skied through winding canyons and sprayed the walls with "rooster tails" of dazzling spray. Or we boated up to the end of some narrow and twisting slot of a canyon where the walls all but blotted out the sun. There we would turn off the engine. The few rays that filtered in were reflected from the contours in the sandstone in a brilliant array of reds, tans, and oranges. Our voices and laughter echoed through the water filled canyon until all sound was once again drowned by a damp and muffled silence. And then it returned.

Deep down, nibbling away at my insides, the feeling that I had missed it.

Later that day we decided to head up the Escalante River arm in search of a place to camp. We chose a site in Davis Gulch. The fantastic tributary canyon where I was later to learn that a young man who was an artist, writer, desert wanderer, and vision seeker vanished into the slickrock wilderness some sixty years ago. Anyhow as we pulled in to the shore I leaned over the rail to scout for submerged objects. As we closed in on the slickrock shoreline something beneath the clear blue water caught my attention. I peered in closer as the boat chugged ahead and when it finally registered what I was seeing I hollered to stop the boat and hit reverse. In a grinding roar the huge, hulking, houseboat struggled a stop and reverse. The lurch sent people, objects, and drinks sprawling. When the froth had subsided and the crashing waves receded from the shore I returned my gaze into the calming water. Just below the surface, slowly coming into focus, were the twiggy tops of a long drowned grove of full size Cottonwood trees.

That was the first time I gave any thought to what might be underneath the deep blue waters of Lake Powell. For me growing up in Utah in the 1970's Lake Powell had always been there. It's sparkling blue waters a seemingly natural phenomena in the great red desert adding nothing but beauty and magic to an already wondrous place. Never had I suspected that the magic was the spirit of all things drowned under there.

I had a difficult time enjoying myself the last time I visited the "Jewel of the Colorado". Six years of drought had lowered the level of the reservoir by about 75 feet. This loss in pool left a 75 foot high ring of gray scum on the rock walls that encircled the entire reservoir. This phenomena is of course well known to many as the infamous "bathtub ring". The "bathtub ring" makes for a striking contrast as the interface between dazzling red rock walls and the shimmering blue water. Former shore-side campsites were now 75 feet above the waterline. Any newly revealed flat spots were covered with a thick layer of dried and cracked bathtub scum and the remnants and refuse of a motor based camping culture was strewn everywhere. Beer cans, barbecues, and the tattered frames of folding chairs stuck forth from the mud. Diapers, toilet paper, and human feces were heaped in great piles. And the latest news of the area was that the loss in pool had revealed a dumping ground of batteries that the houseboat concessionaire had been dumping in the lake for the past 20 years.

As I surveyed the scene before me, my mind became flooded with the images of Elliot Porter, the words of Brower and Abbey, and scenes imagined through the eyes of Hillers and Dellenbaugh, Bert Loper and Ken Sleight, and of course, those of John Wesley Powell. As my mind cleared and the visions faded, the scene at hand returned to my senses. The boats sped round and round the bay, their incessant whining never to cease. An intense heat and the smell of gasoline and stagnant water hung heavy in the air. The huge ferry, the "John Atlantic Burr" chugged back and forth across the bay carrying cars between Bullfrog and Hall's Crossing.

Turning my back to the "Jewel of the Colorado" I walked up the cement launch ramp passed the parking lot and fish cleaning stations, beyond the hotel/restaurant, gas station and campground, to the edge of Bullfrog Marina and Resort to peer out at the desert beyond. Before me lay the red dunes of sand and blackbrush that spread out till their apparent terminus; the purplish gray peaks of the Henry Mountains to the Northeast, and the lengthy escarpment of the Waterpocket fold coming out of the Northwest.

Just ahead of me, atop the first dune, the ribbon of highway lead to a giant steel warehouse encircled by a huge yard and chain link fence. The silhouettes of boats of every shape and size could be seen behind it. A blast of hot dry air came out of the West bringing with it rolling tumbleweeds and a curtain of sand. Not a drop of water could be sensed anywhere and the whole scene atop the hill seemed almost comical. Behind me however, the incessant whining continued. The buzzing worked into my head, and the pressure I had once felt squeezing on my insides returned. And I knew that I had missed it.

"For a replaceable commodity we spent an irreplaceable grandeur. Your son may pass by but neither he nor anyone else will know it; the intimate things that gave this place it's magic will never again know the sun."

David Brower

Epilogue

Very few, if any currently working Colorado Plateau river guides including those down below the dam ever saw Glen Canyon. All we have now are the stories of a few old timers like the Quists, and Ken Sleight, and some other folks you might chance upon. There are also a couple of picture books, most notable of course and out of print is Elliot Porter's, The Place No One Knew. Though an exquisite book both in text and in photographs, it didn't quite do it for me. I was looking for a blueprint that showed it all. I wanted to know, *what did Glen Canyon look like!?* Of course I will never know but last summer Eleanor Inskip published and edited the book, Glen Canyon Before Lake Powell. Extremely painful to look at, it rarely comes off the shelf though in this book I think I found what I was looking for.

Continued on page 20

Use in River Canyons

Compiled by John Weisheit

The following tabulations on the next page reflect visitation in the canyons of the Green and Colorado River drainage area. These numbers were provided by the appropriate managing agencies.

As you will notice, most people like to do river trips in gorges of schist and gneiss with igneous intrusives. This is followed by those canyons John Wesley Powell got so excited about in and around the Uinta Mountains. The gorges through the Monument Uplift show a preference to San Juan Canyon by privates and in Cataract by the commercial sector. Remember that a private Dolores River trip does not require a permit and probably shouldn't ever be permitted until we get dependable releases from McPhee Dam (something to work on). What seems a little unfair is the private/commercial ratio in Grand Canyon and I have this funny feeling that use by the private sector will be increased someday. I think Desolation is the perfect place to initiate a citizens proposal to make this canyon Wild and Scenic and that it should also be motorless.

What do you think?

Colorado River Basin Use in 1995 (Per Person/Per Trip)

River Trip	Private	Commercial	Total
Grand Canyon	3,544	20,005	23,549
Dinosaur	6,856	7,757	14,611
Dolores	3,504	4,645	8,149
Cataract	1,368	5,234	6,602
Desolation	3,412	3,085	6,497
Westwater Apr-Oct 94	8,908	7,390	16,298
San Juan	7,346	4,161	11,507
Labyrinth (BLM)	2,448		2,448
Ruby/Horsethief			5,334
Canyonlands/Canoe	1,674		1,674

Colorado River Use in Cataract Canyon (Per Person/Per Trip)

Year	Private	Commercial	Total
1969	154	432	585
1970	174	715	889
1971	167	1,503	1,670
1972	147	2,292	2,439
1973	225	4,197	4,422
1974	311	3,785	4,096
1975	379	3,663	4,042
1976	447	4,417	4,864
1977	467	4,342	4,809
1978	432	5,143	5,575
1979	657	5,071	5,728
1980	597	5,518	6,115
1981	562	4,564	5,126
1982	953	4,111	5,064
1983	893	2,674	3,567
1984	865	3,600	4,465
1985	885	3,325	4,210
1986	768	4,241	4,241
1987	1,131	4,388	5,519
1988	1,071	4,438	5,509
1989	1,011	4,348	5,359
1990	1,316	4,211	5,527
1991	1,290	4,401	5,692
1992	1,567	5,017	6,584
1993	1,316	5,171	6,487
1994	1,186	4,916	6,102
1995	1,368	5,234	6,602

Colorado River Use in Grand Canyon (Per Person/Per Trip)

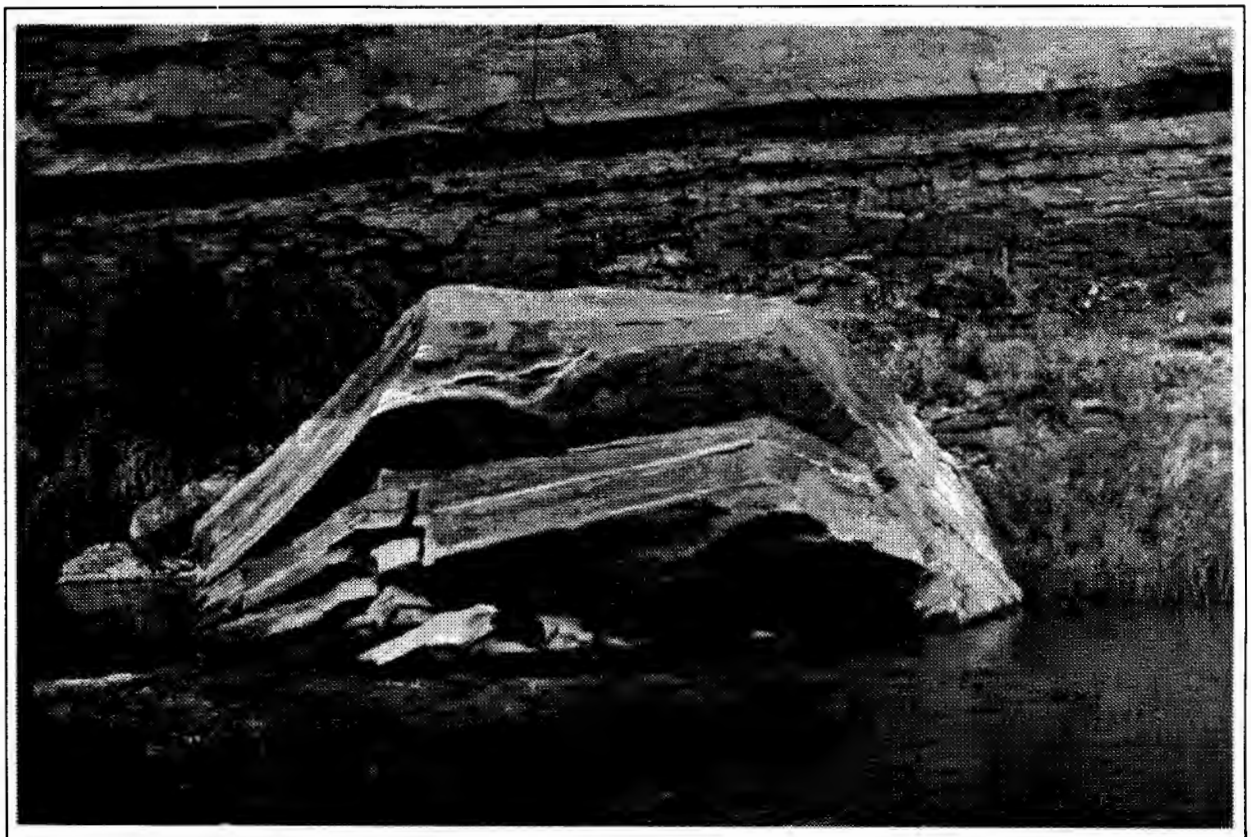
Year	Privates from Lees Ferry	Privates from Other	Commercial from Lees Ferry	Commercial from Other	Total
1980	1,134	66	11,426	2,204	14,830
1981	2,190	176	11,574	3,098	17,038
1982	1,811	124	11,745	3,269	16,949
1983	2,078	160	10,290	2,915	15,443
1984	2,157	167	9,871	3,757	15,952
1985	2,368	172	11,374	4,199	18,113
1986	2,466	238	13,148	5,336	21,168
1987	2,517	213	12,636	5,328	20,694
1988	2,840	286	12,949	6,013	22,088
1989	3,045	303	13,067	5,840	22,255
1990	2,769	279	13,126	5,649	21,823
1991	2,974	307	13,642	5,785	22,708
1992	3,134	279	13,541	5,942	22,896
1993	3,137	280	13,830	6,044	23,291
1994	3,130	311	13,316	6,193	22,950
1995	3,197	347	13,517	6,488	23,549

Colorado River Use in Grand Canyon (Per Person/Per Trip)

Year	Private	Commercial	Total
1941			4
1942			8
1943			
1944			
1945			
1946			
1947			4
1948			6
1949			12
1950			7
1951			29
1952			19
1953			31
1954			21
1955			70
1956			55
1957			135
1958			80
1959			120
1960			205
1961			255
1962			372
1963			6
1964			38
1965			547
1966			1,067
1967	101	1,998	2,099
1968	154	3,455	3,609
1969	185	5,834	6,019
1970	428	9,507	9,935
1971	436	10,449	10,885
1972	548	13,785	14,333
1973	648	12,599	13,247
1974	462	11,485	11,947
1975	474	11,533	12,007
1976	435	11,094	11,529
1977	412	9,305	9,717
1978	395	11,335	11,730
1979	473	11,665	12,138

Grand Canyon Total User Days (Per Person/Per Day)

Year	Private	Commercial	Total
1970	4,277	72,067	76,344
1971	5,443	66,064	71,507
1972	7,611	88,135	95,746
1973	7,833	86,264	94,097
1974	7,638	84,193	91,831
1975	7,679	84,552	92,231
1976	7,611	85,006	92,617
1977	7,766	75,800	83,566
1978	7,477	89,362	96,839
1979	20,343	88,338	108,681
1980	19,573	89,313	108,886
1981	36,511	99,536	136,047
1982	30,318	103,837	134,155
1983	35,325	91,237	126,562
1984	35,586	92,249	127,835
1985	39,222	103,472	142,694
1986	40,285	115,581	155,866
1987	41,400	111,480	152,880
1988	46,984	112,677	159,661
1989	50,525	113,348	163,873
1990	46,788	112,891	159,679
1991	49,341	113,921	163,262
1992	52,615	113,636	166,251
1993	52,527	114,845	167,372
1994	54,105	112,812	166,917
1995	54,771	113,831	168,602



A rock on The Needles side between Little Bridge and Lockhart Canyons that reads: "ZX".

A Mystery Solved

by John Weisheit

Near and around Lathrop and Lockhart Canyons, on the Colorado River in Canyonlands National Park, there are several modern-day inscriptions painted on rocks with combinations of the last three letters of the alphabet, namely: X, Y, and Z. Of the ones I know, the sequence going downstream is: ZX, Z, ZY, Z.

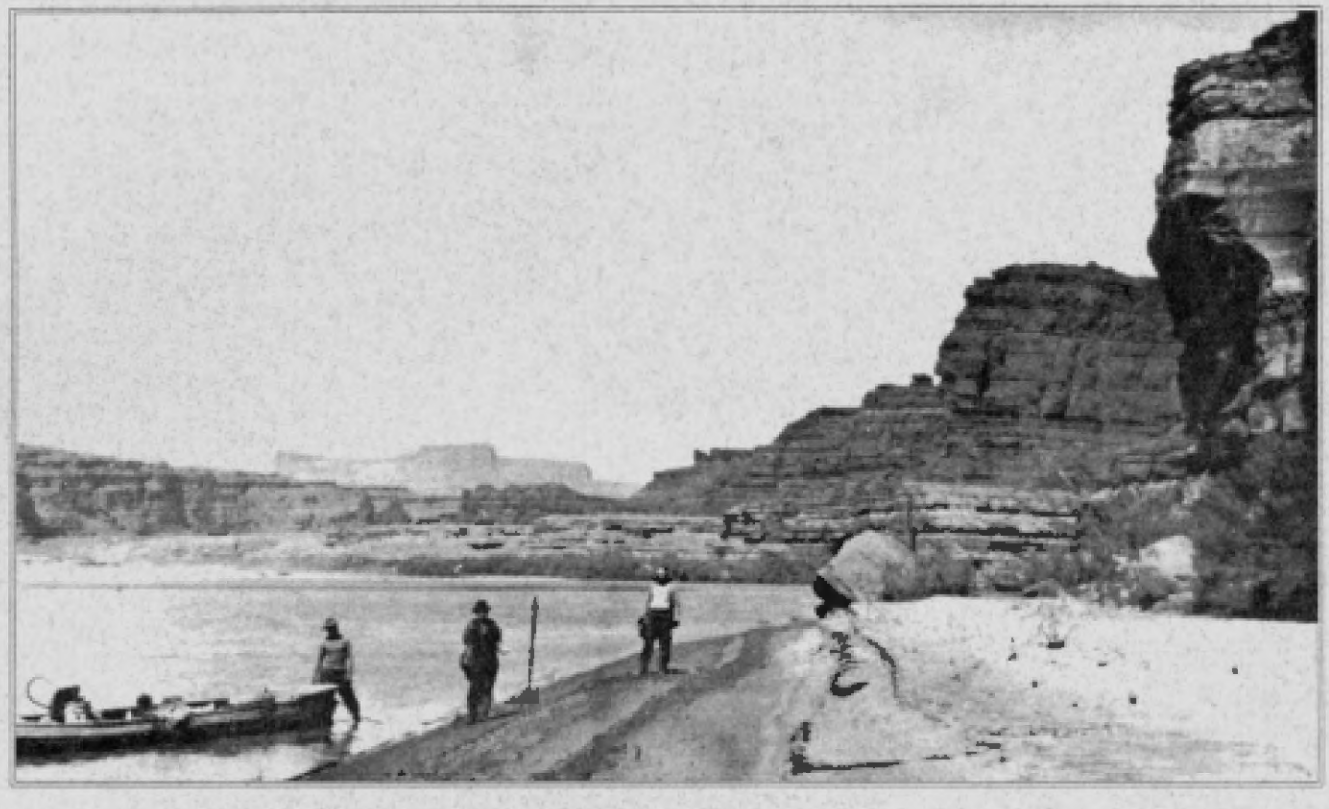


In the E. C. LaRue photo collection at the USGS Library I found an upstream view of Deadhorse Point that was taken in September of 1914. In this photo is the large rock that has the inscription "ZX". It is pretty conclusive to me that these inscriptions were done by E. C. LaRue who worked for the U.S. Reclamation Service (USRS), then a division of the USGS. It is my feeling that their purpose was to map the Lockhart Anticline.

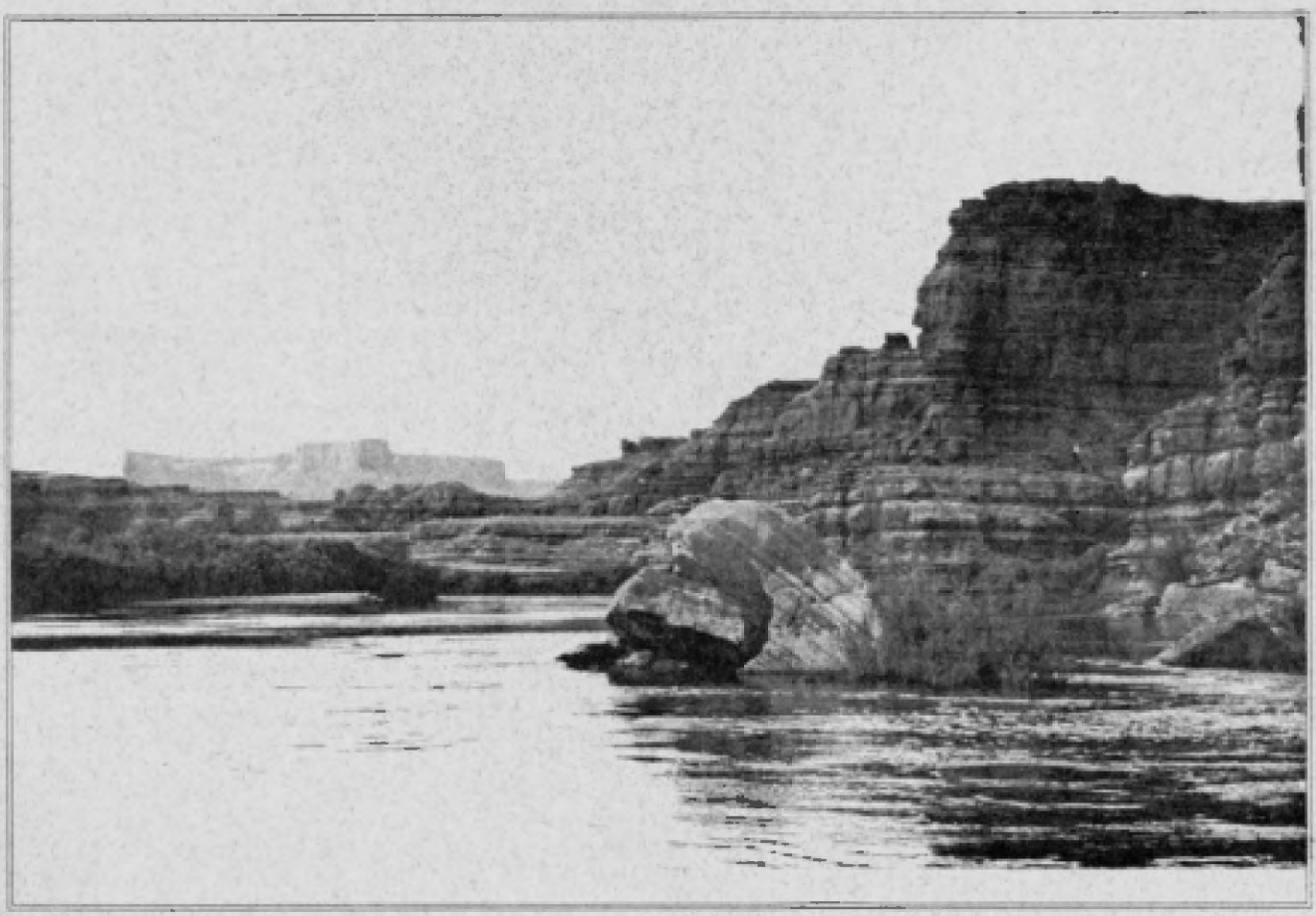
On the next page is the repeat photography I did in June between the first and second snow melt peaks. I took this photo looking upstream with what I had, which was a 50 mm lens on a 35 mm camera body, while maneuvering a jet-boat. As you can see the rock has since split. In my 10 years of boating in Canyonlands, I have never seen a beach at this location. With a 8x hand lens I discerned that the immediate vegetation at the high water zone of the 1914 photo is desert foresterria. I did not notice any tamarisk. Note the lack of vegetation on The Island in the Sky side of the river.



I think the identity of the men left to right are: Tom Wimmer, Albert Anderson and John Richardson. The name of the boat is hard to read because the bowline is in the way (It probably is Wimmer's launch *Marguerite*). Please refer to The Confluence, Volume 2, Number 1, Winter 1995, page 8, in which John Richardson appears far left in a tie. Richardson was an engineer for the USRS. Wimmer, I think, is standing third from right with Anderson to his left.



LaRue Collection #1349. Courtesy of USGS, Denver.



Glen Canyon / Eric Trenbeath
continued from page 16.

In addition to the stories and books, we today have the knowledge that Glen Canyon was the climax of the Colorado River canyon system. Everything leading up to it was prelude, everything beyond, aftermath. The eye of the storm, it lay tranquil and beautiful between Cataract and Grand Canyons. I have often thought, particularly last year during the high water that wouldn't leave, that the reward for making it through the treacherous waters and stark dryness of Cataract Canyon has been taken away from us. Greatest in abundance and diversity of flora and fauna, Glen also contained the most of *everything* that occurred in this region. All of the wonders you find scattered across the plateau, twisting narrow slot canyons, Giant alcoves with vaulted ceilings, seeps, springs, and waterfalls all capped in maidenhair fern, lush Cottonwood groves, sheer thousand foot cliffs, Glen had it all. Powell described it best in his struggle for a name, *"On the walls, and back into the country, numbers of monument-shaped buttes are observed. So we have a curious ensemble of wonderful features- curved walls, royal arches, glens, alcove gulches, mounds, and monuments. From which of these features shall we select a name? We decide to call it Glen Canyon."*

Nowadays we can roam scattered areas in search of a taste, or feel, or even a look of Glen Canyon. Good places to start are anywhere that the Glen Canyon strata still appears. The Escalante River is an excellent micro-version of Glen. There are numerous places where the Navajo-Kayenta-Wingate formations can be found but along the Colorado River they have about all been drowned. Two sections of river still come to mind. One, which I haven't seen, is the 15 or so miles of canyon between the dam and Lee's Ferry. The other, most of us have seen plenty. The Moab "daily" section. Actually the whole stretch from Dewey Bridge to Potash I think is fairly visually representative though the feel is certainly lessened by the road. Still, I think one could take a trip through there and grasp some of what was lost.

Of course all of the power and energy that give the Canyon Country it's heart are still teeming down under there. Deep below the stagnant blue surface a current still flows. The earth still trembles and heaves. A fraction at a time, things are changing as they always have around here. Some day the "Lake Powell Formation" will be but another layer in the canyon walls. To quote Cactus Ed, "The great canyon endures, the transient insult of Glen Canyon Dam will pass". The river will continue in it's pull toward the sea patiently working against concrete and sandstone like it has for millennium on millennium. For as every one knows, you can't stop running water!

"In my search for essences I concluded that the Canyon Country has no heart. I was wrong. The Canyonlands did have a heart, a living heart, and that heart was Glen Canyon and the golden, flowing, Colorado."

Edward Abbey

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

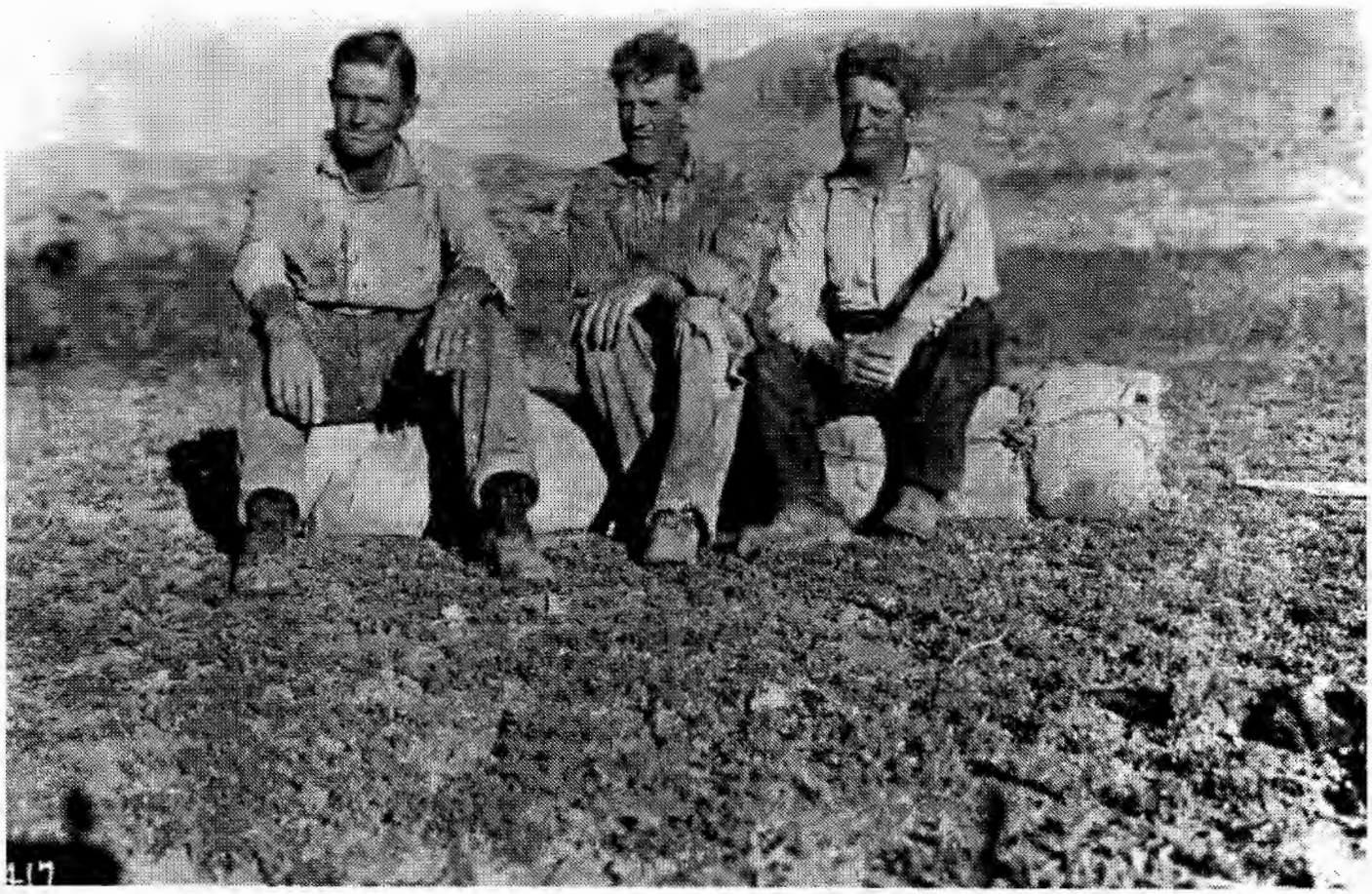
Postage and Fees Paid
CNHA / CCV
Moab, UT
Permit No. 13

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

The Confluence

The Journal of Colorado Plateau River Guides
Volume 3, Issue 3, Summer 1996

	Bert Loper	Stillwater Canyon
	Charles Silver Russell	Animas La Plata
	Samuel Adams	Glen Canyon Dam is Broken
	Abbey's Boots	The Prez Sezs
		Drug Testing



Tom Wimmer, Bert Loper and John Richardson at Loper's hermitage in Red Canyon. Glen Canyon below Hite, 1915. Photo by Eugene C. LaRue, LaRue Collection #1262. Courtesy of the United States Geological Survey Photo Library, Denver Federal Center.

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (c) (3) non-profit organization dedicated to:

*** Protecting the rivers of the Colorado Plateau.**

***Setting the Highest standards for the river profession.**

*** Providing the best possible river experience.**

*** Celebrating the unique spirit of the river community.**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau.

General Membership is open to those who love the rivers of the Colorado Plateau.

Membership dues:

$ 20 per year.
$100 for 6 years.
$195 for life.
$295 Benefactor.

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Susette DeCoster-Weisheit
Vice President	Michele Reaume
Secretary/Treasurer	John Weisheit

Directors

Bluff	Tim Thomas
Green River	Sean Brown
Moab	Steve Young
Vernal	Tom Hicks

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077
Faxes accepted: Please call first.

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Microsoft Word on an IBM PC. If you use a word processor, we can translate most programs. Otherwise, please send your text double-spaced. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

E-mail: cprg@sisna.com

Editor: John Weisheit

ISSN # 1078-425X

A Disclaimer

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing or supporting viewpoint please send your comments to CPRG.

From the Eddy

For 1996 only three issues of *THE CONFLUENCE* will be printed. Look for the first issue of 1997 in March. Some CPRG members and I are involved in a 110+ day river trip from Flaming Gorge to Pearce's Ferry (minus Lake Powell). The theme of the March issue will somehow celebrate the 100th Anniversary of the Flavell and Galloway expeditions of 1896. Roy Webb has been approached to write an article about George Flavell and he very kindly accepted the invitation. I will attempt to do an article about Nathaniel Galloway, as I think I have enough stuff from the Marston Collection to assemble something very interesting and revealing. Roy has had a very successful lecture tour about George Flavell, and this lecture tour is still happening in Utah; so watch your newspapers for announcements. Speaking of newspapers, watch for installments of our river trip in the Times-Independent of Moab.

CPRG OFFICE TEMPORARARILY CLOSED TILL FEBRUARY FIRST

Please send any correspondance, editorials, articles, and etc., to the CPRG Post Office Box and wait patiently for our return to process that information. THANKS!

Special Thanks To:

Colorado River Endangered Fish Recovery Program for a Lifetime Membership
Winthrop C. Allen for a Six-year Membership

A Reasonable Request

At the request of readers, we will now include the last names of the people who appear in the photos of The Confluence. There was a reason for this oversight: a general feeling of preferred anonymity. Anyway, in Volume 3, Issue 2, page 4, we have: Joseph Lekarczyk and John Weisheit. In Volume 3, Issue 1, Page 31, we have: Tim Thomas, John Weisheit, Susette DeCoster, Joe Englbrecht, Nancy Allemand, Jose Tejada, Rose Kaszuba, Steve T-Berry Young. With Kent Frost we have Susette DeCoster-Weisheit, John Weisheit, Don and Denise Oblak, Carol Van Steeter, and Scott Mitchell (the Moabites are wearing shades).

A VERY SPECIAL THANKS TO:

Susette DeCoster-Weisheit for serving as the first president of CPRG. She accomplished making CPRG a recognizable entity on the Colorado Plateau. CPRG will grow in strength and maturity because of her efforts.

From Taxpayers for the Animas River House Votes to Kill ALP

by Michael Black

Opponents of the last major Bureau of Reclamation water scheme, the Animas La Plata Project (ALP), won a significant victory this Summer when the U.S. House of Representatives voted 221 to 200 to cut-off funding.

The House action came as a result of the efforts of local, national, environmental and taxpayers groups to kill the Project.

Said Durango, Colorado, resident and Taxpayers for the Animas River (TAR) member Jim Decker, *"This shows that Congress is taking its fiscal and environmental responsibilities seriously."*

The ALP is designed to draw water out of the Animas River in Durango, Colorado, pump it uphill to a storage reservoir south of town. From there the water would be pumped to the La Plata River Basin where it would be used for irrigation, real estate and coal development. Some of the water would again be pumped to the Mancos drainage to provide irrigation water to the Ute Mountain Ute Tribe. In addition the project would supply municipal and industrial water for Durango and New Mexico cities along the Animas and San Juan rivers as well as to the Ute tribes.

The action to cut-off funding was a bipartisan effort led by Rep. Tom Petri (R - Wisconsin) and Rep. Pete DeFazion (D - Oregon). In floor debate the Congressmen cited the enormous cost, the lack of benefits and environmental problems of the ALP.

Congressman Petri said, *"Just on the face of it, pumping water 1,000-feet uphill into another watershed, largely for irrigation, does not appear to be a sensible thing to do. I know of no other irrigation system with such an inherently uneconomic basic design...."*

Although the Indian water rights provide an excuse for this project, they are not its driving force. The driving force is hugh Federal water subsidies for local non-Indian water users.... There is no national interest what-so-ever in forcing my constituents—and everyone else's too—to pay for the massive water subsidies in ALP."

Congressman DeFazio added, *"It is a water project that has been sold as an Indian water rights settlement, except that it will not deliver affordable or usable water to the Indian tribes in question. It is a project that will deliver $5,000 an acre irrigation subsidy to non-Indian farmers in the high desert of southwest Colorado, so they can grow low-value crops. Two-thirds of the water will go to them if this project is ever completed, if we void the environmental laws, if we go ahead with a project that will produce 36 cents of benefits for every Federal dollar invested."*

Supporters of the ALP cited the settlement of Ute tribal claims as justification. Congressman Scott McInnis, a Republican from Colorado, in whose district the Project would be built stated, *"Years ago when I was a young man I liked to trade baseball cards... After I made an agreement to trade the card, guess what? I found out that I could have gotten a lot more than I did. So I went to my father and my mother. They were both business people. I asked them, I said, I can get a lot better deal... But my father and my mother said one thing to me. This is exactly what they said, 'Son, keep your word.' "*

Said Congressman Meyers (R - Indiana) *"You have to go along [with the ALP] or you destroy the whole system of government."*

Despite this significant victory in the House opponents of the ALP were not completely successful. The Senate voted to include ALP funding in their version of the appropriations bill. A decision will be made in the conference committee on which version will be accepted. But even if the Project gets funded supporters will have to go back to Congress next year and ask for $60 to 70 million for a construction start. With the growing knowledge of the deficiencies of the ALP and the greater fiscal responsibility of Congress it is very unlikely that money will be available in the future.

The House vote was the result of an intensive campaign waged by local groups, Taxpayers for the Animas River, Four Corners Action Coalition and Southern Ute Grassroots Organization, allied with major national environmental and taxpayers organizations.

"For $7,000 an acre maybe we could grow corn in Antarctica. But that doesn't make sense and neither does this." Congressman Tom Petri (R - Wisconsin) on the Animas La Plata Project.

Crucial to the success of the campaign was the hiring of a Washington D.C. lobbyist to represent the local groups and coordinate activities in Washington. With voluntary donations collected locally, opponents hired Bob Roach , of the law firm Spiegal and McDirmid. He contracted for half his usual fee for less than ¼ time, but worked tirelessly and effectively. Project opponents were forced into hiring a lobbyist by the hundreds of thousands of dollars of taxpayers money the supporters of the ALP have spent in their efforts to secure funding. They have even hired an ex-Congressman, Ray Kogosek.

Working with Bob Roach opponents managed to get facts about the ALP on the table and when Congressmen saw the true cost of the Project and its clear lack of benefits they voted against it.

A more intensive campaign will be needed next year. The expertise, knowledge and coordination provided by Mr. Roach will be crucial. More time needs to be devoted to the Senate educating them on the ALP. And, of course, they need to protect the gains in the House.

Says TAR President Dr. Tom McCulloch, *"It is difficult for a grassroots organization that relies on voluntary donations to raise the kind of money we need. But it is absolutely necessary."*

For more information contact: Michael Black; P.O. Box 3442; Durango, CO, 81302; (970) 385-4118

Michael Black is a river guide and member of TAR, a Durango group formed in 1979 to oppose the ALP. TAR is one of the oldest grassroots organizations in Colorado state working on river issues.

Donations can be sent to: Taxpayers of the Animas River; 1611 Forest Ave.; Durango, CO, 81301.

Letters to the Prez

Dear Susette:

In the Spring issue of *The Confluence*, you asked members to write Dave Wood at Canyonlands National Park concerning the new River Management Plan. I have [written to Dave and] would like to elaborate on a couple of points.

Since 1988, when I began guiding through Stillwater and Cataract canyons, I have watched the canoe traffic through Stillwater increase dramatically. As I state in my letter to Dave, vast numbers of ignorant canoeists are destroying Stillwater Canyon. While canoeists often receive a pre-launch talk from their shuttle drivers at Mineral Bottom, the canoeists impacts clearly attest to the fact that these brief talks do not suffice. The number of canoeists must be limited, and the NPS desperately needs to educate them on proper river etiquette.

As for motors on the Green, I have been disgusted by the hypocrisy of the anti-motor gang. The strongest advocates of a motorless Green own and/or drive jet boats on the Colorado. How can the people howling up and down the river in such offensive, obnoxious boats return to Moab each evening and demand that "people must have a place in the world without motors"?! Such self-serving hypocrisy makes me nauseous.

Many of these people call a motorless Green a "compromise"; a "compromise" which will significantly increase their business. I believe that most of the CPRG [membership] would agree that jet boats adversely affect the "wilderness experience" in Canyonlands much more than the small outboard motors used by rafts. As I stated in my letter, I suggest that motors on the Green be limited to 40 horsepower or less, a true compromise which allows for only small, relatively quiet motors. But, after further thought, why should any of Canyonlands be plagued by the roaring jet boats? Perhaps motors on the Colorado should also be limited to 40 horsepower or less. Such a policy, would make both the Green and the Colorado more peaceful.

I know that many of the folks intimately involved with CPRG and *The Confluence*, might disagree with my opinions. But, I also know many members of CPRG who fear that the opinions expressed in T*he Confluence* might be perceived as their own—a sort of guilt by association. If you wish CPRG to present a united front to the Powers-That-Be, perhaps you should take more time to gauge your members' opinions before representing them.

Thanks for your attention, Susette, and have a great Winter.

Pete Walka



Comment from John Weisheit: The CPRG Board has never made an official stand to endorse a motorless Stillwater Canyon. If members of CPRG feel that we have made such a stand, I apologize for not making this more clear in the pages of *The Confluence*. I am however trying to initiate an open forum on this and other issues for the membership to consider in view of the River Management Plan (RMP) before Canyonlands National Park. **Thank you very much Pete for helping to get this process started!**

As an employed jet boat driver, who picks-up canoeists in the vicinity of The Confluence, I am aware of a few abuses by canoers. From time-to-time I do shuttle back unused portable toilets and feel that food scraps and charcoal are ending up in the river rather than in proper landfills; but these abuse's also occur on a few professionally guided river trips as well. This particular problem may be our own; for not giving better orientation talks at put-ins; for not setting a better example.

As to my personal opinion on a motorless Stillwater, I have had some difficulty with this issue myself for many years. Dave Wood, the RMP administrator, has two letters from me: the first says—make it motorized; the other, sent a year later, says—make it motorless. Dave approached me about this recently and asked me to clarify my position. For the record, I am for a motorized Stillwater Canyon because these canoers depend on boats of 920 cubic inches that digest over 100 gallons of fuel to bring them home. It does not seem consistent to give such visitors a righteous voice in the motorless arena.

However, if there was a righteous voice in the wilderness it is probably Holiday River Expeditions, because they do not use motors on any of their trips, except for the run off Lake Powell; this outfitter deserves to be heard and listened too with great respect. However, I do wonder at times if the no motor issue is really that important to the Holiday crews who launch river trips often on the noisy Colorado River side of Canyonlands. Maybe the real problem is: its crowded on the Green River side and the noisy Colorado still makes for the better wilderness experience. If this be true, then the no motor issue is really not the big problem in Canyonlands; it's the overcrowding on the Green. Maybe no motors on the Green would only serve to increase the congestion of both the Green and Colorado rivers. Maybe the best solution is just to leave it the way it is!

As the editor of this journal I am committed to consolidate the membership opinion; to make it work for those of us who really care and who will be here for the next ten years when the next river management plan comes around. I have an opinion and you have an opinion, but if we don't get our opinions on the table and discuss them reasonably, we are going to end up with a RMP that none of us will really be happy with. I don't want to suffer through such an ordeal with a community of boaters that I admire, respect and enjoy working alongside.

Anyway, I do believe that there should be a place for motorless boating and feel that place is Desolation and Gray canyons. I feel this way because three to five day motorized assisted trips in these canyons is an insult to the experience for both the customer and the guide. I will clarify that I desire marketing concepts to change in the commercial sector. Longer trips may not sell, but I think we need a place where we can enjoy a high quality river trip without encountering "marketing strategies" along the way. Such a discussion will soon take place in the river management plan for the BLM jurisdiction in Eastern Utah. By then, as a boating community, we will be well practiced to state educated opinions, and be ready to make effective decisions.

I would enjoy hearing the opinions of all CPRG members and company owners. I encourage you to write with the idea of being published in The Confluence and for your opinions to be shared with:

Mr. Dave Wood; River Management Plan; 2282 SW Resource Blvd., Moab, UT 84532.

The View of a Jet Boat Shuttle Driver
A Consideration of Differences

By Dirk Vaughan

Editor's Note: *Dirk is a partner in Tex's Riverways, a jet boat concessionaire in Canyonlands National Park. He is also a jet boat operator. I allowed Dirk the opportunity to respond to Pete Walka's letter. Dirk will also address the benefits of jet boat services and the difficulties encountered while operating a jet boat.*

In the business of running rivers, and interacting with those persons who usually share a great love of water and wilderness, one would think that open-minded consideration might be more evident when facing issues of debate. Unfortunately this '96 season has been a time for several incidents of open hostility and misunderstanding over issues which directly involve the primary activities of a business which I partly own and operate. The issues in question are the operation of jet boats on the Colorado River from Moab to Spanish Bottom, the "vast" numbers of private canoers that allegedly trash the Green River, and to a lesser degree, the desire by many people to see the Green through Stillwater Canyon become a non-motorized section of water. Through discussion with several fellow river professionals, and the fact that I am intimately involved in all these issues, it seems I am elected to address them.

I have been driving jet boats on the Colorado, primarily to pickup canoers at The Confluence, for six years. That should establish my jet boat credentials, but I have also been canoeing and backpacking along the Green and Colorado River corridors for about twelve years. I have traveled the two rivers and surrounding canyons, both inside and out of National Park boundaries for many, many hundreds of miles, by totally non-motorized means during the off-season months when virtually no other person can be found on the river or in the backcountry. I have finished far more river trips by hiking out than by using the same service I provide as a business, and would show my personal politics by the following thought: if by some chance Canyonlands National Park would be declared completely non-motorized both by land and by river, I would support such a policy with tears of joy and watch my business become bankrupt and my job extinct. Since the possibility of such a policy being enacted is roughly the same as that of cliff swallows nesting inside my nose, let's return to reality and examine the issues at hand.

...if by some chance Canyonlands National Park would be declared completely non-motorized both by land and by river, I would support such a policy with tears of joy and watch my business become bankrupt and my job extinct. Since the possibility of such a policy being enacted is roughly the same as that of cliff swallows nesting inside my nose, let's return to reality and examine the issues at hand.

I believe that certain aspects of the relation between the use of jet boats to transport canoers and the reality of an inaccessible Confluence area must be accepted as facts in our modern world. I do not propose that jet boats are a compliment to the river environment. What I propose is that the reasons for their use are valid and the alternatives to their use are far more intrusive.

Fact #1: There is a large segment of people who are not interested in, or able to do, the white water of Cataract Canyon, and insist on a reliable, economical means of transport to get them back to Moab at the conclusion of their flat water trip. Given the definite pro-use record of the National Park Service, such a transport service is viewed as an obligation to be provided. It is no more practical to insist that flat water boaters find a non-motorized means to get themselves home than it would be to require commercial raft clients to thumb a ride from Hite Marina.

Fact #2: A way must be provided to transport large numbers of people plus boats and equipment from The Confluence area. So would anyone like to have a nice road built to provide access to The Confluence? Surely anyone can recognize the extreme impact and foolishness of this solution. How about air service? Yeah right, the cost to the individual would be enormous, and the volume of gear and people would require literally dozens of flights a day. Talk about intrusive.

Fact #3: Until we develop the Star Trek transporter beam the only reliable, practical, and economical way to accomplish the transportation needs at The Confluence are by jet boats, which can carry heavy loads upstream in extremely variable water conditions and operated by trained professional drivers.

But jet boats are so loud and obnoxious you say? Of course they are, so are freight trains, buses, diesel trucks, motorcycles, jet planes, space shuttles, and game show hosts. For anyone that adores wilderness and solitude just about everything associated with the mechanized world is inherently obnoxious, so get over it. We'll change the world after the bomb drops or some specially tailored virus kills off all the Republicans.

Once you accept commercial jet boats as the lesser of other evils there are actually some side benefits to the service. I know of several incidents where sick and injured clients and guides from commercial raft trips have been taken off the river suffering everything from severe flu and bladder infections to broken limbs and fractured necks.

Jet boats have delivered to just about every commercial white water company a smorgasbord of items including replacement motors, air pumps, forgotten boxes of food and equipment, overdue clients, overdue client baggage, and overdue guides to name a few. Except for the routine transport of clients the vast majority of the aforementioned services are performed without charge as a gesture of goodwill and you know, I don't recall a single guide giving me crap about my loud motor as I was doing something that made his or her life easier. Jet boats are continually removing large unsightly trash items from the river including oil drums, plastic buckets, and at least two refrigerators that I know of.

Canyonlands National Park already restricts permits for jet boat traffic to only two companies and it is extremely unlikely, according to Park officials, that that situation will change. When compared to many other rivers that truly experience constant conflict between white water boats and jet boats the amount of jet boat traffic on the Colorado is negligible. On a busy jet boat day one might see two or three boats from the Park boundary to Spanish Bottom, on most days you might see one, on many days you will see none. In July of this year on one single day I counted 64 commercial and private rafts from Spanish Bottom to Potash. Exactly who is getting in the way of whom in that situation? In 1992 the company most frequently seen at the Confluence ran to that area exactly 133 times from March to October. In 1995 the total was 135 times for the same period. Jet boat usage inside the Park has not increased to any significant degree and it should be noted that both companies voluntarily restrict all jet boat traffic to the Colorado River corridor in order to preserve the less hectic environment more commonly found on the Green.

It seems there is a great potential for misunderstanding when it comes to jet boats passing rubber boats without reducing speed. In addressing this situation I will not refer to any State boating laws. State boating laws for navigation are designed as a guideline for the stable water conditions of lakes and marinas. There are no traffic cops on the Colorado and it should be obvious to anyone that the unpredictable and always variable conditions on the river render standardized boating laws to being as impractical as a condom dispenser in a fertility clinic.

First of all, a jet boat should make every effort to go to a wakeless speed for any raft that has swimmers in the water or is parked against a shoreline that is rough or rocky. I have talked with a lot of raft guides and without exception they have assured me that a jet boat wake creates no problem for a raft that is floating free or parked on a sandy shore. During periods of high water there are few reasons why jet boats cannot give rubber boats a wide berth. That situation changes completely as water levels come back to normal. Perhaps some understanding can be found by attempting to explain what it is like to drive a jet boat at 30 mph in shallow water conditions.

A raft guides' technical skills come to the fore when it is time to run the white water, all concentration must be intense and focused and mistakes result in serious problems. Shallow water conditions are the jet boat drivers version of white water concentration. Due to the speeds involved any momentary lapse of attention can result in serious consequences. If a raft hits a sandbar there is little chance of injury, the problem is quickly remedied usually resulting in some embarrassment and minor inconvenience. If a jet boat hits a sandbar the chance for injury to a client is high and getting the boat off the sand often takes hours of backbreaking labor that involves special equipment. A jet boat must seek out the deepest part of the channel and when forced to cross stretches of shallow water cannot reduce speed without running the risk of getting stuck. It is much more difficult to do this if rafts crowd the deep water channel when they could just as easily and with far less serious consequences move towards shallow water for the brief period it takes for the jet boat to pass. As always common sense and courtesy should rule the day when rafts and jet boats approach each other.

When considering the "dramatic increase" of canoers on the Green River one must first realize that only the lower 52 miles from Mineral Bottom to the Confluence (Stillwater Canyon) is controlled by the National Park. The stretch from the Town of Green River down to Mineral Bottom (Labyrinth Canyon) is controlled by the BLM and is also subject to much more loosely regulated private use and the ability to use existing roads for private shuttles. Secondly, all statistical use figures for flat water trips in Stillwater Canyon prior to 1991 are grossly low and inaccurate due to poor record keeping procedures by parties no longer concerned with commercial operation in Canyonlands.

From 1991 to 1995 the numbers of flat water users saw a '91 low of 1,483 and a '93 peak of 2,172, with the average for that five year period being 1,713. A small percentage of these numbers represent users on the Colorado. All-in-all a fairly stable trend that could hardly be called "dramatic" and although flat water user days have increased at a larger percentage than white water users, white water boaters still outnumber flat water on an average of 4 to 1.

There is no doubt that in the past several years the number of private users has increased significantly on both river corridors among the rafting community and canoers. It is fairly common to see private rafts launching at Mineral bottom and Potash. I know of no crystal ball that allows anyone to determine that "ignorant canoers" are solely responsible for any destruction or abuse of natural resources and it is unfair and reckless to condemn any one group based on mere suspicion, conjecture or personal prejudice.

To portray Stillwater Canyon as in the process of being "destroyed" does not match either NPS surveys of the resource or my own personal yearly observation based upon 12 years of use. There has of course been isolated incidents of abuse and vandalism because of the often disrespectful nature of many humans regardless of what boat they might use and perhaps it can be said that the incidents have grown more frequent, but to describe the condition of Stillwater in alarming terms is not entirely accurate. I do however, wholeheartedly agree with the belief that now is the time for number restrictions to be placed on all users of Stillwater and there is little doubt that the River Management Plan currently being developed by the Park will address this issue.

When considering the issue of a non-motorized Stillwater Canyon it is essential to look at the current logistics of commercial operation and how various user groups might be affected. Whether for good or bad it must be admitted that the Colorado is much more of an avenue of transportation than the Green. On the Colorado there are many more motors in use, launch points are more accessible via paved roads, greater numbers of people use it and there is more water, making navigation easier for motors. The Green and Colorado are different roads that lead to the same destination, that being Cataract Canyon. This is a very fortunate natural opportunity to create something rare and cause only minor inconvenience to a few.

One has only to consider the thousands upon thousands of waterways controlled and flooded by dams to see what a rare jewel Stillwater is. Powerboats and jet skis have an unlimited number of places to choose from. All commercial operators currently motoring through Cataract can still continue to do so by using the Colorado. What about the thousands of people who merely ask for a reasonable distance of river where they can paddle and row free from the sound of motors? Where is the place in canyon country that does not require extraordinary effort and ideal water conditions that they can go? This is the group that is being ignored because they are not backed by millions of dollars in commercial interest and political power.

A motorless Stillwater could even become a marketing tool for those who always consider the business aspect of these debates. Companies can capitalize on such an environment by creating more leisurely trips with an emphasis on the naturalist aspects of river running. The clients primarily interested in quick white water thrills can be better served on the Colorado anyway. The companies who currently motor the Green need only change some operational logistics and advertising strategies. A motorless Green doesn't prevent anyone from continuing to operate a perfectly viable Cataract Canyon business.

I do not want a non-motorized Stillwater to increase my share of the flat water market. I have quite enough business right now and hope the Park places restrictions on Stillwater that keeps it as is. My motivation is very personal. Stillwater Canyon is the place that changed my life and how I view its priorities. It is the place that showed me the joy of exploring a virgin wilderness and let me imagine the sound of ancient songs. It helped me to heal the wounds suffered in the struggle with a violent society. It is the church of my soul and I owe it more than I can ever repay. If I can convince more guides and business owners and government officials that it is indeed a place that deserves special consideration then I will have repaid a small portion of that debt. If anyone chooses to consider such sentiment, coming from the mind of a jet boat driver, as "nauseating hypocrisy" then so be it. ☯

Do Drugs Poison Our Veins Or Does The Paranoia Of Drugs Poison Our Veins?

by Steve T-Berry Young

I sit her amidst paper galore, finishing up my personal business stuff from the Spring. The old checks and receipts some how have surfed-up through the Summer piles of paper. Unfortunately several pieces of paper just won't go away; they keep turning up even if I throw them away. What could be so interesting to tug at my heart and soul, and cause me to toss-and-turn at night murmuring words that won't go away?

For years rumors have been flying around about drug testing, and now it's going to happen, yet luckily enough it hasn't— till now. As I write, our neighbors on the other side of the concrete valve are getting used to a drug free work place with, you guessed it, "the testing". That "drug free" environment is spreading our way and quickly. Both Canyonlands National Park and Dinosaur National Monument are presenting a Prospectus this year. For folks who don't know what a Prospectus is, in a nut shell, is the rules and bureaucratic hoops an outfitter has to follow to be a concessionaire within the Federal agency's jurisdiction. This new Prospectus, that is being issued, is of the same generation that started the Grand Canyon drug testing. Nobody has seen the Prospectus yet, but the Canyonlands issue will most likely have language about drugs.

A system that tested guides after a significant accident is something expected—it makes sense. Now we are faced with a system that a guide has to prove their innocence before they go to work. What happened to this country? I thought we were innocent until proven guilty? Doesn't the Bill of Rights protect us from laws and paranoias like this; or did all my teachers and professors get together to create a conspiracy just for me? What is the magic number of hoops we citizens have to jump through to realize that our lives and well beings are similar to our fore-fathers before the separation from England? Doesn't is seem that we are slowly giving up the rights our fore-fathers fought to get us so long ago?

Looking at this thing from a narrowed and dark perspective I see that everyone in the transportation business is doing this and has been doing this for some time. We are one of the last ones on the line; everyone before us bent over with a fight and took it. The river profession is expected to do as well. If we are considered to be in the transportation industry, why not treat us more like an industry before regulating us as one? Like maybe affordable health insurance and work benefits accessible for seasonal employees. The people who think drug testing is needed should focus their efforts on problems we have, not perceived problems. Create affordable health care and benefits for us and find funding for it. Don't tell our employers to do it when they can hardly afford to operate in the present system. Drug testing is a waste of our time and resources to combat problems we don't have. It's bad business to have guides with drug and alcohol problems. So companies have always dealt with their problems in-house. They "nip" the problem "in the bud" before it costs the company money.

The industries we are being associated with operate vessels and machines which travel at speeds, or in planes, where neglect is very costly. Yet the people who operate those machines and vessels are never surrounded by their passengers; they seem to be disconnected and isolated from the people. So as passengers, how are they going to get the feeling of being comfortable knowing what their pilot or captain is capable of?

They can't spend time with them to decide if they are capable of doing their jobs on or off drugs and alcohol. And even if they could, can they have them stop so they can get on another plane, train or bus, because they don't feel safe? Not!

If we are considered to be in the transportation industry, why not treat us more like an industry before regulating us as one? Like maybe affordable health insurance and work benefits accessible for seasonal employees. The people who think drug testing is needed should focus their efforts on problems we have, not perceived problems.

So while in a raft on a river that flows at 10 mph or less with a guide who is paid to do a job of interpretation and navigation isn't it easy to make the decision? It's pretty obvious if a guide is unable to navigate a boat regardless of drugs or not. The direct communication passengers get from their guides will also dictate the capacity of the guide. Finally after making an educated decision, if clients don't feel comfortable riding in a boat with a questionable guide, they can ride on another boat for the duration of the trip. After the trip the clients feedback to the company is read and processed. This feedback is what keeps companies operating and doing an excellent job. Feedback is the employers gauge of what clients like or didn't like, and if the clients felt uncomfortable with a certain guide, the company knows, and in turn deals with the problem. If guides do an excellent job, clients refer friends to the company they went with. Referrals are a large and cheap way of advertising.

Isn't it amazing how the other transportation industries have had and are still having accidents, sometimes caused by drugs and alcohol? While in our little non-industry, we don't have and haven't had a problem to date?

Why does our system that works, need to be changed? I ask the people who are handing us the drug language to answer my problems?

T- Berry is the Moab Director of CPRG.

A Letter From Bert Loper to Elwyn Blake

Edited by John Weisheit

Courtesy of the Harry Aleson Collection, Utah State Historical Society, Salt Lake City, Utah, and the Marston Collection at the Huntington Library, San Marino, California.

Salt Lake City, Utah,
August 27, 1940

Mr. Elwyn Blake
Durango, Colorado

Dear Elwyn:

I will try to start the answer to your last letter.

I was born in Bowling Green, Pike County, Missouri, July, 31, 1869, in a house on the outskirts of the town and, as I remember, the house was painted red and had four rooms. I remember that we had a cistern at the back of the house (every one had to depend on rain water caught from the roof of the houses and stored in cisterns). I had an uncle named Winnie; he had a span of mules and the barn was at the back of the lot. There was a cistern at the barn and my brother and I nearly filled the well. We had a board fence around the house woodpile on the north side of the house. There was an old Negro church down below the place, and if I remember right, my brother and I broke out some of the glass; my brother is 8 months older than I.

I do not remember my father, for he and my mother parted when I was two years old, and he went to Texas. I was always taught that he was dead and that is the story that I have always told. He died about 1895 in Whitesboro Texas and is buried there. I still tell that both my parents died when I was three years old; that being the time my mother died and it was from there on that I was an orphan in every respect.

I do not remember my father, for he and my mother parted when I was two years old, and he went to Texas. I was always taught that he was dead and that is the story that I have always told. He died about 1895 in Whitesboro Texas and is buried there. I still tell that both my parents died when I was three years old; that being the time my mother died and it was from there on that I was an orphan in every respect.

I said that the place was surrounded by a board fence and there was a board nailed on top of one of the posts in a flat position. I remember there was a boy that walked on top of the fence and I thought that if I ever got big enough to do that, that would be as far as I could go. I remember that I had an old chair that I drug around and called it my wagon. One time my brother and I were playing with the old chair when a little Negro boy came and pushed my brother out of his way and proceeded to take his place. Then I, who was in front pulling, left my place and put the child out, and went and got my brother by the hand and led him back to his place.

My uncle Winnie was a small man with a very small foot, and I remember that I pulled his boot on over my shoe, and the folks made me believe that I would never get the boot off. I also remember the old ash hopper out in the back yard, and how my grandmother kept me herded away from it when she was making lye. My oldest uncle was a wagon maker, and in due time he moved to Curryville, 8 miles west of Bowling Green, and opened a wagon shop at that place; I must have been about four years old when he moved to that place. I lived there until my grandmother died of tuberculosis, but prior to her death, this uncle that was a wagon maker, sold out and moved to Durango, Colorado. For a number of years he was a bridge carpenter for the Denver and Rio Grande Railroad. In the meantime he went out to Montezuma Valley, and located a ranch. In order for him to hold his job on the railroad he sent for me to come out and improve the ranch. That is how I happened to come West, but there is lots to come before this and so I will back up to Missouri again.

When our home was broken-up my brother was taken to be raised by my mothers sister and my grandmother took me; that separated my brother and I. We were never like other brothers, but we did manage to visit about twice each a year. My brother was raised in the country on a farm, and I was kept in town, and it so happened that I was always puny, spindly and sickly. As a rule I never got schooling except in Winter and just how I managed to dodge tuberculosis is more than I can understand, for most of my mothers folks passed on with that dreaded disease. The last Winter of my grandmothers life I slept in the same bed with her in a little room with a hot fire in it with every window shut tight. She passed on the 17th of March, and being poor people, that caused the breaking-up of our home. It was a shift for me, but before I go on, I will try to describe my life and surroundings in Curryville.

As I said before I was a very puny kid, and so it is natural that I got cuffed-around plenty. In the Winter time I was always sick, but in the Summer I got along better, and my mania was swimming. My grandmother, being of the old school where it was "spare the rod to spoil the child", gave me whippings for that one thing alone many-a-time. I would start out with the knowledge that I was going to get whipped, but I always figured that it was worth it. I would go swimming, and sometimes it would be two beatings a day for me. I remember one time that I thought I would miss one of them, so I went in the morning and stayed all day, and when I went home I was so weak from hunger that it was some task to get back home, and by staying in all day my back was in a horrible condition, and I remember I had 14 boils break out on my back. It was then that grandma got even with me by squeezing those boils plenty hard.

About three miles north of Curryville there was a creek; especially on Sundays it seems as though I always wanted to do the very things that I should not have done, and many times on a Sunday when I was all cleaned-up and ready for church, I would get in with a bunch of boys, and to the creek we would go. As a rule we would make a day of it, and when Spring came it was the joy of my life to get out doing such things. It is still beyond me to understand, but I remember that it would be in the early Spring and that the May apples would be ripe, and we would eat May apples all day. It was wonderful to me to get out; the creek was such a wonderful place with its clear pools and nice swimming holes, with the little fishes and the old craw fish. It was something that I could not see every day and there was no harm, but I got my beatings just the same. I did most of my swimming on farms that had from one-to-several ponds holding water, but when I could get away to the creek it would be one grand time for me.

I think that about all the toys I ever had was a sled and a two-wheel cart, both made by my wagon-maker uncle, but they were about the best sled and cart in town. We had an old milk cow that we named Lucy, and it was on Lucy that I learned to milk, which later stood me in good stead. When I was about nine years old I would get a job riding the rake horse during my hay time and would get 50¢ per day. I must have been about 11 years old when I got a job bearing brick, and that was about the toughest job a kid could have for it seemed that my back would break; that was about all the work I would do during the Summer. There were no street cars at that time in that place and perhaps not now.

I will try to describe the outfit that raised by brother. My mother's sister was married to a man by the name of Allen-Johnson, and a bigger brute never lived. He did not whip, he just beat, and would use his fist or any thing that he happened to have. As a rule grandma and I would make a visit to the farm and my uncle would put me to work uncovering corn; to uncover corn means that I would follow after him when he was cultivating, and all of the corn that got covered up I would have to stop and uncover it . Because I could not keep up with him I would get beaten, and as I said before, I was a very puny kid. My brother was just the opposite being so strong with his chest like a wrestler. During the Winter sometimes my brother would come to our place for a short visit, and that would be all that we two could be together each year. Of course my brother and I would have fights for he was so strong, and even in our play he would be so rough, and he would hurt me, and then I would try to lick him, which I could never do.

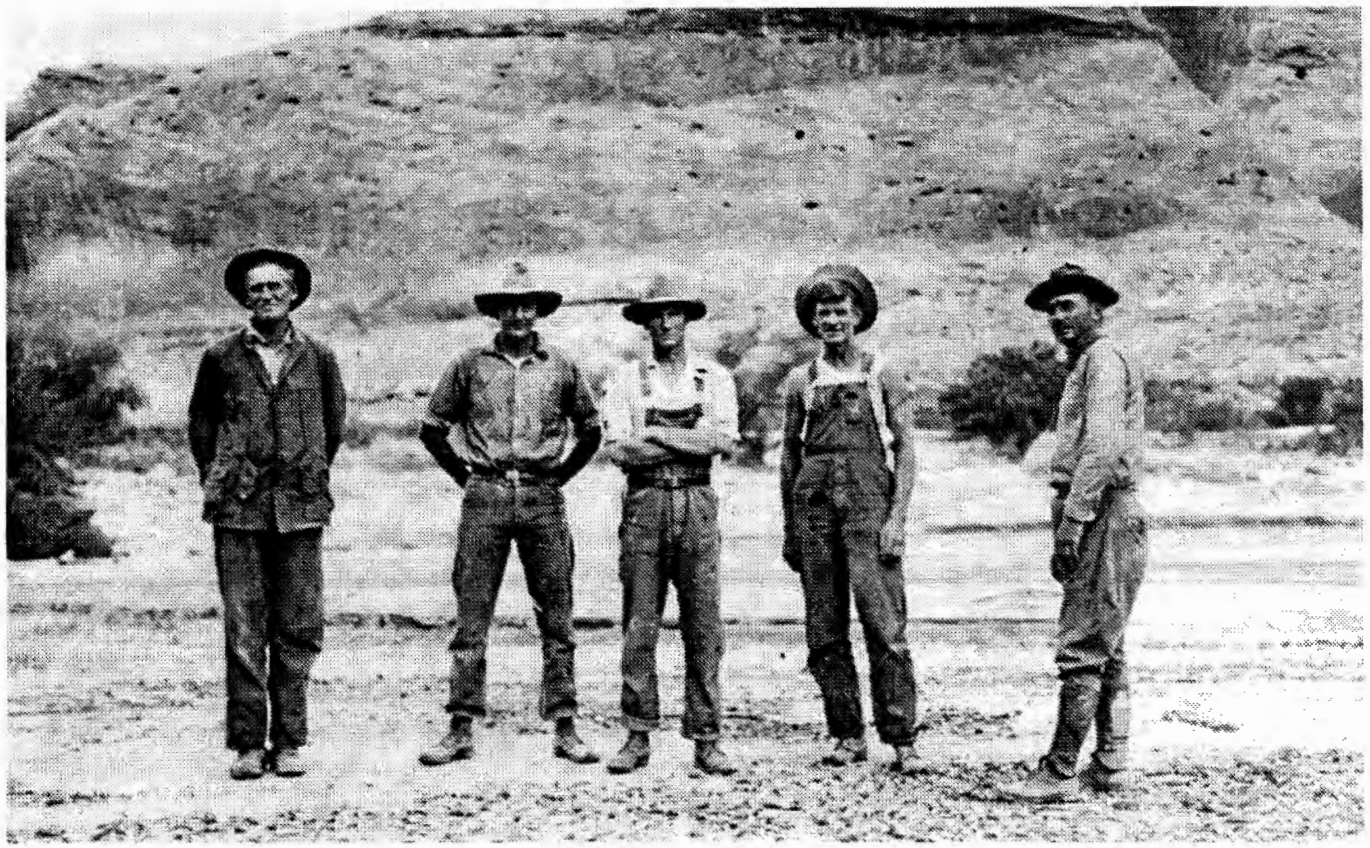
My schooling was received in an old red brick school house, and the schools of that day were different from the schools of today, for a kid could be in the 5th reader and still be doing addition and things like that. As I said before, I would lose about half of my schooling each Winter, but the most I did get was after I was put-out in the world for I went two Winters (about 5 months each), and that was the extent of my schooling. I was in the 5th reader when I was 10-years old, and it always seemed to be easy for me to do a good job of reading, but mathematics and grammar kept me back, and I find, as I go through life, that that is what I need the most. I find that I have covered most of the time before my grandmother died so I will try to go on to the time after her death.

...I was housed up in the air-tight room with my grandmother the last Winter of her life; with her one lung gone and the other on its way when she died on the 17th of March 1881(?). So that put me with that brute, uncle Johnson, ...

As I said before, I was housed up in the air-tight room with my grandmother the last Winter of her life; with her one lung gone and the other on its way when she died on the 17th of March 1881(?). So that put me with that brute, uncle Johnson, that was hired-out on a farm for the Summer. In the Fall I went with Johnson, and that put my brother and I together; so it did not take long for us to plan it all out. In the Fall, or corn-cutting time, we departed and were gone for one and a half years; then returned, but not to the one that had mistreated my brother and I so. Of course we had to come along, and we piled into a car loaded with railroad rails, and we rode to what was known as Clarke Junction; that is where the Wabash crossed the Chicago and Alton. We begged something to eat there—that is my brother did the begging for that was out of my line. We finally reached Higbee, the place where the Chicago, Alton and the M.K.&T. cross. We took the M.K.&T. for that road went to Texas, and that was where the cowboys were located, and that was our destination. In due time we reached the Missouri River and we started to walk over to the railroad bridge, and after walking half-way we were told to go back for no one could cross the bridge. We went back and tried to cross on the ferry, but we had no money so we were balked. After awhile a mover wagon came along and took us over, and by that time it was nearly evening, and with nothing to eat all day we were getting rather hungry, so we spied a big house with big barns on the hill, and asked for something to eat, and they took us in and kept us all night. It so happened that the place was a diary and, as I said before, I had learned to milk on old Lucy so the folks decided that I could stay, and they sent my Brother up-river 50 miles to the man's brother's place at Miami, Saline County, Missouri. I was not long in becoming the best milker of the diary, and the agreement was that I was to go to school during the Winter, but that part of the agreement was not carried out so I only got my board for my work for the Winter and all the next Summer too, and in the Fall the man, whose name was Flourney Snelling, sold out his diary and moved to Clinton, Missouri. I went with him and I got about four months schooling, and then returned to Boonville, to the diary, and went to work for the new owner by the name of Sebe Hazel, and I believe I got $8 per month, and it was not long until my brother quit his job up the river, came down, and went to work for the diary.

In due time my brother and I got in a fight and both of us got fired. It was then that we started on our way home again, and after some hungry days we reached home, but on our way we got in a box car loaded with wheat and I was greatly concerned that my brother would be heard by the brakeman, and that we would be fired out, but the train went past Curryville and we had an eight mile walk back to Curryville,

and it so happened that we reached our destination just at noon, and the table was all set and did we fill up. My brother was something of a man by now, and he got a job with the fencing gang on the railroad, and I got a home with a widow by the name of Bettie Rose, and if a growing boy ever fell into a snap, it was me, for I went from a puny kid into a man in very short notice. I went from about 80 pounds to 145 in two years, and I really believe that Mrs. Rose got the enjoyment of her life watching me eat, and about all I wanted to do was to eat and sleep, for it was then that I began to come in to my own, and I got the schooling of my life during that time, and I will try to describe the school.



The 1921 U.S.G.S. San Juan River Survey. Left to right: Heber Christensen, Hugh Hyde, Elwyn Blake, Bert Loper, and Kelly Trimble. Courtesy of the Christensen Collection, Dan O'Laurie Canyon Country Museum, Moab, Utah.

It was a country school, and was equipped with common old benches, no desks, and the stove was a big box stove, and would take a stitch of cord wood, and the stove also had a big drum above it, and it made a nice place to write with our slate pencils, and we wrote most everything; it was purely a back woods school, and the wood was oak and hickory, and when our class was over us bigger boys would have to go out and chop wood, but of course we would rather do that than be in school studying, and the school was situated in heavy hardwood timber, and in the Fall there would be lots of nuts, and both red and black haws, and it is a fact that a boy will and can eat any thing, and we sure lived up to the reputation, and we would never have time to go to the spring for water during recess, but would be ripe. I don't suppose I would eat wild grapes now, but they were sure some delicacy at that time. I had to walk one and a half miles to school, but that was easy for me, but I remember one time that another boy and I had a sling shot (one like David killed Goliath with), and we got to throwing at an old snag and we would not quit until we had hit that snag, and we managed to reach the school at recess time. But I mentioned that it was such a treat for me to get out in the woods, and along the creek, and here I was living right where it was such a paradise to me, and I think that there was never a boy that enjoyed the trees, birds and flowers more than I did, but in all that time that I lived with the Widow Rose I was getting letters from my uncle in Durango, and in due time he sent for me to come out to Colorado, and stay on the ranch that he had located in the Montezuma Valley. So on the 8th day of June, 1885, I reached Durango, and on the 17th of June, I reached the Montezuma Valley and the ranch.

The parting of my mother and father, my father had been married before and had three daughters older than my mother, so you can see that they were not mated, and there was lots of trouble caused by the three daughters. So it ended as it had to end. There is another wrong that I have never forgotten and that was the fact that my grandmother took out an insurance policy

for $1500, and at that time there were three living children of hers, two uncles, and one aunt, but it has always seemed that my brother and I should have been remembered. We were thrown-out in the world without a cent and no place to live, and the three children of hers were all grown and doing for themselves. My brother and I had to hobo from place-to-place, so I still think that we were mistreated along that line.

Now comes the uncle in Durango; when my grandmother died she left me in the care of that uncle, and all he did for me was to put me with that brute of an uncle, and there was no one that knew him better than the uncle in Durango. But I was off his hands so perhaps his mind was made easy on that score until he got his ranch. He became solicitous once again for my welfare; he sent for me and told me to fence that quarter-section and grub the sage brush. In the course of time I did that very thing, and in less than a week after the job was finished he told me it was time for me to shift for myself. He gave me two old blankets, an old comfort, and told me to beat it. I landed in a ditch camp, and it was just about the toughest place in the world. I was surrounded by about the most undesirable bunch of men that a kid ever bumped up against. Instead of trying to get me some schooling I got the boot, so you see, after a half-century I still think I was not given an even chance.

There is one thing that I wish to impress on your mind and that is: with all these hardships that I have went through, this is just about the very best world I ever lived in. You know that we live our lives in cycles and there was a time that I felt sorry for myself. I would lament the fate that made me drive an old freight team in the San Juan Mountains with about 12 to 15 feet of snow under us, and we would get a mule down and then would have to work to get him back on the road . By that time our clothes would be wet, and sometimes we would be until 10 o'clock in getting our clothes frozen stiff . Then I traded and went in the mines, and I still think that I have breathed enough gas, powder smoke and bad air to have killed a horse. But the greatest hardship was when I dragged that boat from Lee's Ferry to Hite (162 Miles), and wet to the waist for 24 days in ice water . The mental strain was what made it so bad, and I was all Summer in getting over that hardship. I would not trade my past life for no millionaire's son's life, and I am still glad to be alive and in this particular world. I have done this just in bunches, and not very big bunches, for we had to try to keep Bill King off the Democratic ticket, which we did, and I have been interested in politics along the channels besides King.

So I have been kept busy, but I will ring-off for this time and you can ask me some more. Now I have a copy of this and so all you have to do is to name the page and I can revert back to and answer the question you wish to ask.

With love to all.

Sincerely Bert

Bert Loper
519 So. 3rd East,
Salt Lake City, Utah.

THOUGHTS THAT COME TO ME IN THE STILL OF THE NIGHT

(of men that have traveled with me on my many trips)

An Unpublished Manuscript
by Bert Loper

Transcribed by Rosalyn Jirge
Edited by John Weisheit

Courtesy of the Marston Collection
Huntington Library, San Marino, California

It would be most impossible for another person to realize or understand just what it meant to me to take the trip through the Grand Canyon [with Don Harris in 1939], for the days, weeks, months, and years that I have put in on that river and in those canyons seem to have made me part of the whole grand set-up. There have, without doubt, been better boatmen than I who have traversed that mighty Canyon, but there have never been any that have given the time to the study of it than I have, for as I said, I seem to be part of it, for I have lived in it, on it, with it, and in an instance or two, under it. I have after a day's work laid on the bank and listened to it—I have listened to the grinding of Mush Ice—I have listened to it when it hardly made enough sound to hear at all. Then there would come a time when there would be a gentle murmur, which told me that it had begun to awake. Then from that there would come a swish as though it were becoming peeved at something. Then from that there would be boils, swirls, eddies, and whirls, and then I knew that the river had started house cleaning. But it always seemed that it got mad about it all, for it always acted angry during those times. I have listened to it from its very lowest to its very highest, and there would be a time when I would go out some morning and miss that angry sound, and although it would still be high and angry the sound would be gone, and I would know that its house cleaning was done. I have noticed the difference in the river on the rise and on the down. I have noticed the difference in high water and flood water, but I started to tell what it meant to me to make that trip through the Grand.

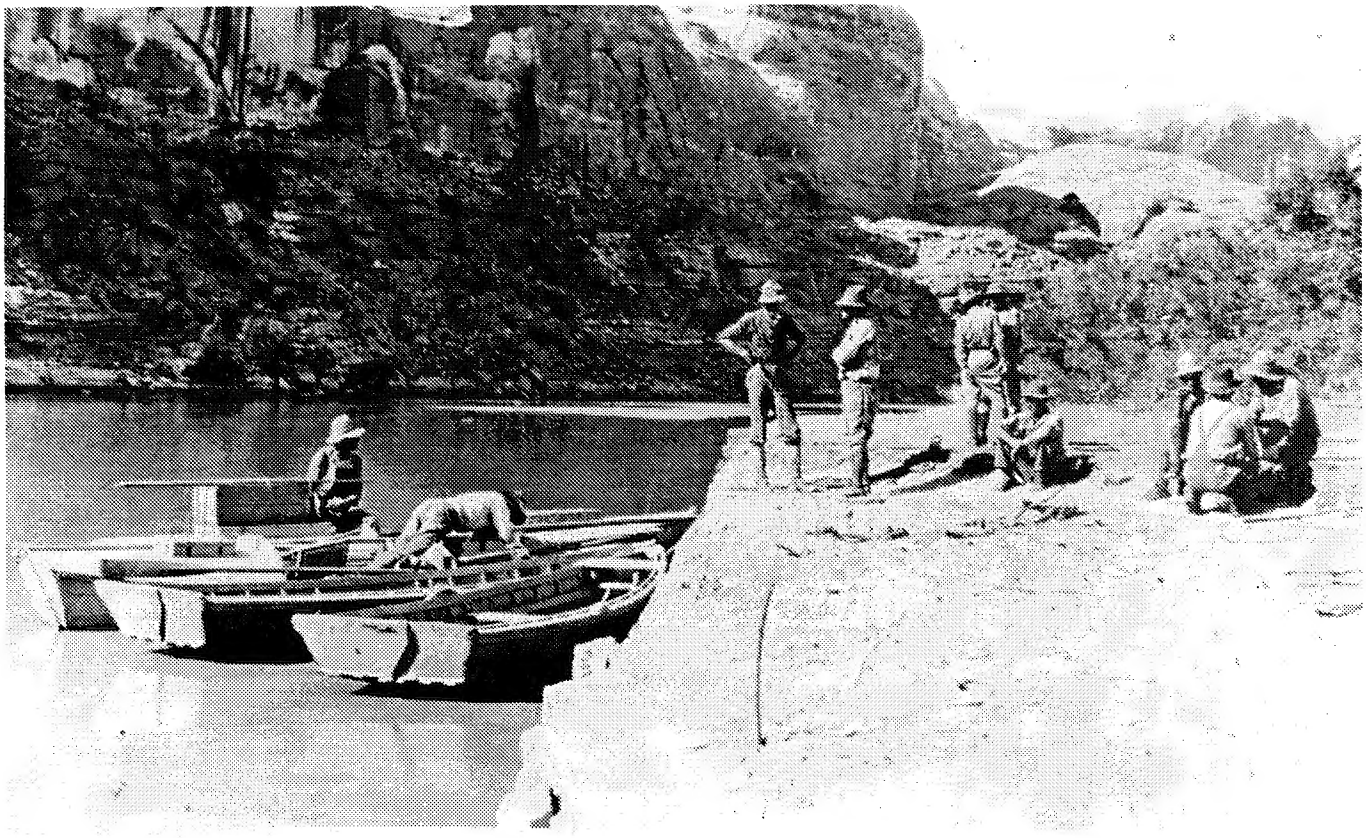
I had been disappointed so many times. So many times I had started out with the expectation of going through, and something would happen to keep me from the trip. So when it did come, well, I can never explain just how I feel or just what it means to me, and although I have made the most wonderful trip through I still want to do it again. Instead of breaking a record on time I would like to take just twice the time of before and try to grasp all the wonders of the mighty chasm—try to see all that there was to see. I do, in a way, feel glad that the other trips never materialized, for if they had, I would never have had the pleasure of this trip. Never was there such another one like it, and in my "ravings" I must say something of how I came to make this trip.

The credit of this trip goes to Don Harris, for he not only gave me his most loyal moral support, but financial support as well, and that one brings me to the other men that I have

traveled with. The trip was composed of four men: Don Harris, Bill Gibson, and Chet Klevin, and myself, and I would believe myself safe in saying that there was never four men thrown together like we were, and got along better than we. Sometimes I seemed unable to place Bill, but after Chet told me something about him, then I had it all arranged. Then there was Chet. What a wonderful job Mother Nature did when he came into this world. There could not be two like him. Never once did he fail. Don Harris, what wonderful parents he must have had, for a mother and father of inferior grade could not have produced such as he—and what a boatman. Right here is where I am tempted to reach out and try to grab a little glory for myself, for I still believe that the success of the trip was established at Badger and Soap Creek rapids. Don asked me a question of those two rapids that was never asked again; whether his confidence was established in me or himself I do not know, but suffice it to say that it was built up good and strong—point that there was never a hitch of any kind on our whole journey.

successful as the Grand Canyon trip. The trip was not just as harmonious as the Grand trip, because there were so many more in the party, and the interests were so wide apart. Three different kinds of engineers [Kelly Trimble, topographic engineer; Robert Allen, recorder; and Hugh Miser, geologist.], two of the boatmen carried rods for the survey [Elwyn Blake from Green River, Utah, and Hugh Hyde from Bluff, Utah] and our cook [Heber Christensen from Moab, Utah] was something of a crank too, but the chief was all man [Trimble]. But they were all good men and, while some of them had their faults, perhaps I too had some. But we all completed the trip good friends.

But in summing up all the men that I have made trips with, there were only two that I was prone to call "heels" [Charles Russell and Eugene LaRue] and since that time I have learned much that has softened my opinion of them. And that goes to show that there are many judgments that are too hasty.



The 1921 U.S.G.S. San Juan and Cataract canyon surveys meet at the confluence of the Colorado and San Juan rivers in Glen Canyon. Courtesy of the Christensen Collection, Dan O'Laurie Canyon Country Museum, Moab, Utah.

Those three youngsters and the doings of them remind me of other youngsters that have boated with me, and they were just like this bunch [refering to the crew of the San Juan River survey in 1921]. They were always ready to follow me wherever I went, and in many ways the trip was just as

The most trouble I ever had with anyone was Charles Russell and at one time we too were the very closest pals—all for each other. But we finally changed; I first noticed the change on our first trip through the Cataract Canyon, but it was more so during our 1914 trip when he refused to do anything

whatever in camp [probably because Bert owed Russell money]. And after we two split up and he got others to take my place, and had trouble with them all, and he was finally committed to an insane asylum. Then I knew I had judged him too hastily, and there were times when I used very harsh language to him, and now that he has been called to go on and the years have passed. I only remember Charles Russell as he was in those good old days. In looking back over this little article I find that I should have told about those two men that helped to make that trip so perfect.

They were Elwyn Blake and Leigh Lint [now refering to the Green River survey of 1922]. They both had their first rough water trip with me, in fact, this trip I spoke of was their first. Elwyn Blake had his first job after leaving high school [Green River High School] with me in Henry Mountains [placer gold mining at North Wash]. Then it was I who asked Mr. Trimble, our boss, to take him on the trip down the San Juan, and it was there that we had to use him on his first boating. The year following we took the trip I have just spoken of. But suffice it to say that they were both just grand boys that would make anything successful as long as they had the confidence and they surely seemed to have that very thing.

Starting back at the beginning of my boating and commenting on the men that I have had for companions, along about the first, there were two that surely were pals and (we being young at that time) we did about everything that many youngsters could think of. In fact we soon showed our preference to running rapids to placer mining and we had good-sized rapids near us, and we ran that old rapid forward, backward, sideways, and upside down. They were great pals too: George Edmondson, Jim Hambleton and I, often wonder what has become of them. There was Ed Monett who made the trip through the Cataract with Russell and I, and later went through the Grand with Russell. While I never liked him much I never disliked him. I first met him in Goldfield, Nevada, where I was hoisting engineer on the Little Florence Mine and he was top trammer. So that is how he became interested in the trip.

Another companion, and one of the finest men I have ever boated with, was Elsworth L. Kolb in 1916. He and I boated the Colorado River from the Shoshone Falls, about 10 miles above Glenwood Springs, Colorado, to the Cisco Pumphouse, taking in on our way the famous Westwater Canyon. At the Cisco Pumphouse we took the boat out and shipped it to Cimarron, Colorado, where we put the boat back in Gunnison. We went through some hardships that would have broken the hearts of many, but he and I came out better friends than we went in and my recollections of this trip are some of the most pleasant ones that I have. I could go on and enumerate many of our hardships, but suffice to say that they were many and severe. He now resides in Los Angeles. In 1918 I deviated a little from the boating game, for I had the honor of taking Professor Herbert E. Gregory (one of the foremost geologists of the world) [very true statement] on a pack trip from Green River, Utah, on a trip to the 50-Mile Mountain, which extends from Escalante to the Colorado River. We had some great experiences, and Mr. Gregory is one of the great people that have been associated with me on my travels.

I cannot remember of any trip of any importance in 1919, but in 1920 I had the honor of being guide and boatman for a government expedition from the mouth of the Virgin River through the Boulder Canyon. When the first preliminary survey was made the trip was under the supervision of Mr. Homer Hamlin who was, at that time, consulting engineer for the United States Reclamation Service. In the party besides Mr. Hamlin was his assistant, Mr. Charles Wheeler of Los Angeles, Mr. Mulholland with his first assistant, Mr. Van Orman. Mr. Mulholland was city engineer for Los Angeles and constructor of the famous Los Angeles Aqueduct [Owens Valley]. Mr. Mulholland has since gone on and Mr. Van Orman has succeeded to the post held by Mr. Mulholland. A nicer bunch would be hard to find.

In 1921 I was head boatman for the government through the San Juan and the party was composed of Mr. Kelly Trimble, chief of the expedition, with Robert Allen, his recorder. We were accompanied on that trip by a government geologist by the name of Hugh D. Miser. The rodman of the expedition was Hugh Hyde and assisted by Elwyn Blake from [who is now living in] Monticello. Elwyn was drafted in as an extra boatman which finally extended to the Grand. Our cook was Heber Christensen from Moab, another bunch of wonderful men, and the friendship created there is still very pleasant memory. In 1922 I was head boatman of another government expedition from Green River, Wyoming, down the Green River to the town of Green River, Utah. The trip was under the supervision of our chief of 1921, Mr. Trimble. Besides Mr. Trimble there was R. R. Woolley as recorder. Mr. Woolley is at present a government hydraulic engineer for the Utah Power and Light Company, who had charge of the finances of the trip. The two rodmen mentioned are the same two youngsters that I have mentioned before in this article. They both were boatmen for Colonel C. H. Birdseye on his trip through the Grand Canyon during the Summer of 1923. The trip of 1923 was piloted by Mr. Emery Kolb as head boatman. In view of the fact that I occupied the position as head for the government during the years of 1920, 1921, and 1922, so it would look to most people that I should have had that position with Col. Birdseye, but Mr. E. C. LaRue, a hydraulic engineer for the government, went to the Colonel and told him that I was too old to handle the job, so I was left out. I felt rather put out at that time, but since I have made the trip [with Don Harris], I am rather glad that it happened that way; for the trip I had was such a nice one that I am perfectly satisfied.

During the years that followed I made numerous trips through Glen Canyon and in 1929 I piloted two government engineers through Glen from the mouth of North Wash to Lee's Ferry, and they were two nice men. In 1920 I accompanied Dave Rust through with an attorney and his daughter. Their names were Mr. George Frasher and his daughter, Sarah, and a very delightful trip it was, too—nice people.

In 1936 I made a trip through the Salmon River, the River of No Return. This trip was made in company with Charlie Snell, and I still remember the trip with joy from all angles. In 1939 I took two government engineers from Hite to Lee's Ferry, and it would be hard to conceive a more delightful trip anywhere, and I never got such a kick out of geology as I did on that trip. And after I left them, or they left me, at the ferry and I continued on through the Grand Canyon. I sure missed them, for we had an entirely new batch of rocks, and no one to explain them to me, and I often think what a nice trip it was, and if I could take them both through the Canyon next Summer—just another dream I suppose.

I have tried to describe most of the men that I have traveled with, and tell what nice men and companions there are. So now I am going to tell you about the, you might say, the only one different man I made a trip with in 1914. Charles Russell and I have worked and bunked together in Telluride, Colorado, and were the very closest pals and friends—so in 1914. We started a trip together as I have described elsewhere, and in 1914 we started another. But I will try to describe the years between 1907 and 1914. Russell was an accomplished scholar in the Spanish language and also a good miner. So after he finished his trip through the Grand Canyon he secured a position with the Hearst-Hagin Mining Company in Old Mexico and put in five-years there, and he had a great knack of saving his money. So he came out with about all he had made during those years, and it was then that he conceived the idea of photographing the Canyon with moving pictures. He told me that he could get Monett, but that Monett would never be a rough water boatman, so he got me to go with him in Green River, the fore part of July, and proceeded to get our outfit arranged, and it was then that I soon found out that I had a different Russell to contend with, for he absolutely would not help in any way, and as a matter of course, there were quarrels between us. I am mentioning that at this time in view of what is to follow.

The equipment was of Russell's choosing and was a very incomplete one. The boats were Mullen steel pleasure boats and only 12 inches deep, and I predicted failure before we started, and besides, the covers had to be put on by hand, and as I said before, Russell would not help, so therefore the job of covering was a very incomplete one. Russell had two movie cameras and 20,000 feet of standard film, and I think that we lost about a mile of it in Cataract Canyon, and outside of the boats he had a very good outfit, but the boats should have been the foundation of the expedition, that is, where the equipment was not as it should be. We finally got started and so did the Summer rains, for by the time we reached the head of Cataract Canyon we had water galore, and soon found out that our boats were inadequate. But I started out to tell about Russell more than the outfit or our trip through the Cataract.

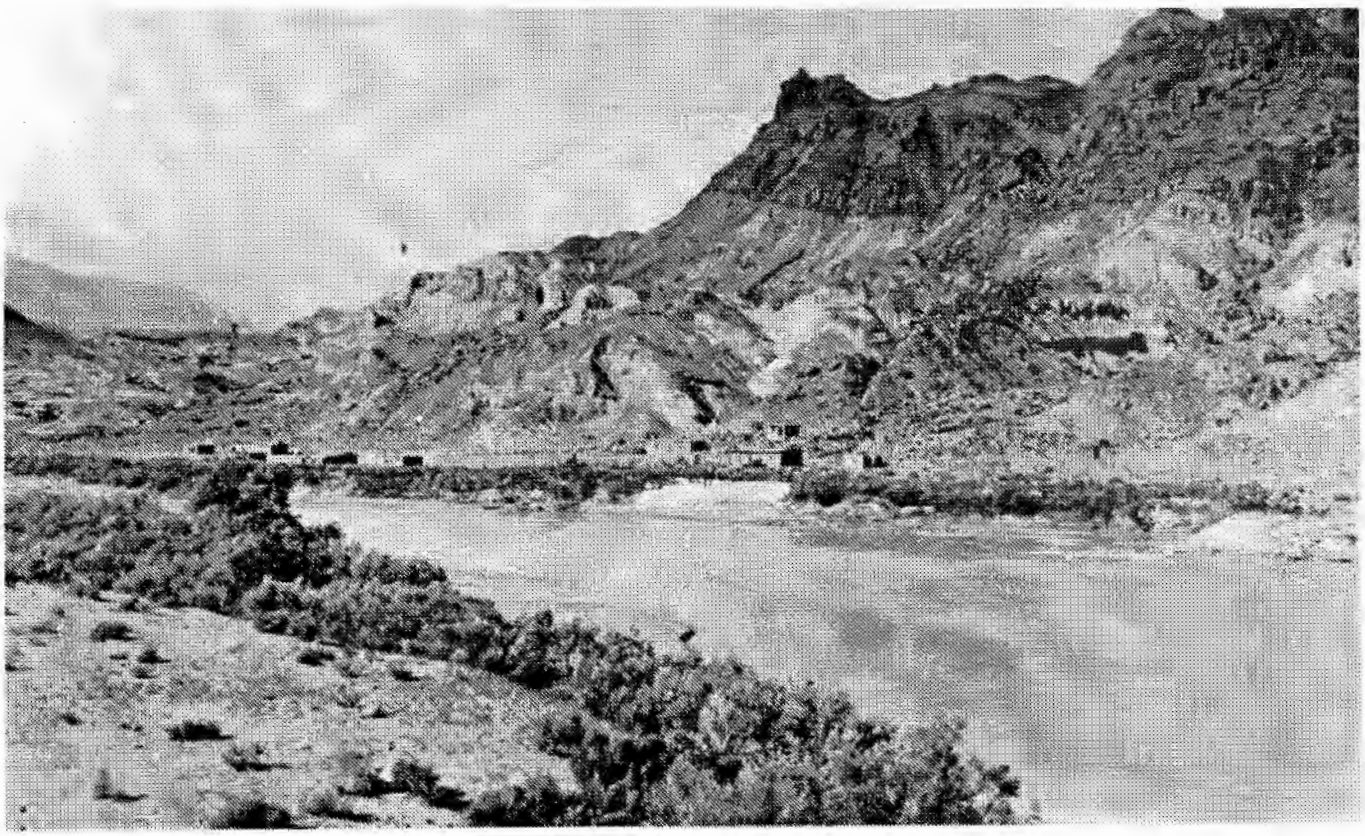
I have spoken of the change in Russell, as we were coming down the river, and I might have been about 75 yards in advance. I thought I heard someone talking, so I eased down on my rowing and it was Russell, and while I could not hear all that he said I could tell by what I did understand, and by the tone of his voice that he was fighting someone. So in the p.m. I again heard him going over the same talk that he made in the forenoon, and this time I could hear most of the words he used, and the next day it was the same both in the morning and again in the evening. So in the course of time I memorized the entire talk, and while my name was not mentioned I was positive that it was I whom he was fighting, and our first night in Cataract we made camp on the left bank of the river, and the campfire was between us, and in the night I was awakened, and Russell was sitting up in bed and going at it again, and when one takes into consideration that we were 120 miles from a human being it was just a little creepy, but the worst was still to come. I found out that we had 85 thousand feet of water [This puts the Cataract Canyon traverse date in June rather than July of 1914, as reported in River Runners of the Grand Canyon by David Lavender] and in the Big Drop of the river was a fury—some of the little rapids were big ones and some of the big ones were entirely wiped out, for instance, Rapid #4 in low water is very tame, but on this trip #4 had the very biggest waves that I ever ran, and all a man had to do was to take the V and ride those big waves and there was no trouble, but it was here that I began to think that Russell was losing his "NIP", for instead of taking the big water he pulled out to one side and took what we call short water, that is, instead of riding 20 foot waves he took 6 or 7-foot ones and in so doing, he would invariably water-log our hatch, for it would not keep out the water, and as the water containers were not water-tight either we lost plenty of film.

So we continued this until we had traversed more than 20 miles of the canyon when Russell lost his boat, and that ended the trip, for on the Big Drop in the canyon the water was a fury, so we decided to leave the outfit and walk, so we had to walk 20 miles and when about half-way we had to make a raft across the river, and then, me suspicious of Russell losing his nip, was verified, for when we had the raft made and pushed off it was then that he went white, and would not do anything to help, and I managed to work the raft over by about 6-feet from the shore Russell gave a jump, and that started the raft for the opposite shore, and I had to leave the raft and swim out, and as a matter of course there was more rough talk, but we continued on our way up to the Spanish Bottom, and we arrived there by dark with no bedding and only a little sack of biscuits for our meal, and I think I never saw it rain very much harder, and we had a very miserable night, but the next morning it was clear and we proceeded to climb the old trail when about half-way up I scouted the left fork, and I soon found out that the left fork was not the one I returned to the point where we divided, and I shouted at the top of my voice and no answer, and I shouted several times and no answer. There happened to be a large rock at that place so I started up the trail, and when I passed around the rock there sat Russell—some more rough talk. We finally reached the top and about all we could see were box canyons, and it was 120-miles back to Green River and I did not know the trail. So I had heard the sheepmen talk about the trail "under the ledge" [Doll House, Maze District], so I told Russell that we had better take that one for it was only about 70 miles to Hite and I had two horses there. So we started and the task of leading Russell those 70 miles was rather trying, for we would get up on a high point and select our route and start, and then Russell would start off in another direction. And then I would

have to get him and steer him on the right course. So after two days we reached Hite about 11 p.m. with our feet in very bad shape; nearly as raw as beef steak. But I am trying to show the changed condition of Russell over what he used to be. But in view of what happened later I overlook all that and try to remember him as he was. For, in the course of time, he was committed to an insane asylum in Arizona and later passed on. So now I can look on the whole thing as another and not my old pal.

associated with him. And my hope is that I may again sometime be associated with him.

There are others too that I hope to always be able to call friends. The San Juan trip was one that I believe made me some wonderful friends: Hugh D. Miser of the U. S. Government and Kelly Trimble of the Topographical Branch of the Survey were both great men and friends. The trip through Glen this Summer was different to any other trip I ever made for I was not only



Lees Ferry, Arizona, in 1921.
Courtesy of the Christensen Collection, Dan O'Laurie Canyon Country Museum, Moab, Utah.

But now I wish to come back up and say something about another one of my companions, Bill Gibson, the photographer of my last trip. I had mentioned already that there were times that I did not know just how to take him until Chet told me something, and then I looked at it in another light. There were times when he seemed morose. But after I learned then I knew better, and it also brought home to me the fact that we are oft times prone to pass snap judgement, and I will say that I have never seen anyone that performed his duties thorough or complete than he, for he seemed to sleep with his duties; seemed to always be trying to think up something better or to better his work, and it was a joy and a pleasure to be taught geology, but we debated about everything debatable and always in a friendly manner. I believe I could go on much further about the wonderful men that I have traveled with, but I will let it go at this for the time being.

End of Manuscript

Letters Concerning Charles Russell

Compiled by John Weisheit
Transcribed by Rosalyn Jirge

A letter dated December 20, 1947, from J. E. Russell, the brother of Charles Silver Russell, to Otis Marston. J. E. Russell was an attorney-at-law.

My brother was a very powerful man, about 5'10½ inches and weighing, usually, about 180 lbs., he was born on a farm near Bunker Hill, Illinois, March 28, 1877, the son of John W. and Catherine M. Russell, he died in Phoenix, Arizona, February 8th, 1925. He was a mining engineer, worked in and had charge of mining operations in Colorado, California, Arizona and Mexico. He was never married. He began mining in California in 1897 near Placerville and continued mining remainder of his life, taking a course in mining engineering soon after his first mining experience.

It was while working in the mines near Telluride, Colorado, that he, Loper and Monett conceived the idea in making the trip down the Colorado River for prospecting purposes. However it was some 6 or 7 years after formulating the idea that they were able to put it into operation [in 1907]. They realized the dangers connected with such an expedition and so far as possible equipped themselves to meet such contingencies as they arose and the fact that my brother made three trips testifies to the fact that he knew the dangers to be encountered and how to meet them.

His last trip, being with the idea of making moving pictures, was against my advice, therefore, he did not give me much information regarding that trip, he did have a great many feet of wonderful pictures which were destroyed along with all his other data when his home in Mohave County burned.

The three boats they started with were named ARIZONA, NEVADA and UTAH. As I now remember, the UTAH was the boat that came through, it being the one my brother manned.

Being wet through day in and day out for several days at a time was one of the discomforts of the trip, however, none had COLDS during the entire trip, nor were any of the adventurers ill during that period, no casualties other than a few bruises, barked shins and skinned hands and fingers.

A letter dated January 23, 1948, from J. E. Russell, to Otis Marston

Dear Mr. Marston:

I am unable to recall much of the second trip my brother made down the canyons, other than that first I knew of the trip he was starting from Green River, Utah. Next he telephoned me from Flagstaff on his way back to Illinois to visit Mother for Xmas. I remember there were two reasons why the trip ended just before Xmas and at Cataract Canyon, they had an accident, lost a good part of their equipment, weather conditions were against them, and Loper was ready to quit. My brother intended to pick up the trip later but did not do so [he did do so].

My brother told me a lot about the various rapids you mentioned, but my recollection is rather dim of any particulars. Many of the rapids they portaged around. I recall my brother commenting upon the fact that many of the rapids could not be run, and that the Kolb brothers' first trip was made by portaging their boats down the river instead of running most of the rapids.

For the second trip my brother was also investigating the possibilities of power to be generated in the Canyon, but that was only an incident to the trip and not its main purpose. He did discuss with me the feasibility of a dam above Lee's Ferry for power purposes and he had figured out cost and estimates, but no one could be interested at that time.

My brother was a man who said little, feared nothing and usually accomplished anything he made up his mind to do. While not a large man he had a powerful physique and was able to withstand most any hardship that came his way, his eyesight was unusually keen as were his perceptive powers, he could analyze a situation and have his results in a very few moments. While well educated he never boasted of the same, on the other hand rather gave off the impression that his education was limited.

I shall be glad to see you when you come this way.

Respectfully - J. E. Russell

A letter dated August 23, 1949 from J. E. Russell to Otis Marston :

Dear Mr. Marston:

Replying to your favor of the 19th will say that my brother, Charles S. Russell, suffered from a head injury he received in the mines, the effects of which did not develop until the last few months of his life, when he lost control of many of his nerves. This injury was of several years' standing. I had him in hospitals in St. Louis, South Pasadena and other places for treatment. It was in 1919 that I began to notice the effects of his injury and from which he died in 1925.

Bert Loper had no money to pay his portion of the expense of the river trip and brother Charles advanced Bert's portion and was never repaid. My brother advised me of this shortly after the trip and tried to get in touch with Loper without success. Reeder made an agreement with my brother relative to the river trip and Charles advanced him the full amount, at Hite, Utah, he deserted my brother and refused to repay one single cent. I tried to have some correspondence with him, but without success, he apparently was just a coward and a gyper. From all I was able to learn of Reeder, he was afraid to make the river trip and did

not have the honesty to be fair with the man who had advanced him moneys.

I read of Loper's death in the local newspaper. I never knew him personally, only by talking with my brother.

In addition to one of the boats, Loper got away with quite a little equipment my brother had paid for, including a six-shooter my brother prized very highly.

Very Respectfully Yours, J. E. Russell

Marston wrote to Charlie Russell's sister, Mrs. Nell Miller, in Kirkwood, Missouri, September of 1949. She responded:

Dear Mr. Marston:

Your letter of September 3rd received. It has aroused my curiosity as to why you are trying to obtain this information. Perhaps you are writing a thesis, a book, or just interested. The name, Bert Loper, seems very familiar to me and he probably was the man who went with brother Charles on his first trip. I do not know very much about this trip, myself, as I was just a youngster when he made his first trip.

There were many letters and clippings and pictures. At the present time I do not know where they are. When my mother died her things were not taken care of, her sister having rented the house furnished and many of her things were destroyed. At that time I did not value these things and they probably were destroyed. I do have a box of pictures in the attic of my house which were taken on the first trip and I shall try to find them on my next trip home, which will be some time in the next week or two. I shall be glad to get all the information for you that I can.

Why my brother never married I do not know. He received his elementary education at a country school called "Pleasant Hill" near Bunker Hill, Illinois. I think he then attended at school in Bunker Hill which was run by a private party and finished up at the St. Louis Business College in St. Louis. We considered him our smartest brother and he had a beautiful handwriting, which was the envy of us all.

When he made or tried to make the second trip through the Canyon he had so much bad luck, losing both camera, food, etc., that the man with him became so angry because he would not abandon the trip that he hit him over the head and left him for dead. How long he lay there he does not know, but he finally came to and got help. From that time he began to lose his mental faculties and became worse from year to year.

We finally brought him home to our mother, who cared for him until her death in 1920. We then put him into a sanitarium somewhere in California, my brother kept him for a while and then put him in a sanitarium in Arizona. There he died, but I do not remember the date. It must have been about the year 1924, but I may be wrong about that. One never realizes how valuable old letters and clippings might be until it is too late. I was never very good at saving things and accumulating a lot of things I considered no good. My brother should be in a better position to give you more details than I. I was the youngest of the family and my brothers were out West from the time I was a little girl.

I shall be glad to try to find anything I can and let you have it just as soon as I can.

I had an opportunity to visit the Grand Canyon about 3 years ago, which was the first time I had been West. I was so very disappointed when I reached there and found that my brother's boat was no longer on exhibit there. I wanted so very badly to see it.

I do not know the names of the men who participated in the river trips, but I am sure my brother could tell you. An account of his first trip, too, used to be at the Grand Canyon, but we could not find it.

I hope to hear from you further about this. I, too, would like to have more information about it. You will hear from me in a short time.

Marston wrote to J. E. Russell to verify the story of Charles Russell's sister. In November of 1949, J. E. wrote back as follows:

My brother, Charles Silver Russell, procured his mining education the hard way, began working in the mines in 1898, soon thereafter he took a correspondence course from the International Correspondence School and later took another course from another school, I do not remember the name, all while he was working in the mines. In Colorado he worked around Telluride, in Arizona at Octave, Jerome, Kirkland, Tombstone, in Mexico near Magdalena, Socavon, and Mazatlan. In Mexico he was a general manager, at Tombstone shaft foreman, at Octave mine foreman, at Kirkland superintendent.

Charles Silver Russell was born March 28, 1877, on a farm about 2.5 miles south of Bunker Hill, Illinois.

My brother communicated with me from El Tovar in 1907 and asked that I send some of his funds, which I was keeping for him, to Needles, California, to be there when he arrived.

Yes, Charles mentioned about one of his men hitting him over the head on the expedition in 1914, I do not recall whom.

Loper's fondness for gambling accounted for fact that he ran out of funds, my brother was financing the expedition, the others not contributing any finances.

My brother went to district school in Illinois, then to the Bunker Hill Military Academy, and finished at the Bryant and Stratten Business College in St. Louis, Missouri.

If I can be of further service, command me.

Very Respectfully Yours
J. E. Russell

Capt. Samuel Adams

By John Weisheit and Michele Reaume

In Wallace Stegner's book [published by Houghton Mifflin Company, 1953], Beyond the Hundredth Meridian: John Wesley Powell and the Second Opening of the West, a mention is made about the adventures of Captain Samuel Adams on the Blue and Colorado rivers in 1869. The Blue River is a tributary stream of the Colorado River that runs through the town of Breckenridge, Colorado. Said Stegner of Adams:

" His career is a demonstration of how far a man could get in a new country on nothing but gall and the gift of gab, so long as what he said was what people wanted to believe. He was one of a tribe of Western adventurers and impostors and mountebanks [to beguile or transform by trickery], *cousin-German to James Dickson and Walter Murray Gibson* [see Across the Wide Missouri by Bernard DeVoto and Mormon Country by Wallace Stegner]; *and if his schemes were not so grandiose as theirs and his imagination not so lurid and his personal ambitious godlike, he was still recognizably of that sib. As Dickson was to Sam Houston, as Gibson was to Brigham Young, so Adams was to Powell—a lunatic counterpoint, a parody in advance, a caricature just close enough to the real thing, just close enough to a big idea, to have been temporarily plausible and limitedly successful."...*

"...in May, 1869, as Sumner [John C.] *and the trappers were waiting in camp on the Green for Powell to return with the boats, a young man of impressive presence and a fast tongue climbed off the* [newly completed] *Union Pacific's passenger train and made himself at home in camp. He said that he was to accompany the expedition in a scientific capacity; his mouth was full of big names. He had letters and orders which he would present to Major Powell as soon as he arrived.*

"When Powell arrived with the boats on May 11 Adams presented himself as one who had authorization from ex-Secretary of War Stanton to accompany the expedition. He might even have got away with his bluff if, as he thought, the expedition had been sponsored by the government. But Powell, who had himself planned and organized every detail of the trip, saw no reason why a retired Secretary of War should forcibly impose a recruit upon him, especially a lordly recruit who acted like a commander. He asked to see Adams' paper, and Adams brought them out: letters from Stanton and others [General Humphreys, Secretary of War Belknap and various Congressmen] thanking him kindly for his communication and wishing him success in the exploration he contemplated. Powell said later [in an 1872 letter to R. M. McCormick] that he read the letters and sent Adams about his business..." [Stegner then relates an amusing story of how Powell's men humiliated Adams.]

The letters of Samuel Adams are archived at the Huntington Library in San Marino, California.

The following is a chapter from The Floater's Guide to Colorado by Doug Wheat. CPRG thanks Chris Cauble, publishing director of Falcon Press, Helena, MT, for permission to reprint this story.

"Captain" Samuel Adams Challenges the Upper Colorado

by Doug Wheat

On July 12, 1869, "Captain" Samuel Adams stood proud and anxious on the banks of the Blue River, one of the Colorado's uppermost tributaries, near Breckenridge, Colorado. He was finally ready to begin his historic voyage of discovery from Colorado to California by way of the Colorado River.

Adams has blown into town only two months before. He had told the miners and townsfolk of an Eden down the Colorado, a river corridor of vast wealth and opportunity. Adams was a man of persuasion. He easily recruited ten men for the expedition. They hastily constructed four open boats of green pine. Hundreds of pounds of flour, bacon and coffee were loaded up. Rifles, ammunition and scientific instruments were carefully packed. The largest boat, 22 feet in length, was fitted with a flag inscribed by the ladies of Breckenridge with *"Colorado to California, Greetings!"*

It was a gala sendoff. Speeches were given by Judge Silverthorne and others. Adams praised the people of Breckenridge as possessing superior intelligence and moral worthiness even at these *"extreme limits of civilization."*

Who was this Captain Samuel Adams and where had he come from?

In the Spring of 1867, E. M. Stanton, Secretary of War, received a letter entitled *"Communication from Captain Samuel Adams, Relative to the Exploration of the Colorado River and its Tributaries."* Stanton, apparently impressed, ordered the letter printed in the record of the 42nd Congress. In this letter Adams stressed the *"great commercial importance of the Colorado of the West as being the central route between the Atlantic and Pacific oceans."*

Adams, it seems, had been kicking around the lower 350 miles of the Colorado with Captain Thomas Trueworthy of San Francisco in a small, steam-powered sternwheeler.

Several explorers, including Derby, Johnson, and Ives, had voyaged up the Colorado in steamers and told of a great central chasm—the Grand Canyon—and an impassable river beyond. In his letter to Stanton, Adams ridiculed and disparaged these accounts, insisting that *"none of those dangerous obstructions which have been represented by those who may have viewed them at a distance"* existed. *"The Colorado must be, emphatically, to the Pacific Coast what the Mississippi is to the Atlantic."* Adams implied that he was better suited than anyone to explore the river. That exploration would "have the grand result of proving the misrepresented stream to be the central route which is to connect us more firmly in the bonds of common nationality, and of reflecting honor upon your administration. The legislators may have taken Adams with a pinch of salt. At any event, they replied in kind:

"Resolved by the House of Representatives, (the council concurring,) that the thanks of this legislature are due and hereby tendered to Hon. Samuel Adams and Captain Thomas Trueworthy for their untiring energy and indomitable enterprise as displayed by them in opening up the navigation of the Colorado River, the great natural thoroughfare of Arizona and Utah territories."

Not quite two years later, in April 1869, Jack Sumner, Seneca and Oramel Howland, Billy Hawkins, and Bill Dunn were waiting in Green River, Wyoming, to join Major John Wesley Powell, who had taken the train east to oversee construction of river boats, secure funds, and gather supplies for his exploratory voyage down the Green and Colorado rivers. As they sat around their tent drinking whiskey, a fast-talking dandy jumped-off the train and made himself at home at their camp. It was that pioneering proponent of the Mississippi of the West, the Honorable Captain Samuel Adams. Somehow Adams had gotten wind of Powell's plans. As this expedition fitted his imagined destiny, he rushed off to join. He arrived with the letter from Congress and various communications from Stanton to try to convince Powell that he had been ordered to accompany the expedition as a scientific advisor.

Powell's motley, inebriated crew, however, quickly caught onto Adams and made fun of him just as Congress had done two years before. Hawkins upset Adams almost to the point of his leaving when, after Adams asked why the coffee tasted so bad, Hawkins pulled a dirty sock out of the pot.

There must have been some wild storytelling during those nights beside the Green River waiting for Powell's return—Adams describing his heroic exploits on the lower Colorado and Jack Sumner telling of his first ascent of Long's Peak with Major Powell the previous August. The men must have informed Adams of their trek down the Grand River (as the Colorado above the Green River confluence was called at that time) through Middle Park, eight months before. They must have told him about the little mining town of Breckenridge up on the Blue River.

Finally, on May 11, Powell arrived with the boats. Adams, assuming the expedition was government sponsored, presented his papers. But Powell had organized the entire expedition using private funds. The letters from Congress and the Secretary of War meant nothing to him. Powell sent Captain Adams on his way.

"If you can't join'em, beat em," Adams probably thought to himself, and scurried off to the Grand River drainage on the other side of the great Y formed by the two branches of the Colorado to put together his own expedition at Breckenridge.

Barely two months after his unsuccessful attempt to join the Powell expedition, Adams was off on the Blue River with his own band of hearty adventures.

About eight miles below the confluence of the Blue and Ten Mile Creek, Adams and his string of crudely built boats approched Boulder Creek. *"On turning a bend in the river, our real danger burst upon us, as we saw, for the first time, the white foaming water dashing for one-mile ahead of us."* Chaos ensued as the boats crashed into the rocks. Although much equipment was lost, the men managed to get the boats to shore. Adams named the short stretch extending two miles below Boulder Creek *"Rocky Canyon"*. In the next three days one of the boats broke into two pieces and was left a *"complete wreck"*. Four men deserted.

The following day Adams named the short canyon in which the Green Mountain Dam was later built *"Cove Canyon"*. Another boat was lost then.

The men camped for a week where the Blue meets the Colorado, probably making repairs and wondering how Captain Adams managed to get them involved in this fiasco. On July 30, Adams reported, the party *"started down the Grand River with our two remaining boats; ran four miles southwest to the Grand Canyon of the Grand River"*. It is perhaps ironic that a canyon hundreds of miles down river, which Adams did not believe existed, was later given one of his place names. Today, the canyon he had reached is called Gore Canyon. Captain Adams had finally learned a lesson. He ascended the right wall at the head of the canyon to reconnoiter. The scene inspired a poetic flair:

"Struck by the beauty of the scenery, I this evening ascended a point above, the great chain of mountains far in the distance rising higher and still higher toward the snowy range, while Mount Lincoln, [Mount Lincoln is not visible from this point; probably he saw Eagles Nest Peak] *towering far above these, bathed in the brilliant moonlight, was superbly magnificent."*

Captain Adams should have stayed with philosophy and poetry. In his rapture he neglected to scrutinize the pounding fury below. Adams was a pious man. The party never traveled on the Sabbath. But no amount of piety could save them from hell into which he was about to hurl his tiny fleet.

Fortunately, he did not try to run boats through Gore Canyon. Carrying his heavy, unwieldy vessels, however, was an impossible task. While lowering the biggest boat through the second big drop with rope, Adams wrote, *"She swung out into the current, filled with water, was held struggling an hour in the mad element, when the line parted and our best and largest boat disappeared forever. By this accident we were reduced to one boat; almost everything necessary for the trip had been lost. here I gave the box in which I had carried my instruments to the waves. We divested ourselves of almost everything of weight, and prepared to try our fortunes in the last boat."*

It took them four days to go three quarters of a mile. On the fourth day, August 7, the last boat broke loose and was dashed to bits on the rocks. Three more men deserted. Captain Adams was undaunted. He knew the river would flatten out all the way to the Gulf of California in just a few miles. Since logs in the river were rounded and worn about the same amount as those he had observed three years before near the mouth of the Colorado, he reasoned that the river must be calm from here on.

Left with two faithful followers, Twible and Lillis, Adams began hiking down river. The weeks of hard labor and disappointment had obviously taken their toll. He was

desperate to put a few positive items, though absurdly exaggerated, into his journal:

August 11-*"Built a cedar raft five by sixteen feet, and upon this we took passage, ran down the river 30 miles passing through...wheat we found over 6 feet in height."*

Adams next point of reference he called *"Rapid Canyon"*. Here, he reported, *"We pushed her out and in a moment she shot like an arrow down the rapid descent. We both grabbed the cross-piece on the raft to which our provisions were lashed; she sank four feet under the surface, but rose again in the distance of eight yards, when in turning an abrupt angle in the river, she struck and parted. here we lost a huge portion of our* [remaining] *provisions."*

Did Captain Adams quit? Not a chance. They built another raft and descended another 40 miles. The destruction of this last raft left the party with only five days' worth of flour and bacon. Captain Adams finally called it quits.

He had probably reached a point some distance above the Eagle River confluence, 150 miles down the Blue and Colorado rivers. This section has a drop of about 3,000 feet, far less that the 6,000 feet he claimed in his journal. Although no one drowned, four boats and four rafts had been sacrificed and eight of his ten men had fled. Somehow Adams rationalized that only a *"narrow territory"* divided him from the lower Colorado upon which he and Trueworthy had driven their little steamer three years before. Again poor Adams was wrong. The most difficult portion of the route actually lay ahead in the thundering cataracts of Glenwood Canyon, the black gorge of Westwater, the graveyard of the Colorado—Cataract Canyon, and the immense depths of the Grand Canyon.

Although no one drowned, four boats and four rafts had been sacrificed and eight of his ten men had fled.

At the time Adams turned away from the river, Powell and his men were passing the junction of the Little Colorado River, headed for the heart of the Grand Canyon. Powell became the hero of the Colorado, Adams the goat. Yet Adams persevered heroically. Most men would have quit after the first disaster, far up the Blue River at Boulder Creek Rapids. If Adams had been honest in the account of his trip, entitled *"Expedition of the Colorado River and Its Tributaries, a Wonderful Country Opened Up"*; if he had avoided condemning his adversaries; he might have found more of a place in history. In point of fact, he was the first to descend the upper Colorado, a river which still attracts hordes of river runners each Summer.

From the Prez

As this issue goes to press we will be conducting our Fall Meeting for CPRG; we hope to discuss many interesting and controversial topics. It is also time to hold elections for two new directors and a president.

Yes, it is time for me to say good-bye to the presidency. I must admit, at that very first CPRG meeting when I said, "O.K. fine I'll do it", I had no idea that I would be doing it three years later. Of course I have enjoyed the position and look forward to helping the next president settle in. Before I leave the position I want to once again plead to the membership for **active support.**

During my stint as president I have watched CPRG grow from a concept into an organization of guides who are quite diverse in their opinions, on the issues that concern river ecology and the guiding profession. I have asked myself and the Board of Trustees, "How can we effectively make needed changes and keep harmful changes from occurring?" I am not sure that there is ever a right or wrong answer, however, one thing is certain: the CPRG Board needs **membership participation** to establish a direction.

Unless you are willing to formulate a thoughtful position and communicate your ideals, then the CPRG Board will have to assume that the membership doesn't care; the CPRG Board will then be mandated by their majority vote. From CPRG's first day I struggled with the burden of representing the various factions of this diverse industry. I found out very quickly that this cannot be done. I rely on the persons who are willing to invest time into this organization by communicating with me. If the CPRG Board takes a stand on an issue, and it happens to be contrary to yours, then you have every right to make an objection or to request enlightenment. If you are opposed to the direction of CPRG, then you should consider running for office, or at least attend a Fall or Spring Meeting. To be effective in this industry of diversity I feel we also need diversity in our Board.

If it sounds to you like I'm on a letter drive, your right. I want the new president to be swamped with letters of opinion, ideas, encouragement, and offers of help. I want to see his/her job made easier by a membership that cares enough about an issue(s) to take a few minutes to jot down their feelings on a postcard or in a letter. If you find yourself complaining about an issue, and you have not written a letter, then you are doing nothing to effect change. So, jump up grab a piece of paper and write.

I am sure you will hear from me in *The Confluence* again and next time I hope my comments will be printed next to a letter with your name on it. So long for now and thank you for allowing me these past three years of service on the CPRG Board as the CPRG president.

Susette DeCoster-Weisheit

Glen Canyon Dam Is Broken

by John Weisheit

The river left spillway at Glen Canyon Dam failed on June 22nd in the flood year of 1983. Several cavitation holes were excavated in the spillway tunnel, the largest being 30 feet deep and 150 feet long. In an emergency effort to save the dam they, the Bureau of Reclamation (BuRec), purchased 3/4 inch thick sheets of plywood from a Page, Arizona, lumber yard and proceeded to stack them on top of the spillways much like a building contractor would to prepare basement walls for a concrete pour. On June 29th the peak discharge, measured at the Lees Ferry gauge, was 92,600 cfs. By July 4th they had installed more dependable steel flashboards on top of the spillways. With the generators cranking, the bypass tubes blasting, and even with a damaged spillway dumping, the lake elevation finally stabilized at 3708.4 feet above sea level (asl) on July 14th, with the discharge at the Lee's Ferry gauge reading 55,200 cfs. The normal high pool elevation is 3700 ft asl.

I believe that it is possible to have Glen Canyon Dam removed in our lifetime. If the membership of Grand Canyon River Guides and Colorado Plateau River Guides persisted on this issue, we could effect the legislation needed to begin its demolition and start a process of developing alternative energy resources.

This is what Russell Martin said about the spillway failure in his book, A Story That Stands Like a Dam:

"...Bureau officials conferred and finally decided to open the east [left] *spillway gate slowly and to begin bypassing large quantities of water around the dam, the first time either spillway had been pressed into flood-control service. For more than a week, water poured into the 41-foot-diameter tunnel, its volume steadily increased until—at 32,000 cubic feet per second—the water exiting the tunnel, pouring over the deflector bucket at the tunnel outlet and spewing into the riverbed, began to turn orange, began to spit out sandstone grit, pebbles, whole boulders, even, the tunnel's concrete lining.."*

Bryan Brown and Steve Carothers, in their book The Colorado River Through Grand Canyon, reported that after the inspection of the damage, it was necessary to reopen the left spillway. **Even with parts of left spillway no longer lined in concrete, BuRec still placed trust in the left spillway; even when the right spillway still had its concrete tunnel intact.**

This is what Tom Wolf said in an article that appeared in High Country News on December 12, 1983:

"June 7. The team brings the power plant flows up to 38,000 cfs, 20 percent over normal capacity. They hold the river outlet works to 15,000 cfs (the couplings on those steel tubes were leaking). That keeps water speed down to only 50 miles per hour. And they hold the right spillway to 4,000 cfs. They want to keep it low because it occupies a dangerous position upstream from the dam's foundation. If the right spillway tunnel broke through to bedrock, it would threaten the dam's foundation."

Twenty million dollars was the cost to repair and modify the spillways; a cost that included the installation of air slots to reduce the effects of imploding vapor bubbles. They tested the left spillway at a maximum flow of 50,000 cfs (for one hour) in August of 1984. **They did not test the right spillway.**

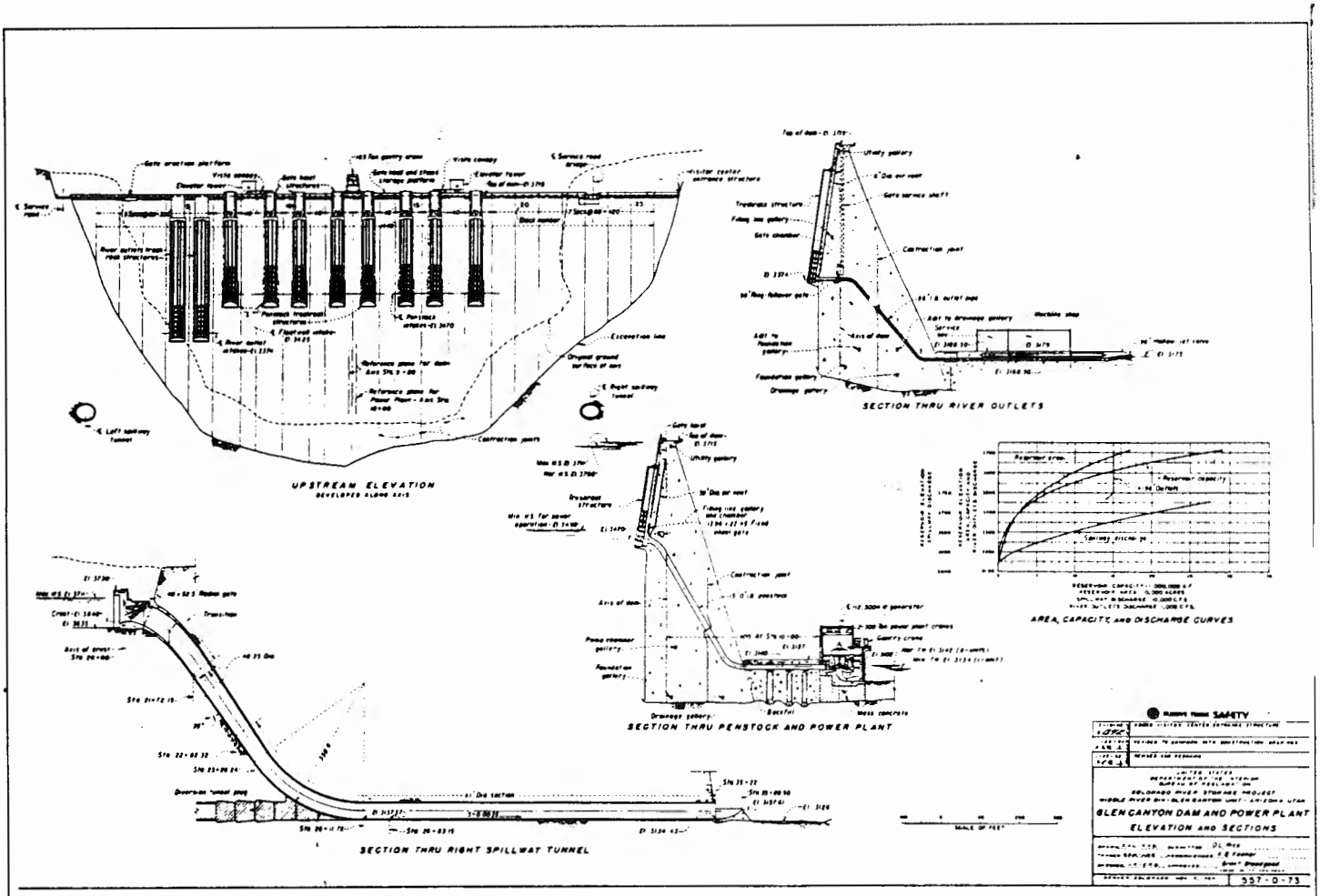
This report admits there is a structural anomaly in the shale units of the Navajo sandstone on the dam's right abutment, or keyway. I'll quote page 14:

"The Navajo Sandstone is remarkably uniform and homogenous over wide areas and nearly identical samples can be obtained from areas separated by many miles. Two thin, shaly layers, encountered at elevations 3065 and 3115 in the right abutment keyway excavation were the only changes in the lithology in the entire excavation area."

I will now quote page 24, which discusses their remedy to solve this problem:

"The seam at elevation 3115 varied from one-eighth of an inch to about 4 inches thick and had a waterflow of two to three gallons per minute. A 5- by 7- foot drift following the seam was excavated near the heel of the dam to a depth of 73 feet into the abutment to a point where the flow of water disappeared. The seam at elevation 3065 varied from a thin shale parting in the sandstone to a shale layer 1 to 2 inches thick and had a waterflow of 75 gallons per minute. A 5- by 7- foot drift following this seam was excavated near the heel of the dam to a depth of 215 feet into the abutment. The flow of water decreased with depth and at the end of the drift was just a small trickle. Both drifts were backfilled with concrete and grouted to form a barrier to seepage through the foundation."

If 3065 feet asl is the elevation at the heel of the dam, what feature is constructed at 3115 feet asl? I looked at the schematic diagrams and found a startling answer. 3115 feet asl puts you about 20 feet under the right spillway, where you will also find the concrete plugs that seal-off the original diversion tunnel. During construction this tunnel was not used to divert the normal flow of the Colorado River; being built at a higher elevation, it was used only to handle the top peak of the snowmelt.



Glen Canyon Dam and Powerplant. Elevations and sections. Courtesy of the Bureau of Reclamation.

It is reasonable to conclude that Navajo sandstone will not hold up to dynamic stress loads, such as a spillway dump; especially on the right side where there are nonconformable breaks in the rock unit. Stress loads were acknowledged as a problem in this report. I'll quote again from page 24:

"Although Navajo sandstone is remarkably uniform and yeilds remarkably smooth excavation surfaces, it has two principal characteristics which contributed to design problems. The stress-relief jointing parallel to the canyon walls showed a tendency to open slightly with time and slab or peel off onionskin fashion. The second defect is that the rock has a fairly large percentage of "set" or unrecovered strain occurring during the first loading of the sandstone. Special grouting design was developed to offset these characteristics."

There are three episodes of stress related activities for the history of Glen Canyon Dam: 1) the stress that occurred while the lake was filling when the diversion tunnels were closed in 1963, 2) when BuRec first tested the spillways in 1980, after Lake Powell finally filled, and 3) while using the right spillway in the 1983 emergency. Perhaps one or all these stresses have caused keyway damage that cannot be repaired—that is unless you drained the lake.

It is impossible to drain the lake entirely since the intake gates for the bypass tunnels are at an elevation of 3374 feet asl. Theoretically to make an effective repair of the right keyway, if such a repair could be made, you would have to reopen the original diversion tunnels. It would be like starting all over. Such a decision would seriously cripple the electrical needs of the Southwestern grid with a loss of electrical power generation from both Glen Canyon Dam and Navajo Generation Station near Page; not to mention the loss of stored water for the farmers and municipal users. **BuRec obviously has a no-action policy concerning this particular problem.**

The 1983 flood that broke Glen Canyon Dam was a twenty-five year flood that occurred early in its history. Sediment fill (aggradation) in 1983 accounted for only a 3% loss in Lake Powell's flood control potential. In 200 years Lake Powell will lose 30% of its flood control capacity due to sediment aggradation. Under these conditions the efforts that saved the dam in 1983 would have failed.

By the year 2183 Glen Canyon Dam will encounter eight 25-year floods, two 100-year floods, and one 300-year flood. Who knows when the 500-year or the 1,000-year flood is coming? One of these floods will force extended spillway use beyond the levels of 1983. The bedrock will once again fail, the diversion tunnel plugs will be hydraulically excavated, and then over 20 million acre feet of water will come racing through the Grand Canyon and into Lake Mead. If Hoover Dam were to fail, so too would Davis and Parker dams. The entire electrical grid of the lower basin would be destroyed, the aqueducts would run dry, and productive farmers would no longer grow food or cotton.

This is what I think should be done to avoid this ultimate National disaster: **1)** Congressional leaders should conduct a formal hearing with BuRec to determine the safety of Glen Canyon Dam. **2)** If the dam is considered unsafe, then it should be removed; never to be replaced. **3)** That Glen Canyon should be reclaimed and made into a national park. **4)** That alternative energy resources should be implemented into the Western Area Power Administration grid. Alternatives such as: geothermal, wind and solar resources, which are available in great abundance throughout the Great Basin desert.

In conclusion, I insist that the lifetime of Glen Canyon Dam should not be considered in hundreds of years. It is at risk today—right now! The sandstone abutments of Glen Canyon Dam are becoming structurally weaker with each passing decade and the "special grouting design's" incorporated into the construction of Glen Canyon Dam are not working.

Bibliography

Brown, Bryan T. and Steven Carothers. The Colorado River Through Grand Canyon. University of Arizona Press. Tucson. 1991.

Bureau of Reclamation. Glen Canyon Dam and Powerplant. United States Department of the Interior. 1970.

Bureau of Reclamation. Spillway Tests At Glen Canyon Dam. United States Department of the Interior. 1985.

Bureau of Reclamation. 1986 Lake Powell Survey. United States Department of the Interior. 1988.

High Country News. High Country Foundation. Ed Marston editor. Paonia, Colorado.

Martin, Russell. A Story That Stands Like A Dam. Glen Canyon and the Struggle for the Soul of the West. Henry Holt and Company. New York. 1989.

Abbey's Boots

by Douglas Carithers

Synopsis

The main body of my story is a description of acts, quotes, meetings and strategies leading up to a "Monkey Wrench Gang" raid. I will present the first factual and documented account of environmental activist-author, Edward Abbey's hands-on involvement in eco-sabotage amongst the moonlit slickrock canyons of southern Utah during the Spring of 1975.

Set in the locale of actual sites portrayed in his novel, The Monkey Wrench Gang, and the soon to be paved and named Bicentennial Highway, gang members are revealed in true form, especially one known as the "Lone Ranger", a.k.a., "Kemosabe."

This colorful and enlightening story explains Abbey's determination and failure to start and drive behemoth earth-movers over slickrock canyon cliffs. Numbering at near twenty, the earth-destroying machine's technology versus Abbey's limited resources proved to be the raid's downfall in terms of accomplishment of objectives set by Abbey himself. Having failed and being enraged with frustration, further acts by Abbey that night proved equally unsuccessful and unlawful.

Following the trail of evidence will provide a portrait of how certain items collected by law enforcement officials from various agencies resulted in Abbey's deliverance from arrest, courtesy of the Lone Ranger, a.k.a., Kemosabe, whose identity has never been disclosed until now by the author. Revealed are circumstances and interconnecting links to the evidence, enabling Kemosabe to provide Abbey with an early warning system that would give Abbey time to bury self-incriminating evidence and escape detection and arrest. Interspersed throughout the story are the following: The first words spoken between Abbey and Kemosabe—and their last.

The female connection: The common link between Kemosabe and Abbey.

The burial site: What was buried? Who buried it and the approximate location, known by only two men?

How close the authorities came to catching the #1 suspect and who he was?

What the raid was? Was it successful? Opinions, quotes, and insights into Abbey's gang members and others involved and some quotable comments from a knowledgeable judge, who was also the prior Sheriff of his county at the time of the raid.

Final thoughts and explanations to the story and an environmental overview of prior "monkeyshines" by Stephen

P. Mather, first director of the National Park Service. A last view of Abbey's boots buried in a canyon. Are they still there? An intimate look at inscriptions by Abbey and other monkey-wrench gang members on the author's personal first edition of The Monkey Wrench Gang.

The Story

Ed Abbey's frustration peaked in the Spring of 1975 as he was writing The Monkey Wrench Gang. To quell his fever and rage, Abbey personally engaged in an act portrayed in that book. It was the raid on a road construction site on the Bicentennial Highway, U-95, between Lake Powell and Fry Canyon, in which Monkey Wrench gang-member, "Hayduke," encountered the character known as the "Lone Ranger," or also known as "Kemosabe." In his sequel, Hayduke Lives, Abbey accomplished on paper what he failed to do that night in the canyons near Natural Bridges National Monument, Utah. He succeeded in driving the giant earth-mover, GOLIATH, over the edge of the canyon.

In reality, it went more like this: Around midnight on April 24, 1975, equipped with eleven ten-pound sacks of sugar and several gallons of shellac, bought out-of-state earlier, Abbey enlisted the aid of "Monkeyman." Driving the old primer-gray panel pickup, Abbey and Monkeyman left Moab, Utah, on a full moon night, dwarfed by the shadow of the La Sal Mountains and headed south to White and Fry canyons near Natural Bridges National Monument. A six-pack later, Monkeyman was able to see the picture Abbey painted as to what the plan was, and by the time the arrived at the scene, Monkeyman had Abbey's masterpiece visualized. Monkeyman was simply to be the lookout for Abbey. He would watch for approaching headlights that could be seen miles from the area, while Abbey conducted his monkey-business.

Abbey attempted to start the machinery to be used at the time from Hite Marina to the highway running north and south from Bluff to Blanding, Utah. It would be called the Bicentennial Highway, in honor of the Nation's 200th birthday. Abbey had many reasons for not wanting this road paved and he was now preparing to send a message to the San Juan County Commissioners by attempting to drive one of the giant earth-movers off the cliffs of White Canyon. Due to Abbey's mechanical inability's, he ran into one obstacle after another. Frustrated and unable to start the engines in any of the twenty machines, Abbey went to his old gray panel truck and pulled out the reliable stand-by: sugar and shellac! Hasty obvious actions and an improper mixture with the shellac, and a sugar trail, would alert the machine operators the next morning, that "monkeys" had indeed been playing on their equipment.

By 3:00 a.m., having exhausted all resources to sabotage the machinery, Abbey, tired and frustrated, exasperated beyond reason, pulled out his pistol and fired several rounds at the ten -foot diameter tires. They merely bounced off the giant wheels. Within hours daylight would reveal fresh footprints, tire treads, sugar trails, eleven discarded empty sugar sacks and other signs of monkey business as the rising sun's rays caught new shadows left on the red-brown earth.

Monkeyman and Abbey left the scene and were back in Moab before daybreak. In their hasty retreat they forgot Rule #1 of all Monkey Wrenchers, DON'T GET CAUGHT! But they had left evidence; strong, incriminating evidence that could have convicted them both. Abbey's local reputation and environmental writing made him a suspect along with other "Seldom Seen" suspects. Abbey forgot that in this case, the slogan, "Take only pictures and leave only footprints" did not apply! [What were you thinking, Ed?] The evidence was collected, photographed, documented and distributed. It connected them to the crime scene and so they would be discovered. But as fortune would have it, they were intuitively suspected by a friend of Monkeyman and by mere association, held their fate in his hands. There was no question of what he would do—the Lone Ranger a.k.a. Kemosabe came to their rescue. And so Kemosabe acted as a true friend would—more friend than ranger, and made it possible for both Abbey and Monkeyman to escape. It was Monkeyman's heel print that instantly gave Kemosabe the clue that he needed.

It went this way: When Kemosabe awoke that crisp Spring morning to a crowd of lawmen nearby where he had camped, it was with highly tuned senses that he heard the familiar law enforcement chatter, amidst a gathering of various agencies and vehicles. It seemed reminiscent of a scene from the film, "Alice's Restaurant." Only the helicopters were missing.

Rolling out of his sleeping bag, Kemosabe quietly joined the cluster of lawmen. Knowing that he was not just a tourist in their midst, evidence passed before him and instantly his eyes singled out and focused on an 8 x 10 glossy black and white photograph that revealed a Vibram sole footprint with a steel tap on the heel. Goosebumps broke out all over his body and he thought, "They didn't!" He only knew of the one person who wore taps on his waffle-stompers; Monkeyman! Kemosabe suddenly knew what had happened, what he had to do and that he was the only one that could do it. He knew in his heart he could and had to do this for his friend. Fate had placed him at this place and time to enable him to stop the sure arrest or exposure of that friend and the current environmental icon of the time.

Kemosabe quickly departed the gathering and headed north to track down Monkeyman and Abbey. He was in reality, acting out the role he would assume by his own actions, not the role portrayed in Abbey's books. Suddenly, enroute to Moab, he became in his own mind, the Lone Ranger—and very alone in his mission. A full lunar eclipse was only days away and a new chapter in his life would begin the following morning.

Early on that morning, following the raid at Fry and White canyons, Kemosabe pulled into the parking lot at the City Market in Moab. He spotted Abbey's faded red Volkswagen bug and approached him, chuckling to himself, knowing why

Abbey was driving it rather than the familiar old gray panel truck he was known to use. Abbey was reading the Moab Times-Independent, eating a jelly doughnut, as Kemosabe tapped on the passenger window, and spoke his first words to Abbey, "We need to talk about last night." Abbey shuffled the paper, while juggling the doughnut and opened the door. Kemosabe sat down in the passenger seat and introduced himself, calmly advising Abbey he was not there to do anything but to let him know that he should get rid of the evidence, which the San Juan County Sheriff's Department and the Utah Highway patrol had on him.

Abbey's eyes widened. Surprise and subdued, he said, "It's kinda' humbling...I just got so...". His words trailed off into silence. The air seemed thick in the Volkswagen bug—tight quarters. Abbey offered Kemosabe one of his doughnuts. Then Kemosabe said, "You need to switch out the tires, and get rid of your boots that you wore on the raid. Bury them—now! Monkeyman is waiting at his house for you. He's got a place picked out and ready to bury everything."

Abbey tried to explain why he did it, but could not summon the right words. Kemosabe reached for the door handle and said, "I enjoyed Desert Solitaire, next time wear moccasins...gotta go." They shook hands briefly and parted. This was the way Abbey met Kemosabe. Fate had intervened and placed a bond between the men that would endure till Abbey's death, years later. Their meeting had remained unspoken until now.

Monkeyman and Abbey loaded the evidence into Monkeyman's camper-truck and headed for the grave site chosen for the evidence, known to this day by only two men—and maybe a buzzard or two circling over the area from time to time.

This incident can be corroborated by evidence taken and filed by the investigating agencies in San Juan County, Utah, that were dispatched to the scene that day. The only evidence linking Abbey and Monkeyman to that scene that day. The only evidence linking Abbey and Monkeyman to that area was buried. The boots could be "resurrected" and bronzed but there are only two "monkeys" alive that know where these boots are located. One has another life in another place, and Kemosabe...well he's still trying to sort out why he saved Abbey's hide, because looking back, if Abbey had been busted, it may have well have resulted in even more fame and cash income from the publicity, than he'd received up to that point. Then again, maybe the Lone Ranger would never have surfaced. The conviction could have made Kemosabe famous—but an outcast among environmentalists. But Kemosabe chose to remain true to himself and his good friend, Monkeyman. Let history judge what it wants and let the eco-raiders, saboteurs, tribal copy-cats and green panthers form their own opinions. The myth will remain by the perpetuation of the truth—and the legend is sound and true.

And about those old boots, buried in a canyon—so many to search in.

Wilderness Medicine Seminars October 1996 to March 1997

Wilderness Medicine Institute
P.O. Box 9
413 Main Street
Pitkin, Colorado 81241-0009

Voice: (970) 641-3572
Fax: (970) 641-0882
E-mail: wildmed@fcinet.com/wmi
Web site: http://www.fcinet.com/wmi

Please contact Wilderness Medicine Institute for class locations, availability and detailed prices. Write today for their catalog!

DESCRIPTION OF AVAILABLE COURSES

WILDERNESS EMERGENCY MEDICAL TECHNICIAN: This course if designed for outdoor leaders, search and rescue teams, backcountry rangers, rural ambulance attendants, and other individuals who provide emergency care in remote settings. Exceeds DOT requirements. 180 hours. $1,495 to $1,635.

WILDERNESS FIRST RESPONDER: Designed to provide leaders, guides, rangers and travelers with the knowledge needed to deal with emergencies in remote settings. Emphasis is placed on prevention and decision-making. Exceeds DOT requirements. 80 hours. $400 to $590.

WILDERNESS FIRST AID (WFR REFRESHER): Introduction to long-term patient care for trip leaders, counselors, guides and rescue teams. Recertification for current card holders from the following organizations: SOLO, NOLS, WMA or WPT. 2 to 3 day courses $89 to $125.

EMT-B REFRESHER/TRANSITION COURSE: State of Colorado approved refresher and upgrade. Also qualifies as a NREMT refresher. Practical test given on 11/12/96. $185.

WILDERNESS/RURAL EMT/FR MODULE: Upgrades EMT's and/or First Responders to the current standards in wilderness/rural prehospital medicine. $295.

WILDERNESS MEDICINE INSTITUTE SPECIAL: Enroll for the EMT-B Refresher/Transition course and the Wilderness/Rural EMT/FR module together and save $100.

CPRG MEMBERSHIP FORM

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

☐ I would like to renew my membership to CPRG. Enclosed are my dues.

☐ I would like to join CPRG. Enclosed are my dues.

☐ Please send a complimentary copy of THE CONFLUENCE to this prospective CPRG member:

☐ I would like to give a gift membership to my friend:

Membership dues:
(Please check:)

( ) $20 per year.
( ) $100 for 6 years.
( ) $195 for Life.
( ) $295 Benefactor.

Membership status:
(Please check:)

( ) Guide Member (Must have worked in the river industry.)
( ) General Member (Must love the Colorado Plateau.)

Name/Organization:_____

Company/Freelancer:_____

Permanent Mailing Address:_____

City_____ State_____ Zip_____

Phone:_____

Summer Mailing Address:_____

City_____ State_____ Zip_____

Phone:_____

Comments and suggestions:

To preserve the integrity of this issue please consider photocopying this form. Pass it around and help us GROW!

Colorado Plateau Professional Guide Institute

Presented by
Canyonlands Field Institute
P.O. Box 68, Moab, UT 84532
800-860-5262 or 801-259-7750

Guide and Outdoor Education Training Fall 1996 to Spring 1997

Colorado Plateau Professional Guide Institute (PGI) is an inservice educational program for land and river guides, outdoor educators and wilderness/river rangers; designed to promote protection of public lands, to manage risk, and to enhance visitor satisfaction. All courses are based in Moab, Utah, and are open to the public, 18 years of age and older. Call or write Canyonlands Field Institute for program outlines and registration packets. PGI courses include one undergraduate credit from CEU or USU for a $10 - $20 extra filing fee (college credit is not applicable to Emergency Medical Training Courses). Discounts on all courses are available to members of CFI. Full and half-tuition scholarships are also available. Enrollment is limited and these programs fill quickly, so call today!

DESERT WATER '97: Calling all guides to this Spring "rendezvous" and workshop! Moab evening lecture by well-known river advocate followed by a full-day on the Fisher Tower Daily. Focus on riparian ecology and Western water issues. Cookout dinner at Big Bend Campground with storytelling and socializing. Talk with agency leaders, outfitters and gear reps. This course co-sponsored by CNHA, BLM, NPS, UGO, CPRG and CFI. **April 11 (eve.) and April 12, 1997. FEE: $15. Includes dinner and a commemorative T-shirt!**

LEVEL ONE INTERPRETIVE SKILLS: For first year (or new to the area) river and land guides. Natural history, desert and river etiquette, and teaching methodologies. 20-hour course certificate. Based at Professor Valley Field Camp. Meals included. **May 9 (eve.) - May 11, 1997. Instructors: Dan Murphy and Tom Corcoran. FEE: $65.**

LEVEL TWO INTERPRETATIVE SKILLS: For trip leaders and experienced guides who want to improve upon their naturalist skills and teaching methods. Outdoor practicals and video feedback. Based at Professor Valley Field Camp. Meals included. 20-hour course certificate. **May 3 (eve.) - May 4. Instructors: Ann Walka and Tom Corcoran. Fee: $65.**

LEVEL ONE RIVER SKILLS: For novice river guides and private boaters. Topics include river ecology, rigging, rowing, paddling, safety, patching, low-impact camping, and etiquette. One night on the Colorado River and one night at Professor Valley Field Camp. Meals included. 20-hour course certificate. **April 18 (eve.) - April 20. Instructors: Michele Reaume and others. Fee: $125.**

LEVEL TWO RIVER SKILLS: Moab class session with two nights on the Dolores River. Paddling and rowing techniques in technical waters. Exercises in catching eddies, strainer and foot entrapment rescues, shallow-water crossings, Z-line/boat wraps and boat repairs. Trip leadership, safety talks, rescue/evacuation scene management. Meals included. 25-hour course certificate. **May 16 - 18, 1997. Instructors: Michele Reaume and others. Fee: $200.**

WESTWATER CANYON RIVER RESCUE: Class session in Moab. Two nights on the river. Meals included. An intensive course for experienced boaters. High volume rafting, instream rescues, rigging, swimming rapids, righting flipped boats, Z-lines/ rope work, safety talks, trip leadership, rescue/evacuation management. **April 25-27, 1997. Instructors: Barry Miller and others. Fee: $260.**

AMERICAN RED CROSS EMERGENCY RESPONSE: This 48-hour course is designed for any professional who may be called upon to give first aid in the line of duty. Lectures, outdoor practicals, and videos. 3-year certification. Includes 1-year CPR. **November 11 - 16, 1996. Instructors: Michele Reaume and others. April 14 - 19, 1997: Instructors: Jim Braggs and Sheri Griffith. Fee: $180.**

EMERGENCY RESPONSE RECERTIFICATION: 20-hour course for those whose certification in American Red Cross Emergency Response will expire in 1997. 1-year CPR included. Bring your own workbook. **February 24 - 26, April 7 - 9, and November 3 - 5, 1997. Instructors: Michele Reaume and others. Fee: $80.**

WILDERNESS FIRST RESPONDER REFRESHER: This 32-hour course is for those who desire to renew their 3-year certification in Wilderness First Responder. Includes 1-year CPR. **January 13 - 16, 1997. Fee: $225.**

WILDERNESS FIRST RESPONDER: This 72-hour course emphasizes backcountry care in a prolonged transport context. Includes lectures, videos, outdoor practicals. 3-year certification. Includes 1-year CPR. **January 18 - 27, March 17 - 26, and May 27 - June 5, 1997. Fee: $400.**

EMT REFRESHER COURSE WITH WILDERNESS EMT CERTIFICATION: This 56-hour course provides the Wilderness Upgrade based on recommendations of the Wilderness Medical Society. Outdoor practicals. **March 2 - 11, 1997. Instructor: Steve Lyons. Fee: $400.**

Ask about Whitewater Academy for teens. July 26 - July 2, 1997.

CFI is also currently seeking a boatman/instructor for employment in the 1997 season.

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

SPECIAL RENEWAL PROCEDURE:

If there is a label affixed to this box it means it's time to renew your membership to CPRG. Please complete the form on page 26 and mail it to CPRG with your check or money order and correct postage. Thanks for your continued support!

Renew: 0996 means expiration occurs in September of 1996.

The Confluence

The Journal of Colorado Plateau River Guides Volume 4, Issue 1, Spring 1997

George Flavell

Nathaniel Galloway

William Richmond

Harry Aleson
Georgie
and the "Mai Qui"

Chubs and Topekans

Defending Constitutional Rights

Inscriptions at:
The River Register
Bowknot Bend

Editorials and Commentary

Canyonlands RMP

President's Past and Present

Minutes

Crossword Puzzle



The boats of the USGS Colorado River survey, 1921, upstream of the railroad crossing at Green River, Utah. Now near the 18th tee of the Green River golf course. Photo by E. C. LaRue. Courtesy of the USGS photo library, Denver Federal Center.

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (c) (3) non-profit organization dedicated to:

*** Protecting the rivers of the Colorado Plateau.**

*** Setting the Highest standards for the river profession.**

*** Providing the best possible river experience.**

*** Celebrating the unique spirit of the river community.**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau.

General Membership is open to those who love the rivers of the Colorado Plateau.

Membership dues:

$ 20 per year
$100 for 6 years
$195 for life
$295 Benefactor

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Steve Young
Vice President	Michele Reaume
Secretary/Treasurer	John Weisheit

Directors

Bluff	Anne Egger
Grand Junction	Darren Smith
Green River	Vacant
Moab	Vacant
Vernal	Tom Hicks

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077
Faxes accepted: Please call first.

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Microsoft Word on an IBM PC. If you use a word processor, we can translate most programs. Otherwise, please send your text double-spaced. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

E-mail: cprg@sisna.com

Editor: John Weisheit

ISSN # 1078-425X

A Disclaimer

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing or supporting viewpoint please send your comments to CPRG.

CPRG Fall Election Status

Steve (T-Berry) Young is the new president of CPRG. We created a new position, a Grand Junction Director, and elected Darren Smith to fill the seat. As T-Berry was the Moab Director, the position is now vacant. The Green River position is vacant too. We need a nomination or a volunteer to fill these positions. Please consider involvement in your organization. It is rewarding. The position of the Bluff Director was filled by Anne Egger. We would like to thank Tim Thomas and Sean Brown for their willingness to serve on the CPRG Board this past year.

From the Eddy

This issue celebrates the centennial of two river expeditions that occurred in 1896/1897, namely: George Flavell and Nathaniel Galloway. It also celebrates the 50th anniversary of the first military surplus inflatable used on the Colorado and Green rivers by Harry Aleson and Georgie in 1947.

Special Thanks To:

Dan Murphy for a Lifetime Membership
Tom Moody for a Lifetime Membership
Dee and Sue Holladay for a Benefactor Membership
Dave Mackay for upgrading from a Lifetime to a Benefactor Membership

---

Free Publication

Robert Webb, of the USGS Desert Research Lab in Tucson, Arizona, sent us a box of Circular #1126, a USGS publication. This color publication is called Dams and Rivers: Primer on the Downstream Effects of Dams. It is written by Michael Collier, Robert Webb, and John Schmidt. The 94 pages include high quality graphics and photographs and comes with a useful bibliography. To receive your free copy please write to CPRG and provide a check or money order for $3.00 to cover the cost of postage.

Think About Changing Your Credit Card Company and Help Our National Parks in Southeast Utah.

Enclosed in this issue is an application for a VISA credit card from Citizens Bank. Purchases made with this VISA credit card will provide a donation to Canyonlands Natural History Association (CNHA). CHNA's mission is to support the public land agencies in providing educational and interpretive programs for the visitor and for the professional guide. There are other nice amenities included with this VISA account. Please read the brochure and think seriously about filling out the response form. It's a good deal for a good organization that partners with CPRG.

Being Pulled from Different Directions

The New President Speaks

by Steve T-Berry Young

The fall meeting ushered in a change for the positions on the Board of Directors of CPRG. Anne Egger of Bluff, who works for Wild Rivers, was elected and has accepted the position of Bluff director. Darren Smith of Grand Junction, who is employed in the summer by Adventure Bound, is now the Grand Junction director, which is a newly created position. The Moab and Green River seats are vacant at this time. Anyone knowing interested parties, please send them our way with a nomination.

At the fall meeting, we also switched people for the presidents position. I think we all should give Susette Weisheit a hand at all the work and effort she put into this organization to get us on our feet. Susette was the first president, and definitely an intricate part of the back bone of CPRG's present strength. Is she leaving? I imagine not; someone who has as much zest and care for the plateau as her, will be there, forging new directions and gathering information to share amongst other enthusiast, like me. The fall meeting also brought myself into the presidents position, which should be a very stimulating and exciting new twist for me. I'm not sure where I stand on the "Zest scale", yet I'm looking to aspire to the same levels as the prior president.

Most people once elected in the future, to the presidency of this organization, will jump into some great, invigorating and positive new direction. I guess I could say yes, I went off onto a great and invigorating direction of my own; for the first 3.5 months of the term. Just after the fall meeting John and Susette Weisheit, Molly Martin, Zane Taylor, Joe Englbrecht, Nancy Allemand and myself embarked on a 750 mile journey through the Colorado Plateau, with visits from Michael Omana, Mary Weingarden and Eve Maher. I can justify it by saying that as president I should go and see all ends of the Plateau, right? A more accurate justification might be, It was fun and very educational for me personally and it has allowed me to look at some issues and ideas more objectively; like the presidency of CPRG. I'm really happy to be on board as president, and I hope the next two years are going to be really busy and productive for CPRG.

Issues of the future

Here are some issues that have an effect on our lives in the future. Some were discussed at the fall meeting, and what you see is an update on those topics.

1) The Back Country River Management Plan for C.N.P.

This winter several meetings were held locally and regionally to understand what the users of the park deemed important to address as topics of concern for the new plan. Via word of mouth, it sounded as though there were three topics of concern at all of the meetings. The first was, the audience for jet skis/personal motorized water craft presented a willingness to argue why they should not be restricted in their use of the parks water ways. I guess it was unclear that these early meetings were only to listen to the users thoughts and concerns for the plan that they felt should be addressed in the parks plan. It was not to argue access questions: That comes next, after the rough draft is out.

The other two things of interest at the meetings, were the allocation of private verses commercial user days in the park and the use of motors on the Green River, in the context for the Friendship Cruise.

2) Efforts to Increase User Courtesy Within C.N.P.

As of this spring we are under way in developing a courtesy pamphlet to be given to all permitted users on the waters of Canyonlands. The thought behind the pamphlet is to ease friction below the confluence and heighten all users awareness that everyone in the park is entitled to a great trip. No matter what one chooses as a vessel or mode of travel, they are all equal and no one or one way is more righteous or better than the other. If this pamphlet increases peoples awareness for others and stimulates a higher sense of compassion amongst each other, then it has accomplished what it intended.

Another thing discussed at the fall meeting was to arrange with the park, to re-due the register box. A more accurate map and descriptions of the camps might ease some of the frustrations in and below Cataract Canyon. A committee is under way and has evaluated all the "at present" camps and when compiled with detailed information on those sights, we should be able to come up with an easy to use and understandable system that does what it is designed to do. The box was and always has been optional for the users, and it still will be, but by a more informed group of people.

3) The Dinosaur and Canyonlands Prospectus Drug issue.

As the outfitters spent most of their time jumping through bureaucratic hoops, vie-ing for their permits, the National Park Service in Canyonlands did a little swapping and moving of rangers and the districts they once worked for. Just so the private users don't feel left out in the park, lets throw in, Canyonlands is now a fee demonstration area; and what does that mean? It means that fees will go up at some point in the future.

With all the changes this winter what else could be significant? Well one thing that is a sure sore point for the river industry around here is the fact that drug testing is not something that people will hear threats about any more. It is here for most of the guides within Canyonlands and Dinosaur. Both prospectuses were almost copies of each other, which had a question relating to the drug testing issue, for the outfitters applying. It is as follows, complete with the other questions, in the section of relevance:

Criterion 4A. The offeror sufficiently demonstrates its ability to select, manage, and supervise its staff for delivering the services required.

#1 The NPS is .interested in ensuring that the concessionaire employs individuals capable of providing the contracted services in a professional business manner and that the concessionaire maintains a healthful, law-abiding, and safe working environment for concession employees

A. Describe what pre-employment screening and recruiting practices, policies, and procedures you will initiate to meet this goal.

B. How will you ensure that the employees hired possess the appropriate skills, abilities, integrity, and interest to provide the contracted services?

C. How will you hire people of integrity who are both interested in serving the public in a National Park environment and interested in being positive contributors to the park?

#2 Drug-Free Workplace

A. Define how you intend to initiate and carry out a drug-free environment and eliminate substance abuse in your work force.

B. What will you do to identify individuals who abuse drugs and/or alcohol?

C. Do you intend to conduct pre-employment and random drug screening?

D. How will you initiate a drug abuse and alcohol abuse educational program?

E. What type of referral-for-treatment program do you intend to provide? What type of commitment do/will you offer to help those who need assistance? is above.

#3 Describe what steps you will take to ensure that a consistent high level of knowledge among all staff about the park and its rules, regulations, and special programs is maintained.

#4 The NPS is interested in ensuring that the concessionaire reviews the conduct of any of its employees whose actions or activities are considered by the Director to be inconsistent with the proper administration of the area and enjoyment and protection of the visitors and to take such actions as are necessary to fully correct the situation.

A. Describe what practices, polices, and procedures you will use to evaluate employees performance, develop your employees' skills and abilities, and correct inappropriate behaviors.

#5 The concessionaire is required to have its employees who come in direct contact with the public to present a neat and business like appearance, and wear apparel suggestive of a white water river trip, to a standard acceptable to the Superintendent.

A. Describe what standards you will apply to uniforms or identifying apparel for your on-duty employees.

#6 Out line the training program that you propose, without assistance from the NPS, to ensure that employees are capable of providing these visitor services in a safe, courteous, effective manner and that they exercise hospitality and consideration in their relations with the public as well as the fellow employees, other concessionaire's employees and employees of the NPS.

The language for the Grand Canyon prospectus was more cut and dry in the area of the drug free work place; generally it was something like, how will you test your guides. The above excerpt seems more vague and open for interpretation. The more vague the question the more the people answering have to take responsibility for how they answer it. The only thing it seems the park can really push, is the drug-free workplace in accordance with the Drug-Free work place act. In the Grand Canyon, the less vague and more directive approach seems to of opened the park up to lawsuits from the people having to be tested, as like the Grand Canyon guides who are involved in a case against the park service (please see Guides Defending Constitutional Rights in this issue).

So the park has left the decision to the outfitters, who are worried about keeping their permits and all the capital they stand to forgo if they lost the opportunity to operate within the park or monuments. Did that fear blind the outfitter, as to cause them to not stick up for the rights of their guides and push for something other than a testing system that is known to not work as it was intended. Maybe it is not the fear, but simple economics. An outfitter



December Cataract Canyon trip with the University of Denver in 1991. Five second night exposure above Rapid #11 ("Fish Camp"). Photo by T-Berry.

can lower their insurance rates and maybe even capitalize on the fact that their guides are being tested; like a selling gimoc.

Even if you do not feel strongly about drug testing in this industry, you should be concerned. Education is something that was never tried before implementation of testing: When did babies learn to run before walking? Where should we as citizens draw the line for "probable cause" in dealing with drugs in our workplace and private lives? If you are willing to hand over your rights this easy for your work place are you going to feel all right about random searches of houses on your street, in search of drugs, illegally copied video tapes and evidence of such private bedroom activities, like adultery? There are other systems to try, besides urine analysis. Those systems are also less intrusive towards individuals who are in safety sensitive areas. Such as the test for the San Diego Trolley Car Drivers. Their accepted alternative to urine analysis, looks for a change in their drivers reactions, based of a cumulative data-base for each employee being tested. Those changes in employees actions are what cause incidents in the field. Changes in reactions could result from stress from a dissolved relationships, family matters and other common societal problems; it is not always drug and alcohol abuse that causes incidents . Why not a test that actually does some good, instead of a test based on nation-wide paranoia?

What can you do as a concerned individual? You could ask your employer some questions, get some answers. We as guides can organize and find other solutions to drug testing, which are more applicable with what is needed here. Education is something the Drug-free work place act talks about, yet it was never tried or used before testing. What happened to that step? Become informed and express your concerns to your employer to help find a solution. Help your fellow guides and learn more about these issues. You can also donate money or time to places and people who are working for a better environment for you. Sometime in late March or April, in Moab, there will be a fund raiser for ***Guides Defending Legal Rights.*** Come to it and help out.

1997 River Interpretive Trips

UGO and CPRG are planning two interpretive trips.

Cataract Canyon on April 22 - 25.
Westwater Canyon on April 30 - May 2.

Prior to each trip their will be a weekend of topics being presented to interested parties. Either contact your employer for more details or if you are a "not for hire" boater than contact CPRG for details on how you can attend.

If you are looking for other possible trips to increase your interpretive abilities outside the area look at the Headwaters Institute. The Headwaters Institute was organized and is run by guides who work on the plateau. They are putting on four interpretive trips on several rivers outside the plateau area.

Interpretive Trips by Colorado Headwaters:

Rio Grande, NM.: April 22nd-24th
Kern River, CA.: May 13th-15th
American River, CA.: May 19th-21st
Arkansas River, CO.: June 1st-3rd

Contact: Tom Hicks
128 J Street, Sacramento, CA, 95814
P.O. Box 1343, Bend, OR, 97709
P.O. Box 258, Jensen, UT 84035
916-442-3155, Ext. 208;
Fax: 916-442-3396.

A Special Trip for Special People to Special Places

This spring several guides including myself have decided to act on our desires, to organize and do a trip for people who are unable to see, and visit remote places off the path of the norm. We're thinking of a group of 5-6 participants and a support group of 10-15. The key is the support group; we need several folks who can carry 100 pound packs. Our thought is to be able to carry some folks, up to a mile, from the river, to some of the wondrous places we all visit so often. Were going to do several trips this or next summer. We would like to start with a day hike, then an overnight river trip with off river hikes. Once we feel we have a solid group then maybe a week long Cataract canyon trip in the fall: Relaxed and fun.

So if you enjoy the feeling you get when you open up the river and canyon environment to people who have never experienced such; or if you are the type who would enjoy sharing and giving a smile and look of amazement to people who need it, then contact me Steve Young or Jose Tejada in Moab at P.O. Box 757, Moab, Utah, 84532

CPRG Spring Meeting

April 26 at 1:00 p.m. City council chambers, 240 East Main, in Green River, Utah. Dinner at Ray's Tavern after the meeting.

UGO and CPRG Interpretive Trip

Cataract Canyon: April 22 - 25
Westwater Canyon: April 30 - May 2

One View of Environmental Extremism in Southern Utah

by John Holland

I have noticed, in reading their literature, that the radical environmentalists are fond of rhapsodizing about the beautiful red rock canyons of southern Utah, and how beautiful they are!

Unfortunately the Southern Utah Wilderness Alliance (SUWA), Sierra Club, and other environmental groups, do not want to preserve this land for the American public like they so loudly claim. Instead they want to steal this land, our land, through a carefully orchestrated campaign of lies, distortions, and falsehoods.

People who take, at face value, the twisted version of reality, put forth by groups like SUWA, are suspending the art of independent critical thinking. Through selectivity of evidence, one can "prove" anything one wants.

If the radical environmental groups get their way, ¾ of the new Grand Staircase-Escalante National Monument, along with 5.7 million acres of public land in southern Utah, will be declared "wilderness". While wilderness designation may at first sound great to those who love wild places, this designation closes the four wheel drive access roads.

There is great debate over the definition of a "road", suffice it to say here, that the BLM's own rules state: "The passage of vehicles over time can equal construction". By the way, these closures apply to all vehicles including mountain bikes.

Why are these access roads important? To start, without them the land is cut-off to everybody but a small clique of river-runners and hard-core backpackers. These folks seem to hold themselves to a different standard than the rest of us. They can be trusted with the use of our public lands, but the rest of us are apparently unworthy. Never mind that backpackers are notorious for using and fouling water holes in the desert and improperly disposing of human waste. Or that the river-runners impact perhaps the most sensitive land of all, the riparian zones.

In my experience of backpacking in the Rocky Mountains of Colorado, I saw riparian areas around high mountain lakes devastated by backpackers and horse packers. I'm talking about areas stripped of vegetation with compacted soil. Most of these places were in designated wilderness. Clearly, wilderness designation has not been done much to save these areas in Colorado. It would be ridiculous to assume wilderness designation would save the critical and rare water sources in the desert.

Those who access by four-wheel drive vehicles can be self-sufficient, carrying all necessary water for drinking, cooking, and for solar showers. Four-wheel drives also have the capacity to carry-out solid human waste.

The radical environmentalists claim that the red rock country is special, unique and grand. Indeed, it is the unique nature of this land that makes access by four-wheel drive so critical. It is the only realistic access to many rugged, remote areas, again, where distances are long, the climate extreme, and water scarce and precious. Remember, a single water source may be critical to wildlife over a very large area.

I am saddened that slick lawyers have taken the environmental movement to such extremes. The latest I understand is that the radicals won't budge on the 5.7 million acre land grab. Whatever happened to compromise and the concept of multiple use? Multiple use can work if all concerned are represented fairly.

This small precious earth is our home, after all, and we'd better learn to respect and live with it. Please let's not allow this special land fall into the hands of those who are expert at using language and data for manipulation and deception rather than education and communication.

Hopefully I can shed some light on these issues with opinions formulated largely from my experiences as a backcountry four-wheel drive and jet boat guide in-and-around Canyonlands National Park. It would certainly be a tragedy for all generations if wilderness designation denied access to the great areas of southern Utah.

I must also make clear that I do not support the extremists at the opposite end of the spectrum. Miners must realize that the old days are over. Mining must be done responsibly. In fact, regulations are in place that prohibit many destructive mining practices engaged in the past.

Like it or not, we all woke up this morning in a society that needs mining and also will. The trick is to mine responsibly and to recycle all we can to minimize future mining.

To all who march lock-step with the environmental extremists, have the courage to differ with your peers and wake up! Save our canyons, stop the radical environmentalists!

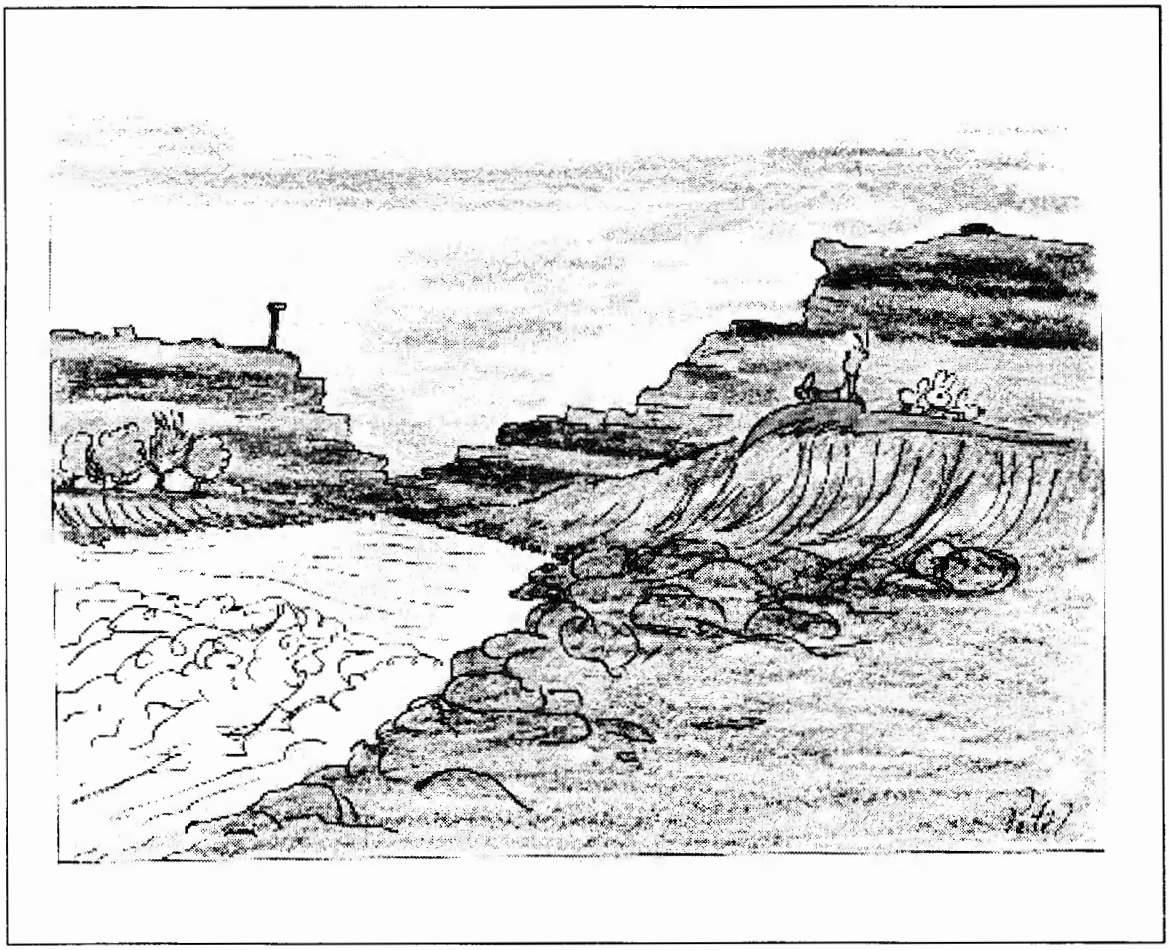
Editors note: *John Holland is a guide member of CPRG and conducts jet boat tours on the Colorado River. Most of the time he conducts overnight jeep tours in Canyonlands. Currently, in the CPRG membership roster, there are about a dozen members who, besides conducting river tours, also conduct jeep, backpacking and/or bicycle tours. Some of our guide members conduct land tours only.*

This commentary is not precisely in accordance to CPRG's mission statement. The topic is a land-based issue and does not deal specifically with professionally guided river trips or river ecology. I have, however, allowed land issues to grace the pages of The Confluence. In particular an action alert for the Southern Utah Wilderness Alliance (SUWA) and Grand Canyon Trust (GCT) concerning the proposed 5.7 million acre wilderness bill in Utah. This legislation, which is largely a land issue, does involve areas where river tours are conducted, such as, Westwater and Desolation canyons.

This journal is designed to provide the membership with opportunities to consider various points of view on issues that affect our vocation. I gave SUWA and GCT a forum on an issue that is primarily (but not entirely) a land issue, and to be fair I must allow John the opportunity to state his opposing viewpoint on that part which was land-based. And so it goes. Anyway, I would like to put a few discussion items on the table during the upcoming CPRG board meetings. Such items as:

- *Should we become, specifically, a river advocacy group?*
- *Should we start another guide organization that is, specifically, a land advocacy group?*
- *Should we meet the challenge of the upper basin's diversity and become an organization that promotes both river and land advocacy?*
- *Formulate an operational policy for The Confluence.*

If you have any opinions on these or any other issues, please send a letter of comment to the CPRG board for their consideration. Thank you.



Editors Note: *Peter is a general member of CPRG. He was a client on a Desolation Canyon trip in 1994. Peter is the artist for this cartoon.*

Motor use in Stillwater Canyon

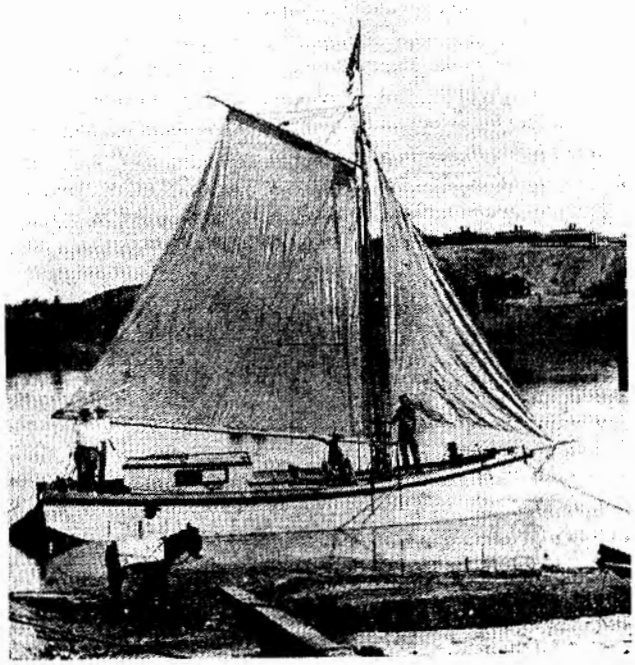
Rivers, mountains, plains, forests and oceans all will change with time. Man has and will be part of these changes—some good, some bad. The days of John Wesley Powell are over, Lewis and Clark couldn't just head out across America. Today they would need permits, and all sorts of "red tape" cutters. let's face it—wild America is gone and what's left has to be protected by laws. Laws enacted by people. These laws and rules should allow the greatest number of people access to as much of wild America as possible. The more people out discovering natural places the better.

This brings me to the center of my thoughts. Middle Mr. and Mrs. America do not have unlimited amounts of time and money to spend discovering America the beautiful. If by the aide of modern technology (i. e. jet boats, outboard motors, groovers, charcoal briquettes, etc.) Mr. Middle America can take a one week tour down the Green River (Desolation Canyon! I had a great time.) then God bless the combustion engine. Use it with common sense, sparingly and leave as little sign of your passing as possible.

Then maybe when some citizen, corporation, whoever, wants to dam up the river, fill in a marsh, chop down all the forests—those of us who have been out into these precious places will stand up and try to be heard. Those motors just might create an army of enviro-loving-active people!

Keep the great outdoors accessible to as many people as possible—manage the way they use it to have the least impact upon it.

Peter Yuschak



George Flavell, standing near mast of the *Examiner*, April, 1894, at Yuma, Arizona. Marston Collection, Huntington Library.

"A POORER BUT WISER MAN":

GEORGE F. FLAVELL AND THE LOG OF THE PANTHON

by Roy Webb

During the Utah Statehood Centennial year, we've all heard a great deal of the events in Utah in 1896: the political battles, the behind-the-scenes maneuvering, the fervent religious discussions over polygamy, and finally the joy and the celebrations, the solemn ceremonies that attended Utah becoming the 45th state.

Yet as noted by the preeminent Utah historian Dale L. Morgan—probably the best historian Utah has yet produced—when he summed up his philosophy of history in his book on the Great Salt Lake,

> Conflict makes news, and news makes history; yet men live rich and quiet lives outside the boiling currents of their times, and who shall say whether the thousand existences in quiet do not more nearly express the shape of human experience than the fiercely spotlighted existence that survives as history?

Just one of many of those "thousand existences in quiet" in Utah during those passionate, turbulent times was a man named George F. Flavell.

Flavell was not even a resident of Utah, had never been here before, and would never come back. In many ways Flavell was the ideal observer of the rich and quiet side of life in Utah during these times, for he knew little of Utah and cared less. But his account of his 1896 trip on the Green and Colorado Rivers, from the little railroad town of Green River, Wyoming, to the steamboat port of Yuma, Arizona, gives us an intimate portrait of rural Utah and Arizona, as well as providing a thrilling story of travel and adventure through what was then, and largely still remains, a wilderness.

Flavell called his journal the *Log of the Panthon*, named for his boat. Flavell died only a few years after the voyage described in this book and the notebook in which the log of the PANTHON was written was sent to his family in New Jersey. They preserved it as a keepsake until the disagreeable but thorough river historian Otis "Dock" Marston tracked it down in 1949. Marston, who made a complete study of everyone who ever ran the Colorado River, admired Flavell most of all. Marston planned to devote an entire chapter to Flavell in his long-anticipated book on river running history, but alas!, Marston was a better researcher than a writer and his book was never published. It remains in draft in his papers in the Huntington Library in San Marino, California, as does Flavell's original notebook containing the *Log of the Panthon.* Marston died in 1979, and Flavell's log languished in Marston's vast collection of papers until 1987, when it was edited by Neil Carmony and David Brown and published by Pruett Publishing of Colorado.

Flavell himself is typical of his times. The end of the frontier had been proclaimed by philosophers and historians, yet much of the west remained wild and open. It was still a land of opportunity for exploration and profit, but was at the same time a dangerous land, where towns and settlements were few and far between. There were no radios, no helicopters, no search and rescue. Anyone who ventured beyond the towns or rail lines was completely on their own. Flavell, like thousands of others before him, was sufficiently schooled by hard knocks to meet the challenge of the still-very-wild west.

Flavell was born about 1864 in New Jersey. He was more inclined to roaming than farming and soon left home. He left no record, made little mark on the world; just another of those "thousand existences in quiet." Maybe he had his reasons: besides becoming an expert sailor and boat-builder in Philadelphia, and after moving out west sometime in the 1880s, a skilled hunter and trapper, Flavell occasionally used an alias, being known as "George Clark" or even just "Clark the trapper." No record of any crimes exist; perhaps he just wanted to change his name. In the west of the 1890s, it wasn't polite nor healthy to inquire too deeply into someone's origins.

In 1890, just as the Woodruff Manifesto ending polygamy was changing the shape of Utah society, Flavell moved down to the delta of the Colorado River. This was hardly the wasteland you would find today, where the Colorado River trickles through dead, bare, flat desert before it finally dries up through overuse sixty miles from the Gulf of California. It was a thousand square miles of swamp and marshlands that rivaled the great delta of the Mississippi. Jaguars, bobcats, beaver, deer, waterfowl by the millions and bugs by the billions lived there in the sloughs and bogs. Even though it was officially Mexican territory, the Mexican government had no desire to spend men and money on such a remote region, and the various Indian tribes lived there as they had for centuries.

In this rich territory Flavell and his brother Roland made a living trapping and hunting: beaver for pelts, coyotes for their scalps, and water birds for their plumes, which were in great demand for ladies hats. They worked up and down the Colorado River, from the end of the Grand Canyon to the Gulf of California. Unlike the wild delta, the Colorado River from the U.S. border north to the foot of the Grand Canyon was known and settled by 1896: there was regular steamboat service from Yuma to Callville (now under Lake Mead), there were forts, mining camps and mines, and railroads crossed the river. The Flavell brothers lived a wild life, their home a small boat.

In the winter they worked the river, in the summer, when the heat along the lower Colorado made life unbearable, they moved to the California coast. Actually doesn't sound too bad, does it?

Surprisingly, this rough life didn't have the effect on Flavell that it had on many. By all accounts, George Flavell was mild mannered and quiet, not one to get drunk or pick a fight. He didn't swear; he wrote several poems that are among his papers, and despite living a lonely existence he enjoyed the company of others, had a good sense of humor, and was a prolific letter writer. Flavell's log of the PANTHON shows a talent as a writer, especially since he had little formal education, and even more so considering that the log was written entirely

while he was on the river, during stops or by firelight "with the roar of a wild river" ever present in the writer's hearing. His only vice seemed to be an ever growing collection of tattoos, and even practiced the art himself; a set of tattoo needles and ink was always with him.

His brother went back east in 1893. George stayed on the river and in the spring of that year built the DART, a 30-foot, flat bottomed, two masted ship. By himself, he sailed down the wild Colorado and out into the Gulf of California, all the way to Guayamas, Mexico, and back to Yuma, a distance of about 1000 miles. In 1894, the restless Flavell joined a group organized by a freelance reporter named R.E.L. Robinson—equally typical of his times, a miner / prospector / journalist / promoter. Robinson wanted to explore the upper end of the Gulf of California for mining prospects, and hired Flavell to build the necessary boat and serve as guide. Flavell remodeled a houseboat into a 32-foot sloop which they named EXAMINER, and with Robinson and two other men set off from Yuma in April 1894.

The voyage down the Colorado was leisurely and idyllic; they hunted feral pigs in the marshes, fished in the open stretches, and landed whenever they wanted to prospect or hunt bigger game such as bighorn sheep in the mountains along the river. But on May 25th, Robinson and one of the others were ambushed and killed by Seri Indians on Tiburon Island, the largest island in the Gulf of California. Luckily Flavell and the final member of the party were on the boat at the time of the murders and escaped unharmed. The Mexican government, unwilling to take on the Seris (who were widely believed to be both brujas, or witches, and cannibals), did nothing. For a time, some people in California blamed Flavell, even saying that he had robbed and killed the two unfortunates. Flavell was disgusted by this turn of events, but there was nothing more he could do. The tragedy haunted him the rest of his life.

Flavell preserved Robinson's notebook in which the unfortunate newspaperman had kept a log of the examiner's travels, and used that same notebook to record the log of the PANTHON. The next time Flavell appears in the record was two years later, in 1896. Flavell and a companion, Ramon Montez, showed up in Green River, Wyoming, with, "the intention of running down Green River into the Colorado River and on down through the Grand Canyon to Yuma." Today this might seem like an adventure travel vacation, but in Flavell's day such a voyage was almost unheard of. By 1896, only two previous parties had ever traversed the Grand Canyon, and only one of those had run the length of the Green. Of less than 40 men, six had died either on the river or while attempting to escape the canyons. Others had been injured, boats had been wrecked and provisions and equipment lost; hardly favorable odds for Flavell and Montez. Yet if Flavell had any qualms about attempting such a voyage, he didn't show it. When asked by a reporter at Yuma why he undertook such a journey, Flavell replied:

> First, for the adventure; second, to see what so few people have seen; third to hunt and trap; fourth, to examine the perpendicular walls of rock for gold.

Flavell and Montez were the first to traverse the canyons who were not part of a major expedition.

If Flavell was unknown, Montez is a positive enigma. Flavell apparently recruited him in Los Angeles. Why is unknown, for by Flavell's own account Montez was a tenderfoot, someone who was unskilled either in boating or in living in the wilderness as Flavell was. He was, in short, a passenger.

Upon their arrival by rail from California about the middle of August, Flavell at once set about building a boat. Little is known about the PANTHON, including the origin of the name. What is known comes from John Hislop, who was an associate of the inquisitive and energetic Robert Brewster Stanton. Stanton had been the chief engineer of the ill-fated Denver, Colorado Canyon, and Pacific Railway survey in 1889. Stanton, already obsessed with the Colorado River, heard about Flavell's voyage so he wrote to his old assistant, Hislop, who was then living in Green River, Utah. Alerted by Stanton, Hislop waited for Flavell to get to Green River, then a tiny stop on the Denver and Rio Grande railroad, and invited Flavell and Montez to dinner. Hislop left the following account of the PANTHON:

> Their boat is a flat bottomed boat with broad, square stern, two oars worked by one man in the bow who sits face to the bow and pushes on the oars. No steering or extra oars. The other man sits on the load in the stern. The oarsman sits on a box when not standing. No airtight compartments. Boat built by themselves and shod with wagon tires, etc.

Further investigation by Stanton revealed that the PANTHON was an open boat, 15 and a half feet long, five feet across at its widest point. It was made of two-by-fours covered with tongue-and-groove planks. The bottom was double planked and further reinforced with iron skids made of old wagon tires.

At this point let's stop and review previous attempts to navigate the rapids of the Green and Colorado. This is easy, for there were only two parties prior to Flavell: John Wesley Powell's explorations in 1869 and 1871, and Stanton's railroad survey in 1889-1890. Both had used deep draft, round bottom boats. Powell's were double ribbed oak, heavy but still not sturdy enough to withstand constant pounding. Stanton at first used light, fragile cedar skiffs procured by the president of the railway company, Frank Brown, who drowned in Marble Canyon. When he returned to complete the survey, Stanton used boats built on Powell's model. They were rowed by two oarsmen who faced the stern of the boat and pulled. This is the standard way of rowing a rowboat and while it gives the most power, the difficulties of maneuvering in a tight rocky channel while looking over your shoulder can easily be imagined.

Flavell used the simple expedient of turning the boat around and facing the rapids, which made a world of difference. This method is today called the Galloway technique, after Nathaniel Galloway, a trapper, prospector, and pioneer boater from Vernal, Utah. In their notes, Carmony and Brown claim that Galloway "has often been erroneously credited with being the first to run the rapids of the Colorado using this 'face the danger' technique" [which phrase, incidentally, was coined by

Norm Nevills, a boatman of the 1930s]. I'm afraid their enthusiasm for Flavell allowed them to get carried away and give Flavell credit, but newspaper accounts prove Galloway was on the Green and Yampa rivers near Vernal in the 1880s, almost a decade before Flavell appeared. It was Galloway who first came up with the idea.

After building the PANTHON and gathering provisions and equipment, Flavell and Montez set off from Green River "as the whistle blew for the noon hour" on August 27, 1896. The boat was loaded with sacks of flour, beans and coffee, the standard camp fare in those days before coolers and frozen food. Canned goods, and a rifle and pistol plus their bedrolls and cooking gear made up the rest of their load. In the opening pages of the log Flavell set the scene:

> The campfire is burning bright. We have the hindquarters of a deer in the ground cooking, and a big stew besides. As the flames of a big pitch log go up, I start the log of the PANTHON and time alone will tell if it will ever be finished or not.

Like those before him as well as later generations of river runners would learn, the first seventy miles or so from Green River were swift and easy. There were no rapids between Green River and Flaming Gorge, only a clear shallow stream lined with cottonwoods and willow thickets which were full of game. Flavell and Montez took full advantage of the latter, with mixed results. Flavell blazed away at several deer but brought none of them down, until the next day when they tracked down and killed a doe they had wounded. Shortly after setting off that morning, they spotted more deer on shore. Flavell "lit out barefooted and after running about ½ mile I stopped hunting deer and commenced picking cactus out of my feet."

That same day they entered what Flavell called "Dolores Canyon," which was actually Flaming Gorge. From there to the head of Red Canyon, a distance of about 30 miles, the river was fast but clear of major rapids. Their first rapids came when they entered Red Canyon, including Ashley Falls, where a house-sized boulder blocked the channel leaving passages only about ten feet wide. "That was enough for the PANTHON," Flavell wrote, "so we passed on." This entire stretch of River, incidentally, now lies under the waters of Flaming Gorge Reservoir.

Even though Flavell was an experience river man, it didn't mean he could stop paying attention as he found out that day.

> Later on in the afternoon Ramon was singing. All of a sudden he stopped. Everything did the same, except the load in the boat. That shot ahead. It was caused by a collision with a rock about 15 feet high. I saw I could not miss it, and so I struck it square with the stem. Ramon was sitting on the trunk in the stern of the boat, and when the collision stopped her so suddenly Ramon came on forward and skinned his knees on the seat about three feet ahead of where he was sitting. It was all over in a second.

Shortly afterward, they passed a cowboy and stopped for conversation; he was the first person they had seen for several days. Just before they camped they passed a "conglomeration of old shacks" and saw a man appear in the door of one. He went back inside without a greeting, though, and as he appeared "to be sort of bronco" or rough, Flavell "decided not to pollute his sacred abode with our presence." The Kolb brothers, running the same stretch in 1911, encountered a similar rough looking bunch and later learned that they were horse thieves. The whole area was rough, rugged, and remote, a perfect lair for robbers and outlaw gangs, such as the Wild Bunch, the Tip Gault gang, and others.

The next day they left Red Canyon and entered Browns Park. Later in the day, they heard a hay mower in operation so after supper, Flavell went up to the house--probably the Two Bar Ranch house--to say hello and ask for any mail. The ranchers had no mail but did have a warning:

> Like all the rest, they said we would leave our carcasses in Lodore Canyon if we entered it. Several have told us of the impossibility of even getting through, though none know what is in there or how long it is. All they know is that it is awful and that everyone who went in there stayed. I have come to the conclusion they don't know any more about it than I do. There is a canyon, that is all.

Such warnings coming from ranchers and cowboys, none of whom ever floated the river, were common. Julius stone in 1909 and the Kolb brothers two years later heard the same warnings about the dangers of Lodore, and even though it is now run commercially on a regular basis, the canyon has a deadly reputation that endures to this day. Coming back to camp, Flavell found

> "A mist in drops as large as grapes, and when I got back to camp I found Ramon floating around in bed. I just tumbled in too and we both floated around together."

The next day they entered the canyon of Lodore in the afternoon. Here, for the first time, they found it necessary to break out their rope to line their boat, which they hadn't needed until then. That night they camped at the head of Disaster Falls, named by John Wesley Powell in 1869 when one of his boats was wrecked there. It took Flavell and Montez all day to lower their boat past the falls. In those days, Lower Disaster Falls was especially dangerous, for at low water levels, such as Flavell was on, the entire river dropped about ten feet and then disappeared under a ledge; to enter there was certain destruction, and it was regularly portaged even by such rivermen as Bus Hatch and Norm Nevills. This has since changed, but Disaster Falls still requires caution and skill on the part of a boatman. That night they ate supper only about two miles or less from where they had breakfast. There were other dangers too; Flavell commented "if there is a place on my body as large as this sheet of paper that is not sun burnt, it must be on the inside."

The next day saw the end of Lodore, after several more dangerous rapids, including hell's half mile, which took four

hours of hard work to get around. As they pulled into Echo Park, at the junction of the Yampa and Green Rivers, around sunset, they encountered one of the strangest characters ever to inhabit the canyon country, Pat Lynch.

> As we pulled in to camp an object was seen on the bank below which soon assumed the shape of a man. We dropped on down four or five hundred yards father to where he was, and a curious man he was, living there in the canyon all alone. As soon as the bow of the boat touched the shore, he grabbed the rope and offered his hand and said "Welcome to Echo Park," and asked my name. He did the same with Ramon. As soon as he saw the boat was secure, he started off after wood to make a fire. I asked him a few questions, but he seemed to take no notice to what I said. He acted so curious I began to think he was crazy. He ate supper with us. I soon gave up all attempts to get him to answer any questions. Finally he began to talk on his own hook, and I was never more interested in my life.
>
> He gave us his whole history, how he had been a soldier before, during, and after the [Civil] War. He had been well-to-do in Maryland. His wife died. All he had was divided between his two sons when he was forced to fly through some trouble. He went to Africa. He learned to be a sailor. He had been in the Navy, had applied for a pension, but through some mismanagement he had failed to get it. And one thing he said struck me kind of forcibly. It was, "Well, I don't need their damned pension. I won't live long anyway." He is 67 years old. He expects only to live till he reaches 71, taking in consideration the hard usage he had underwent.
>
> He talked till 11 P.M., hitting on nearly every subject from trapping to running a government, giving us all kinds of advice. But the part that impressed me most was the story of his family that was broke-up during or before the War. I was afraid to make any inquiries for fear he would stop talking, but perhaps he has one or two sons today in Maryland.
>
> What would they think if they knew their old father was living alone in Lodore Canyon, Colorado, and had not ate a piece of bread for a month, or drank a cup of coffee for two weeks, when perhaps they might have bread to feed the hogs.
>
> I went up to his camp in the bushes, and such a camp it was. His house was a kind of a sled (anyway it was on runners), just big enough for a bed, covered with a piece of canvas held up by bows about two feet high. The table was a piece of board on the ground. It made me feel lonesome as I looked at it, and I laid awake most of the night, wondering if I would pass my last days in some such place.

Others commented on Pat Lynch; when the Kolb brothers reached Echo Park in 1911, Lynch was still there—he lived to be 88, and died in 1917—and they also commented on his fantastic stories and his animal friends. He was well-known among the ranchers and outlaws of the Green River country, and used to trade horses with the wild bunch, for the outlaw trail ran right through Echo Park. His camp, complete with the bed on runners, can still be found near Echo Park and his inscriptions found on cliffs all around the Yampa and Green River canyons.

The next morning, Flavell and Montez were awakened by a shot. Anxious to get them some meat, Pat had shot at his pet buck, who lived near him in the park. Wounded, the poor deer escaped. Flavell searched in vain for beaver up the Yampa River all that day, and the next morning they left Pat standing on the river bank waving goodbye. That night found them through Whirlpool Canyon and into Split Mountain Canyon. "Though short," Flavell wrote, "Split Mountain Canyon used us worst of all." Split Mountain has the greatest fall of any of the canyons of the Green, with four major rapids and a host of smaller ones in its short, seven mile length.

> In running one [Flavell wrote] I lost control of the boat entirely. To help it along, the rowlock jumped out. We got tangled up in the boulders, first bow and then stern first, but finally we came out at the bottom. It was all done in less than a minute. Another boulder was collided with, where we resided for a few minutes until a little sleight of hand was performed to get off. In this performance no one slept.

They stopped at Jensen, the little village east of Vernal, only long enough to mail some letters and check for mail. The next week they spent floating through the open country of the Uinta basin. There was little game and they saw no other people save a few Utes, for this was the Ute reservation. Flavell did find beaver, though, and trapped or shot a dozen. There were more, but since trapping or hunting was illegal on Indian land, Flavell decided not to push his luck.

On Sept. 18 Flavell saw some animals on the west side of the river that soon revealed them to be "slow elk." As Flavell wryly commented,

> These animals differ from other wild animals which are generally all of the same color. But slow elk are all colors of the rainbow. The one that fell victim to my rifle was white with speckles on the back, and in general appearance it strangely resembled a three-year-old steer.

Incidentally, Flavell's is the earliest use of the term "slow elk" to be found in the literature.

Soon afterward they entered Desolation Canyon, which Flavell called "Usher Canyon." There the rapids were not as severe as the canyons above, and they made good time. There were other hazards, though:

> Last night we were awakened by a terrible rumbling noise. I sat up in bed and listened. The whole country seemed to be shaking, and my first thought was: earthquake! But after listening for a few seconds, it stopped with a terrible thud. It was only a portion of a mountain that had wearied of living in such a high altitude and had decided to take up a claim in the canyon below. After reaching its desired location it slept again and so did we.

That night was a rainy camp, so they stood under an old cottonwood, "no seats being necessary" and ate their supper standing up. Meat and coffee were held in the same hand, and when they wanted a bite of break they had to remove it from a pocket, take a bit, and then put it back in their pocket to keep it from getting wet. "We retired early," Flavell wrote, "there being no places of amusement open."

The next day while running a rapid they crashed into a boulder and caved in the stem of the PANTHON, but Flavell had it repaired before evening. The meat of the "slow elk" had gotten wet floating around in the boat, so while they repaired the damage they smoked the meat under a ledge. That night there was another terrific thunderstorm that shook the canyon around them, and side canyons poured floods into the main river.

It was the last storm for a while, however, and the next day the sun shone. They ran the steepest rapid of the canyon, and shortly afterward encountered a rancher who came riding up, thinking they had stolen his boat. This was probably Jim McPherson, who had a ranch at Florence Creek. He was the first person they had seen for seventeen days. The next day saw the end of Desolation and Gray canyons, and by noon they were at the post office in Green River, Utah, then known as Blake. It was the site of a railroad bridge over the river, and the first town of any size they had encountered since leaving Wyoming. There they finally found mail waiting for them, so they spent the rest of the day reading letters and writing replies, and buying provisions for six months.

Leaving reluctantly the next day, they floated through the calm water and open country south of Green River. Here the country was much more open, and they encountered houses, ranches, and placer mines. At one of the latter they stopped for a visit and met John Hislop and William Edwards, both of whom had accompanied Robert Brewster Stanton on the railroad survey of the Grand Canyon a few years before. Naturally Flavell was overjoyed to meet them, and the evening passed with camaraderie and much useful information about the canyons to come. The next day they saw a strange sight for this desert country, a steamboat laid up on the bank. This was the MAJOR POWELL, one of the first of many unsuccessful attempts to establish a steamboat service between the Green and Colorado between the towns of Green River and Moab. Late the next day they spied five desert bighorn sheep on the river bank, and quickly landed to give chase. Four of them were quickly shot, but the fifth, though wounded, escaped to the cliffs. Not wanting to leave a wounded animal, Flavell and Montez pursued the wounded sheep "through gulches, over boulders, along the sides of walls where one slip would send us where we would never want any more sheep." They finally caught up with the ram and finished him off, only to realize that it was quickly getting dark. "It dawned on us all of a sudden," Flavell wrote, "that it was just as hard to get down as up." But they made it by the light of the moon and had fresh mountain sheep meat for supper.

The next couple of days were spent floating through the calm waters of Labyrinth and Stillwater canyons, and on September 30 they reached the confluence of the Green and Grand rivers, as the Colorado was called until 1921. There they encountered a couple of prospectors, Mr.'s Summers and Geiger, and stopped for a brief visit. The visit was brief, however, for the PANTHON "could hear the roar of a rapid in the great cataract canyon." Flavell had been warned about Cataract, then called "the graveyard of the Colorado." There were over 45 miles of rapids as fierce as anything they had yet encountered, and as Flavell noted "more than one boat and man have been called to their everlasting account here, but the PANTHON must go through."

In running one heavy rapid, the boat was swamped when Flavell lost control after going over a rock. He decided that the PANTHON was too shallow and loaded too heavily for the cataracts of the Colorado, so while their gear was drying on the rocks, Flavell raised the sides, bow and stern eight inches. This extra freeboard enabled them to get through the rest of Cataract Canyon without further mishaps. Flavell thought that even though Cataract had the worst reputation and the biggest rapids so far of all the canyons they had passed, they had to resort to their rope only once, so he was compelled to give Lodore the nod as the worst after all.

They came to Hite, at the head of Glen Canyon, on October 5th. Hite was one of the very few good crossings of the Colorado, so good that it was also called dandy crossing--it was such a dandy place to cross the river. It was founded by Cass Hite, a prospector who had come into the glen canyon region looking for gold and silver in the 1880s. Hite lived most of his life in a house near the ferry crossing, and later a few miles downstream when Hite got too crowded. Flavell found it anything but crowded:

> About 2 P.M. something that bore a rude resemblance to a boat was seen tied to a rock. It, of course, called forth from my throat about two verses of a Comanche warhoop. It was answered in a minor key from behind a patch of willows, and out popped a man, very nimble and robust though his gray hair plainly told that his days were long on the land which the Lord thy God giveth thee. Of course conversation was swift. He had expected us to come for some days. We asked him how far it was to Hite. He told us we were in the city limits then, and within 100 yards of the post office. He was the postmaster, also the sole occupant of the town. We made camp and went over the to the village, it being small, only a post office, hotel, and restaurant, all in a room 14X16 feet. The upper shelf of the cupboard was for letters; the mailbag hung on the bedpost. The house was built of round logs, and over the window a place about a foot long had been hewed so as to make a flat surface and in lead pencil was inscribed "meals 35 cents."
>
> We played high five with him till it was time for the rooster to crow, and heard some of his history. He had dug for gold till his pick, patience, and soul were worn out, and at last, after 37 years (finding nothing), he had quit in disgust. He was passing his few last days brooding over the campfire, alone, thinking and picturing what he would have done if he had struck it rich.

After tarrying only a day with Mr. Wilson, the two river travelers entered Glen Canyon on Oct. 6th and spent the next week traveling through Glen Canyon. Interestingly, in light of later volumes written about the beauties of Glen Canyon, Flavell dismisses it with a bare paragraph, saying only that it was the most barren region they had seen on their trip. Flavell wrote: "It seemed as though the elements had took a pride in sweeping and washing it up to have at least one clean spot on the Colorado."

They passed a number of placer diggings; the gold boom that had started about 1893 on the San Juan River had spread to the Colorado, although there were not yet the crowds of men that would descend on the area when Robert Brewster Stanton came a few years later to set up operations of the Hoskaninni mining company. At one of the placer mining camps Flavell and Montez stopped for the night, and Flavell was surprised when his hosts said grace before partaking of their supper:

> I thought it was kind of out of place when the meat on the table had been cruelly killed and carried off without the knowledge or consent of the owner. I know this to be a fact. (I gave them the meat.)

October 13th found them at Lees Ferry at last. Lees Ferry, established by John D. Lee when he was hiding out from federal marshals both for his polygamy and for his role in the Mountain Meadows massacre, was the next crossing of the Colorado below Hite. It was also the start of the Grand Canyon. After some searching, Flavell finally tracked down the ferryman, James Emmett. To Flavell's surprise, they had no mail, so he and Montez set about making sure that their friends knew they had made it this far. They then spent the next couple of days getting the boat in order and re-provisioning. Finally, they were ready for the biggest challenge of all, the Grand Canyon:

> Tomorrow we start. Can a little flat-bottom boat ever go through such a place? The great grand canyon of not only the united states but the world? Can she live? Yes! Yes! What difference whether the walls be 100 feet or 100 miles? An eye that has had its vision blocked by mountains and deserts, and whose bed has been the rocks or sand for years grows weary. What care they for high cliffs or deep gorges?
>
> Nothing! They travel in a kind of semi-conscious state, looking neither to the right or left. What care they for scenery? What care they for danger (when past)? What is there to live or die for? If the PANTHON and her crew fail to put in an appearance at the other end, what difference will it make? None! She will go through without a doubt, but until she is through the doubt remains.

Their first day in the Grand Canyon almost proved to be their last. In Badger Creek Rapid, mile 8 (distances in the grand canyon are measured downstream from Lees Ferry), they "dove in, and came very near going a little too deep for our health." The boat hit a rock which tossed them sideways and almost capsized them; Flavell had to let go of the oars to keep from being swept overboard. He managed to grab one oar and turn the boat just in time to prevent an upset, but it was close.

With that close call in mind, when they came to the next major rapid, Soap Creek, only a few miles downstream, they scouted it from shore for a couple of hours before deciding to portage. This involved unloading the boat, carrying all their gear--their boxes, trunk, sacks of flour, beans, bacon, bedrolls, camp equipment, everything--around the rocks to a place below the rapid, then letting the boat down along the river with their rope. It took half a day. Camp that night was at the foot of the rapid, and the little PANTHON rocked in the turbulent water all night. The roar of the rapid was so great as to almost preclude sleep, no matter how tired they were. For the next few days they were on the river early and made good progress through the ever-deepening Marble Canyon. This section of the river is now referred to by commercial boatmen as the Roaring Twenties (mile 18-mile 30), because of the many rapids. Flavell and his companion sailed through all of them safely, although Ramon was almost thrown overboard at one point. Near Vasey's Paradise they stopped to explore some caves, unaware that the rope and other equipment they found in the cave had been left there by Stanton and Hislop after three of their crew had drowned in 1889. After four days they reached the mouth of the Little Colorado River, which marks the end of Marble Canyon. The next day they came to Hance Rapid, the first of the major rapids in the Grand Canyon. Hance is a long, very treacherous rapid, the site of more than one mishap and even, about a year ago, a death. As they were sitting on the bank, trying to decide what to do, to their surprise three men came riding down Red Canyon, a side canyon on the east side of the river. To Flavell's greater surprise, it turned out one of them was the president of the University of Southern California, a Methodist preacher, whom Flavell ironically noted "if I had attended church a little more regular, I might have known him." The men came from a hotel on the south rim, and had followed an old prospectors trail down Red Canyon. By now prospectors in the grand canyon were beginning to discover that there was more gold, and easier to get, in the pockets of tourists than there was in the canyon itself. Although he had been intending to portage the rapid, to his later regret he felt that with an audience they could hardly seem unmanly, so they would run it:

> I decided to run the rapid (though I would not if they had not been there)and pushed off. We took the east entrance which was only a small portion of the river. We had to make exact points to get through, which we failed to do, and in the flash of an eye an oar was broke, a rowlock tore out, and the PANTHON was piled up in the boulders. We were not yet in the main part. We took off our shoes and pants, and with the big end of the broken oar, I pried her off. Twenty feet more and we came up again. Again we pried her loose. This time we whirled out in the main rapid. I took the head oars (the only ones left). She got across the current. Another rowlock busted--the oar went overboard--leaving no rowlocks on one side of the boat. There was only one narrow channel (crooked at that), where I thought it possible for a boat to pass, and we were hurled far from it. We went down endways, sideways, and every way,

the three spectators standing on the rocks. I guess they would not of bid very high on what would be left of the PANTHON and her crew when that rapid got through with them.

Well! Luck changes. Good follows bad. If we had bad luck in breaking the oar and the rowlocks, we had good in getting through the rapid and we came out at the bottom never striking a rock. We picked up the oar that had followed up, and made shore just in time to keep from going over another rapid. Now, as I write these lines, I can look at the rapid that we came down not over 150 yards away. The rocks are as thick as seats in a theater, and many are out of the water four feet. It seems impossible to think for a moment a boat could ever come through there in one piece.

The next day they had hardly pushed off from shore when they struck a rock that cut off the bottom of the stem "as clean as if with an ax, including a piece of iron." After repairs, on they went, crashing through the major rapids of the inner gorge: Sockdologer, Grapevine, 83 Mile, and many others. At Grapevine rapid, where the river completely filled the canyon, Flavell faced the same decision modern river runners face today:

> It was very risky to run it, not knowing what was at the bottom. To try to lower away would probably take two or three days. To avoid that much work by one single minute's risk was tempting (though that one minute is enough to smash the boat into a thousand pieces and put ourselves in a destitute condition if not eternity). We were tempted; and a minute later we were past and once more the gauntlet was run.

At camp that night they decided that the day had been the most hazardous, as well as the luckiest, day of the whole trip:

> If we had lowered over all the bad places it would have taken a month, and by risk it was run in a day. Still, I feel confident we will get through. We must expect some accidents and expect to hit some rocks. There is only one stone we must not hit, that we must miss at all hazard--our tombstone!

On they went, running rapid after rapid; after Flavell's experiences portaging Soap Creek he was determined not to portage any more rapids. At times they were soaked to the skin, at other times they got through dry. In some places they were trapped in whirling eddies and had to wait for the currents to free them, while at other times they rushed along at an exhilarating speed.

In Deubendorff Rapid, mile 132, they hit a rock so hard it broke in the side of the boat, calling for a hasty landing and extensive repairs. Luckily Flavell had the foresight to bring along shipwright's tools and supplies, and they were soon on their way.

On October 28th, they came to Lava Falls, one of the most difficult rapids on the river. Flavell dismissed it with a sentence: "a bad rapid was run which put about eight inches of water in the boat." He spent more time describing the wonderful springs and marshes near lava falls, as well as the huge lava flows that give the rapid its name. Near Lava and at several places below, they saw wigwams, tracks, and other evidence of Indians. Flavell had stocked up on ammunition at Lees Ferry in case they met Indians, but they saw no one.

By now they were getting weary, tired of constantly being wet, tired of the deep canyon that blocked the sun, tired of carne seca (dried meat) and beans, and one suspects, tired of each other. Back in Cataract Canyon, one story goes, Montez had announced to Flavell that he was quitting. "You can float down with me," Flavell replied, fingering his pistol, "or you can float down dead." Ramon stayed. True or not, the tale illustrates the weariness that overcomes even the modern river runner after days and weeks in a deep canyon.

So they were excited to near the end of the canyon. After successfully running Lava Cliff Rapid at mile 246, reputedly one of the most dangerous on the river and now underneath Lake Mead, Flavell wrote:

> Well! Twenty-five miles more and the great buckskin mountains [the Kaibab Plateau] will be lost to view. Only 25 short miles. That is only a very short distance compared with the hundreds already passed, but still it is 25 miles and it must be passed before we can say our life is our own.
>
> But tomorrow night we will be safe on the lower Colorado, wrecked, or dead. Which will it be?

The next day "the rapids came regular," Flavell commented, "but one by one their waves were mashed down by the PANTHON's bow." In the afternoon they came to the Grand Wash Cliffs, the end of the Grand Canyon, and suddenly they were out in the open. Now they were safe, "but now," he wrote, "the great, grand, beautiful wonderful, fearful, desolate canyon is like yesterday--passed!" "When I come to explain what was there, language fails," Flavell mused, like so many who have experienced a river trip through the grand canyon, went on in the Log to try to describe all that he had seen and felt. The rapids, the walls, the sheer immensity of the place beggar description and even the most talented writer is reduced to stock phrases and clichés. But most pleasing of all to Flavell, they were alive.

Flavell was now in familiar territory. The stretch of the Colorado from the Grand Wash Cliffs to Yuma was his old haunt, and as they floated along for the next couple of weeks they stopped at several places where he met and visited with old friends, "for having trapped the river so long, everyone knows me and to pass without stopping would never be forgiven." Upon arriving at Needles, Ramon promptly decamped, and dropped from the pages of history. Flavell continued downriver by himself. Everywhere he stopped people wanted to see the PANTHON and ask a "firestorm" of questions, which after so much solitude must have been a bit daunting for Flavell. Stopping at the Mohave Indian agency and school, he spent Christmas with the children and teachers. Christmas eve dinner surrounded by Indian children and the staff of the school, made him reflective:

I forgot all about the Colorado River and Grand Canyon till the clock held both hands up in amazement. Good night passed from lip to lip and all retired to their respective quarters while I, against the will of all, sought my way through the brush to the bank of the river where my boat was tied. I tumbled in to meditate on the life I lead and the one I might lead.

Several weeks later, as Flavell slowly progressed down river to Yuma, he had more cause to reflect when he reached Ehrenberg, Arizona, which was once a thriving river port. Freight was shipped from all over the world to the mouth of the Colorado, where it was transferred to steamers had hauled upriver to Ehrenberg. It was then transhipped to Prescott, Phoenix, Tucson,

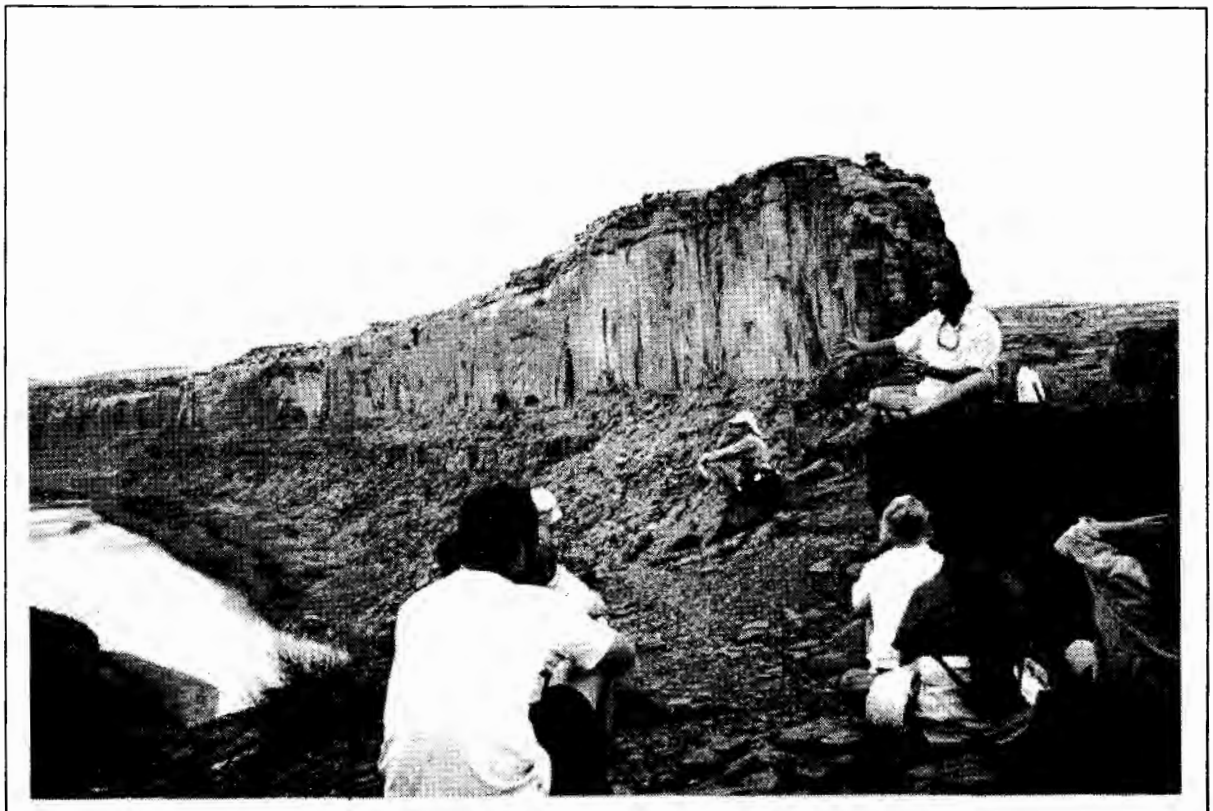
San Bernadino, and other places. By 1896, though, railroads had all but killed the river freight business and Ehrenberg was well on its way to becoming a ghost town.

Finally, on January 8, 1897, Flavell tied the PANTHON up for the last time at the dock at Yuma. "A poorer but wiser man," his journey was complete. In Yuma a few months later, he chanced to meet Nathaniel Galloway, who had also come down the Colorado from Wyoming, with trapper William Richmond. Galloway and Flavell sat down to compare notes. Flavell rhapsodized about the beauties of the canyon, while the laconic and ever-pragmatic Galloway dismissed the journey as "no profit."

George Flavell lived only a short time after his epic voyage. In 1897 he ran a small freight steamer, the little dick, up and down the river near Yuma. In the spring of 1898, he married Lulu Shaffer in Los Angeles. Despite warnings from friends, Flavell returned to Mexico on a prospecting trip in 1900. In Hermosillo, the capital of Sonora, he died, reportedly of typhoid fever, in 1901. Although his family asked for his remains, he was buried there, near where he had spent so much of his life.

Not long after Flavell's death, the Colorado itself was changed with the building of the Laguna Dam above Yuma in 1905, which effectively ended the steamboat trade. Further dams were built as more and more people moved into southern California. Today, the Colorado is tamed with no less than seven dams along its course. Many of the canyons Flavell and Montez traversed and the rapids they ran are inundated by reservoirs. The Colorado is described as the most intensely managed and used river in the world, and its waters supply power and water for the thirsty, desert cities of Los Angeles, Las Vegas, and Phoenix. Every drop of the Colorado is reused many times before it trickles into the desert above the gulf of California.

Where Flavell saw few people in the wild canyons of the Green and Colorado, today the rivers and the canyons are visited by tens of thousands of tourists every year. People wait for years, and pay exorbitant prices, for the chance to run the same rapids in the Grand Canyon that so exercised Flavell and Montez. By 1950, half a century after Flavell's death, only 100 people had run the Grand Canyon. Today almost 16,000 per year run it, and there are more waiting. The same numbers hold true for the Green River. Even though today's river runners are pampered by comparison, and rescue is only a helicopter ride away, there is still enough life left in the Green and Colorado, and enough grandeur in their deep, remote canyons, to give us a feel for what Flavell and Montez must have experienced during the journey of the PANTHON.



Tom Corcoran at the Bowknot Saddle during a teachable moment. Photo by Rick Cline.

Nathaniel Galloway and William Richmond

The Voyage of the "Emma Dean" and the "Maid of the Cañon"—1896 / 1897

by John Weisheit

Special thanks to the Harry Aleson Collection, Utah State Historical Society. The Marston Collection at the Huntington Library, San Marino, California. The Anthropological Papers at the Marriott Library, University of Utah. A very special thanks to Rosalyn Jirge.

Nathaniel Galloway

Biographical material on Nathaniel Galloway is limited due to a fire that destroyed his diaries and photos. Nathaniel Galloway was born, but I don't know when. When he did his river trip with William Richmond in 1896/1897 he was in his mid-forties; Richmond was at least twenty-five. Galloway was married and fathered at least two sons, John and Parley, and at least two daughters, Mina and Eva. Galloway died of a brain tumor in Richfield, Utah, on December 22, 1913.

William Richmond

William Chesley Richmond was born February 14, in either 1870 or 1871. I do not know when he died. Galloway first met Richmond at Little Hole in Red Canyon on the Green River. At the time, Richmond and his partner Frank Leland (who may have been a retired baseball player) were assessing their situation after losing all their supplies and placer mining equipment while running Ashley Falls. Galloway invited the men to join him on his river expedition. Richmond accepted the invitation; Leland declined. In Needles, California, where the trip ended, a gentleman offered Richmond a thousand dollars to guide him on a similar expedition—Richmond refused. Instead Richmond went back to work a placer claim on the Columbia River. Richmond also ran a ferry boat on the Columbia River.

Richmond was a cowboy, at one point in his life, and rode for the Gray Bull Cattle Company in either Montana or Wyoming. He could tan hides and make buckskin clothes. He could make ropes, gloves, and many other such handy things. In short, he was a very clever fellow. Richmond and his brother, Harry, married sisters who were born two years apart. Richmond's wife told river historian, Otis Marston, that Richmond was a practical joker and a very good dead-pan when one was played. Said Harry Richmond in letters to Marston:

> "You didn't dare to cross him. He was lightening. Weighed 150+ probably. Height about 5'6". Terrific in strength. Fiery as the devil. Has opinions of his own. He led in everything. Liked to tell stories of range life. He rode the range in Wyoming. Knew Butch Cassidy. Said he would come in and ride for [an] outfit a couple of weeks, then would leave [not sure if this applies to Cassidy or to Richmond]. [Was in an] 1907 Indian Uprising. Wonder they weren't all killed. Had a placer mine near Daisy, WA."

The Expedition of 1896/1897

Galloway published an article in the *Vernal Express* called "Through the Grand Canyon of the Colorado River". It was published at regular intervals throughout the summer of 1898. It is the story of the Galloway and Richmond expedition that started in September of 1896 and ended in February of 1897. Galloway returned to Vernal in April of 1897 and did another river trip to Lees Ferry; he went alone. The following paragraphs are from the text of this newspaper article:

> He [Galloway] had started [at Henry's Fork] with no companion but a small boy [popular opinion is that this boy was Nathaniel's son Parley], because he could find few "that cared to take such adventures". He traveled 40 miles through a series of cañons, which he described as "easy to navigate by an experienced navigator of rough water". It was in this first part of his journey that he met the man who was to accompany him in the daring voyage through the Grand Canon. In what is known as Red Cañon, he met two prospectors working placer mining grounds. One of these men was William Richmond and Mr. Galloway saw at a glance that here was his own kind of a man. Mr. Galloway says "Mr. Richmond looks to be a daring man and one fond of adventure, so I make a proposition to him that he should take a trip with me through the cañons of the Green River and the Colorado as far as Lee's Ferry, Arizona, with probabilities of a trip through the Grand Cañon."
>
> Mr. Galloway speaks of his adventures thus simply: "It is a well known fact among my acquaintances that I have made several such trips through the cañons of the Green River and the Colorado as far as Lee's Ferry, Arizona, but it has never been my desire to gain fame or notoriety of any descriptions whatever in such proceedings. These trips have been made only to gain what little profits I might in following such pursuits as I do (trapping and prospecting). Often but a poor living is made in such pursuits. Neither have I ever taken notes or written a word concerning these trips, but as this is decidedly the most daring adventure it has ever been my lot to endure, I decided to take notes and write a description of this adventure."
>
> "Now Will" (Mr. Richmond) says, "you know, the 'Emma Dean' was the most unfortunate of Major Powell's boats and, as I am inexperienced and most liable to misfortunes, I will name my boat 'Emma Dean' and, as you have had experience in running through cañon rapids and as the 'Maid of the Cañon' was the most successful of Powell's boats, you had better name your boat the 'Maid of the Cañon'. Accordingly I agreed and our boats are named, respectively, 'Emma Dean' and 'Maid of the Cañon'".

In this *Vernal Express* article, trip dates are not listed very often. Galloway did report that he was in the "heart" of the Grand Canyon on January 18th, 1897.

Galloway's inscriptions help to document his river trips and progress. One of Galloway's inscriptions at "Galloway Cave", which is 21 miles above Lees Ferry and currently submerged beneath the waters of Lake Powell, is dated January 6, 1897 [there is a picture of this cave on page 263 of Julius Stone's book Canyon Country]. Galloway's inscription at Elves Chasm, Mile 116 in the Grand Canyon, is dated January 24, 1897.

Other River trips by Nathaniel Galloway

As far as I can ascertain, without renting a bathyscaph, there are three inscriptions by Nathaniel Galloway in Galloway Cave. According to the Harry Aleson collection, Galloway also made an inscription in this cave during the year of 1894. To my knowledge Otis Marston has no record of this inscription. Ellsworth Kolb, in his book Through the Grand Canyon, mentions that Galloway did Cataract and Glen canyons in 1895. Gregory Crampton's historical salvage of Glen Canyon does not help in answering this question, as he never included the inscriptions at Galloway Cave in his anthropological papers that are archived at the University of Utah. This means one of two things: 1) Galloway did an upper basin river trip in 1894 and another in 1895. 2) One of these river historians—Kolb, Aleson, or Marston—made a note-taking error and Galloway did an upper basin river trip that might have passed Galloway's Cave either in 1894, or in 1895. I'll make an educated guess at this time: Aleson is correct on 1894, Kolb meant to say 1894, and Marston somehow missed this trip.

Marston acknowledges that Galloway did a "traverse" of Cataract and Glen canyons in 1897, for the third inscription in Galloway Cave is dated October 25, 1897 [this is the trip Galloway did by himself after the trip with Richmond]. There was a question in Marston's mind that Galloway may have gone below Lees Ferry and he investigated this possibility by quizzing family members. Some of the investigative material follows this paragraph. As a result, Marston concluded that this trip by Galloway was a solo in the upper basin and ended at Lees Ferry.

This is a letter written to Marston by some attorneys for a Mrs. Mina Galloway-Coupe, one of Galloway's daughters:

> "Your letter of December 20, 1949, addressed to Mrs. Mina Coupe [home address in Los Angeles] has been referred to the undersigned. Mrs. Coupe informs me that her father made two trips through the Grand Canyon, one in 1896 and another in 1897; that he wrote a diary or book on each of these trips; that the first book is now in her possession; and the second book is or was in the possession of her sister, Mrs. Victor Nielsen. She further informs me that you have already contacted her sister, Mrs. Nielsen, and that Mrs. Nielsen may have already delivered to you the diary of the second trip.
>
> "I have been requested to advise Mrs. Coupe on the problem of whether or not she should part with this diary without first having same copyrighted."

Eva Galloway-Nielson, another of Galloway's daughters, wrote to Marston in 1965:

> "Concerning the diary of 1897, of father's, my sister claims it was originally in her home in Vernal, but she believes it must have been with other belongings and personal papers which were destroyed by a fire in their home in Vernal. Many pictures and albums were destroyed at that time, she claims."

As mentioned before, this fire is probably why there is no accurate biographical information on Nathaniel Galloway. This correspondence also seems to confirm a Grand Canyon traverse for Galloway in 1897.

Harry Aleson received the following letter from Bert Loper and shared it with Marston to help answer the question concerning the content of Galloway's solo trip in 1897.

> Dear Harry,
>
> I read a letter from Mr. Marston and he again mentions Galloway's solo and I think I can straighten him out on that one -- the rumor started from the fact that [Loper's underscore] Nate did make one, and perhaps more than one, solo from Jensen to Lee's and that is how the rumor got started that he made the Grand. But I am positive that he did not make it solo through the Grand. And I would sure like to know who it is that contends that he did. Of course there is a possibility that I may be wrong, but I do know that he did one or more solo through the Upper and Cataract and Glen Canyons—he made one trip through the Cataract in company with Charles Smith, that they just happened to get together and when they were through they separated and Smith stayed about a week at the Hermitage with me and the next trip for Smith he got to the Cataract and was never heard from any more, but I found his wrecked boat—Smith made his first trip through the Cataract in an open boat that was about 18' long and about 3' wide and for further dope on this see Kolb's book .
>
> [Signed] Bert and Rachel

Note: Kolb says the trip with Smith occurred in 1912.

In his investigative process Marston also discovered that Galloway and his son Parley did an upper basin river trip to Lees Ferry in 1904. Gregory Crampton, in his processing, says this trip occurred in 1903. Galloway would go down the Grand Canyon one more time before he died in 1913. This trip was in 1909 with Julius Stone and Seymour Dubendorff and is trip well-documented by Julius Stone in his book Canyon Country.

If your counting, here is the tally for Galloway traverses through what are now national parks:

Grand Canyon
1897 with Richmond
1909 with Stone

Canyonlands
1894 (?) solo
1896 with Richmond
1897 solo
1904 (?) with Parley
1909 with Stone
1912 with Smith

In conclusion I would like to mention that a centennial river expedition was completed by the following members of Colorado Plateau River Guides: Nancy Allemand, Joe Englbrecht, Molly Martin, Zane Taylor, John Weisheit, Susette Weisheit and Steve Young. Michael Omana and Mary Weingarden joined the expedition at Lees Ferry and Eve Maher joined the expedition at Havasu Creek. The trip celebrated three historical centennial events: the statehood of Utah, the river expedition of George Flavell and Ramón Montéz, and the river expedition of Nathaniel Galloway and William Richmond. This centennial expedition started on September 23, 1996 below Flaming Gorge Dam. On November 30, at Hite Marina, they loaded their boats and equipment into vehicles and drove to Lees Ferrys to continue the river expedition, which launched from Lees Ferry on December 3. They exited from Pearce's Ferry on January 7, 1997 and arrived safely home in Moab, Utah, on January 8. The expedition totaled 730 miles in 107 days. Four permits were required from Dinosaur National Monument, Price BLM Resource Area, Canyonlands National Park and Grand Canyon National Park. Three provinces were explored: The Rocky Mountains, the Colorado Plateau, and the Basin and Range. Three deserts were explored: The Great Basin, the Sonoran and the Mojave. We had autumn colors from start to finish. General weather conditions were milder than normal. Total expenditures per person were approximately $1000. We motored (9.6 h.p.) the Uinta Basin from Jensen to Sand Wash and from Gypsum Canyon to Hite Marina. A trip diary was kept by the group and will be archived at the Dan O'Laurie Canyon Country Museum; installments of the expedition were published in the *Times-Independent*, the weekly newspaper of Grand County, Utah.



Richmond and Galloway, 1897. Marston Collection.

Guides Defending Constitutional Rights

Excerpt from a brochure by the same

This organization was founded by a group of veteran river guides who have worked professionally on the Colorado River in Grand Canyon for up to 20 years. We take great pride in the guiding community's commitment and dedication to safety of our passengers, as evidenced by our excellent safety record. We set high standards for ourselves as well as for our profession.

We are also very concerned about the steady erosion of our constitutional rights. The government is employing increasingly evasive and inappropriate action against private citizens, even though such actions against private citizens, even though such actions defy the very principles upon which our country was founded. The Federal government has began to require invasive personal body searches—specifically, demanding urine for drug testing among their contractors. in many cases, these actions are being taken with no evidence of a problem, and when less invasive solutions such as educational programs have not been attempted. We believe the quick and dirty "solution" of urine testing is ineffective, insulting, and unconstitutional.

the Bill of Rights, Article IV

The right of the people to be secure in their persons, houses, papers, and effects against unreasonable searches and seizures, shall not be violated; and no warrants shall issue, but upon probable cause, supported by oath or affirmation, and particularly describing the place to be searched and the persons or things to be seized.

It is not only our right, but our responsibility as American citizens to question an invasive government action which so clearly undermines our Constitutional rights. If we do nothing, we can only expect these rights to be further eroded.

A few of us are pursuing a lawsuit to challenge the constitutionality of the National Park Service's current policy. The opposition is formidable. Civil attorney's on the payroll of *our* government are poised to respond aggressively to defend the government's position. It will be a long, uphill battle, and it won't be cheap. In fact, it will be *really expensive*. The plaintiffs on this suit are willing to invest a huge amount of time and our money to pursue the case, but we need your help. We can't make an effective challenge without a lot of financial support.

Please send what you can, and pass the word around to ten or more friends who might be willing to offer financial support.

It 100 people sent $100, or 200 people sent $50, that'd just about get us there. Thanks.

Please send your supporting contribution to:

Guides Defending Constitutional Rights
P.O. Box 1123
Flagstaff, AZ 86002

The River Register

By Jim Knipmeyer

On the left bank of the Green River, at Mile 77.6, on the Belknap's river guide is a so-called "river register". The river register is just upstream from a short, unnamed side canyon, a large section of the sheer Wingate sandstone has spalled-off and here, since the turn-of-the-century, hundreds of river-runners have left their names, initials, and dates. While the vast majority of these are unimportant, historically-speaking, a few are of some significance.

A search of the literature shows that the site itself has been but barely mentioned, even by the earlier parties that left inscriptions there. As far as I have been able to determine, the site was not mentioned in writing from the 1869 Powell voyage through the 1930s. It was first described during the 1940 trip of Norm Nevills down the Green and Colorado rivers.

In his account of his voyage with Nevills, Barry Goldwater mentions the inscriptions at "Mile 75½" and says that "for obvious reasons the wall is called The Billboard". From his wording, this name was already given, perhaps bestowed by Nevills on his 1938 trip which also stopped here. River-enthusiast Harry Aleson's 1947 diary refers to it as the "Register", and in 1951 as "Register Rock". The 1969 River Runners' Guide to the Canyons of the Green and Colorado Rivers labels it "a river register". Bill and Buzz Belknap's 1974 Canyonlands River Guide labels it "River Register".

The earliest dated inscription (tough not seen by this author in his search) was given by Cid Ricketts Sumner, a member of the 1955 Eggert/Hatch Expedition, in her book Traveler in the Wilderness. She described it as the "insignia of the U.S. Engineers with the date 1900". Nothing else has been learned of this turn-of-the-century expedition.

The U.S. government was evidently busy along the lower Green River during the early 1900s, for the next two dated inscriptions were reportedly left by governmental parties.



Jim Knipmeyer at the River Register; Mile 77.5 on the Green River. Photography by Mike Ford. Courtesy of Jim Knipmeyer.

In the diary of his trip in 1947, Harry Aleson, in the entry of October 26, lists a painted inscription on the cliffside thusly:

Arm-strong launch
--Blooming Cat-- 10-28-09
H.T. Yokey - Capt.
Passengers (S. Hargen)
US-GS
(E. Poizer)

However, only the latter portion of the date and the US-GS now remain.

In her book mentioned earlier, Sumner lists another inscription, not located by this author, as follows: USGS 1915. Neither the 1909 or the 1915 trips show in the literature, though the names Yokey, Hargen, and Bitzer (sic), with a date of 10-19-09, do show up on the left canyon wall farther downstream near Turk's Head.

River-adventurer Clyde Eddy, who in 1927 led a group of "pink-wristed college students" down the Green and Colorado, does not mention the River Register in his book Down the World's Most Dangerous River. But inscriptions there indicate that his expedition did stop. In June of 1993, the author and Mike Ford found the names of "R. F. Bartl" and "V. F. Carey 1927" carved into talus boulders spalled off from the Wingate cliff. Both were members of the Eddy group. Nevills in 1938 and Sumner in 1955 both mention seeing the name Clyde Eddy, but the author did not in his visit.

The following year, 1928, the ill-fated "bride and groom", Glen and Bessie Hyde, left their names and the date neatly carved into the sandstone cliffside. Later, their wooden scow was discovered abandoned in the lower reaches of the Grand Canyon, while no trace of the two honeymooners was ever found.

On his first trip down the Green and Colorado on through the Grand Canyon, the party of Norm Nevills stopped here and he carved in small letters: "NEVILLS EXPEDITION 6-21-38". He duplicated this again two years later with the epitaph "NEVILLS EXPEDITION 7-12-40".

Harry Aleson left at least five records of his passing, the first four in 1947. Included with his on three of them were the names of fellow river-runner Ralph Badger, Rachel Loper, wife of the inveterate river-voyager Bert Loper, and Georgie White, the famous "Woman of the River".

The last inscription of some significance was left by the Eggert-Hatch expedition of 1955. Wilderness photographer Charles Eggert was making a documentary movie film recording the beauty of the river canyons before engineers moved in to dam and control its waters. They stopped at the register on June 30th. Sumner says in her account that it took nearly an hour of "hard, hot work" for Eggert to make an outline drawing, then two of the others to take a pick and chip away at the rock till they had shaped an oval camera lens with an arrow going through it (pointing downstream) and 1955 below.

To conclude, however, I can but reëmphasize what a 1977 river-runners' guide stated in its description of the river register:

"Graffiti adds nothing to the canyon. Leave nothing but footprints, take nothing but photos".

The Bowknot Saddle Inscriptions

by Jim Knipmeyer

Going downriver, at Mile-69.8 on the Belknap's 1974 Canyonlands River Guide, is one of the most noticeable and well-known physical features of the Labyrinth Canyon stretch of southern Utah's Green River; Bowknot Bend. Beginning at this point, according to Felix Mutschler in his River Runners' Guide to Canyonlands National Park and Vicinity, the stream makes a huge, looping meander of seven and a half miles to finally get back to within 1,200-feet south of where it started. The "saddle" is formed at the narrowest part of the neck where the cliff-forming Wingate sandstone has been weathered and eroded away more than 200 feet below the normally 700-foot deep canyon. Names and dates of river-runners and travelers have been carved into both the eastern and western sides of this saddle since the turn-of-the-century.

Bowknot Bend was named during the second Powell expedition in 1871. John F, Steward, in his diary entry for September 9, said, "...we have called [it] "Bow Knot Bend"'. Jack Hillers wrote, "Major [Powell] called it Bow Knot Bend". None of the members of the earlier 1869 Powell voyage down the Green and Colorado Rivers mentions it specifically, though George Bradley did state, "...the river [Green] has been so crooked that in going 20 miles we have advanced less than 11 miles". Jack Sumner said succinctly, "River very crooked".

As far as the written record shows, the first persons to climb up to the saddle from the river were Walter Clement [Clem] Powell and photographer E. O. Beaman of the second Powell expedition. Clem Powell helped Beaman carry his heavy photographic equipment up the 400-foot slope before coming back down to the boats. Beaman stayed on the saddle making photographs, then descended the south side to be picked up by the boats after they made the approximate one hour and forty minute trip around the Bowknot.

The earliest dated inscription at Bowknot saddle, however, goes back only to 1903, and was left by one C. H. Barnes. There are also inscriptions left by H. T. Yokey in 1904, G. W. McConkie, W. Stark, W. E. Cassady, and E. Wolverton in 1905, J. H. Stafford and Ed. Elster in 1907, and E. Shores in 1910. Most of these persons were residents of the Green River and Moab regions. Especially during the first two decades of the 1900s many people utilized the Green and Colorado rivers for various purposes including farming, hunting, freight transportation, and simple pleasure excursions. So there is no way of knowing precisely the reasons the above individuals were passing around and traversing over the Bowknot.

Though undated, one inscription, or possibly two combined together, are probably from this time-period. The first line reads: "ROSS WHEELER-THE DISPATCH BOAT," while beneath are the names E. T. WOLVERTON, P. A. LEONARD, R. G. LEONARD, and W. E. CASSIDY. Just off to the right of these four is a single name WILMONT. Ross Wheeler lived on the west side of the river, about eight miles

below the town of Green River, from around 1898 until 1920. He was a civil engineer by profession and had acted as the representative of both the government and the Utah Power and Light Company in measuring and checking the flow of the Green River. The "Wilmont" was the name of the boat built by Edwin T. Wolverton in 1903. Until 1907 he used the Wilmont for excursions with tourists down the Green to the Colorado. Ralph G. Leonard, a newspaper photographer, and the others were on such an "excursion" in 1904.

One inscription, at the western side of the saddle, reads: "KOLB BROS 10/12/11" and "8/13/21". In 1911 Ellsworth and Emery Kolb were making their epic voyage down the canyons of the Green and Colorado rivers from Green River, Wyoming, to the Gulf of California, taking photographs and making the first motion pictures of the river trip. They had camped the night of the 22nd on the north side of the saddle. The later inscription, which should have been dated September instead of August, was when the Kolb brothers were piloting engineers from the U. S. Geological Survey and Southern California Edison Company down the Green and Colorado rivers to locate possible hydro-electric dam sites. Near mid-day on the 13th, the party paused long enough for some of the members to climb up to the saddle.

A member of the 1921 U.S.G.S. party was hydrologist Eugene C. LaRue. In the fall of 1914 he was involved with the test drilling of a dam site just below The Confluence. On September 21 he left his name, the date and U.S.G.S. designation near the eastern end of the saddle. Close-by is a partially obliterated inscription, also left in 1914, by J. D. Reese, H. T. Yokey, and J. A. Ross, with accompanying initials "U.S.R.S." A U.S. Reclamation Service party, doing the aforementioned test drilling below The Confluence, had to be resupplied from time-to-time and Captain Harry T. Yokey of Green River (Elgin), Utah, who owned and operated a number of boats on the river, did much of the transporting of these supplies. [The United States Reclamation Service became part of the United States Geological Survey when the Newlands Act (1902) was passed into law. In the 1920s it became it's own bureaucracy and called the Bureau of Reclamation.]

Back at the western end of the saddle is yet another inscription connected to E. C. LaRue. It reads: "Con Rodin PATHE-BRAY EXP. Nov 13. 27." Rodin was one of the boatmen for the Pathe-Bray Company of Hollywood, California, which was planning to film a motion picture set on the Colorado River. The Green River portion of the voyage was for documentary purposes and background shots. Film-maker J. R. Bray needed someone who had been on the river to lead the trip, and LaRue, no longer with the Geological Survey, was his choice.

On the same sheer cliff of rock is the name BUZZ HOLMSTROM and the numbers 37 and 38. In the fall of 1937 Haldane "Buzz" Holmstrom made the first solo voyage down the length of the Green and Colorado canyons, rowing from Green River, Wyoming, on October 4th to the foot of the Grand Canyon on November 20. On October 26 he landed on the south side of the narrow neck of Bowknot Bend and climbed the saddle. In the fall of 1938 he made the trip again.

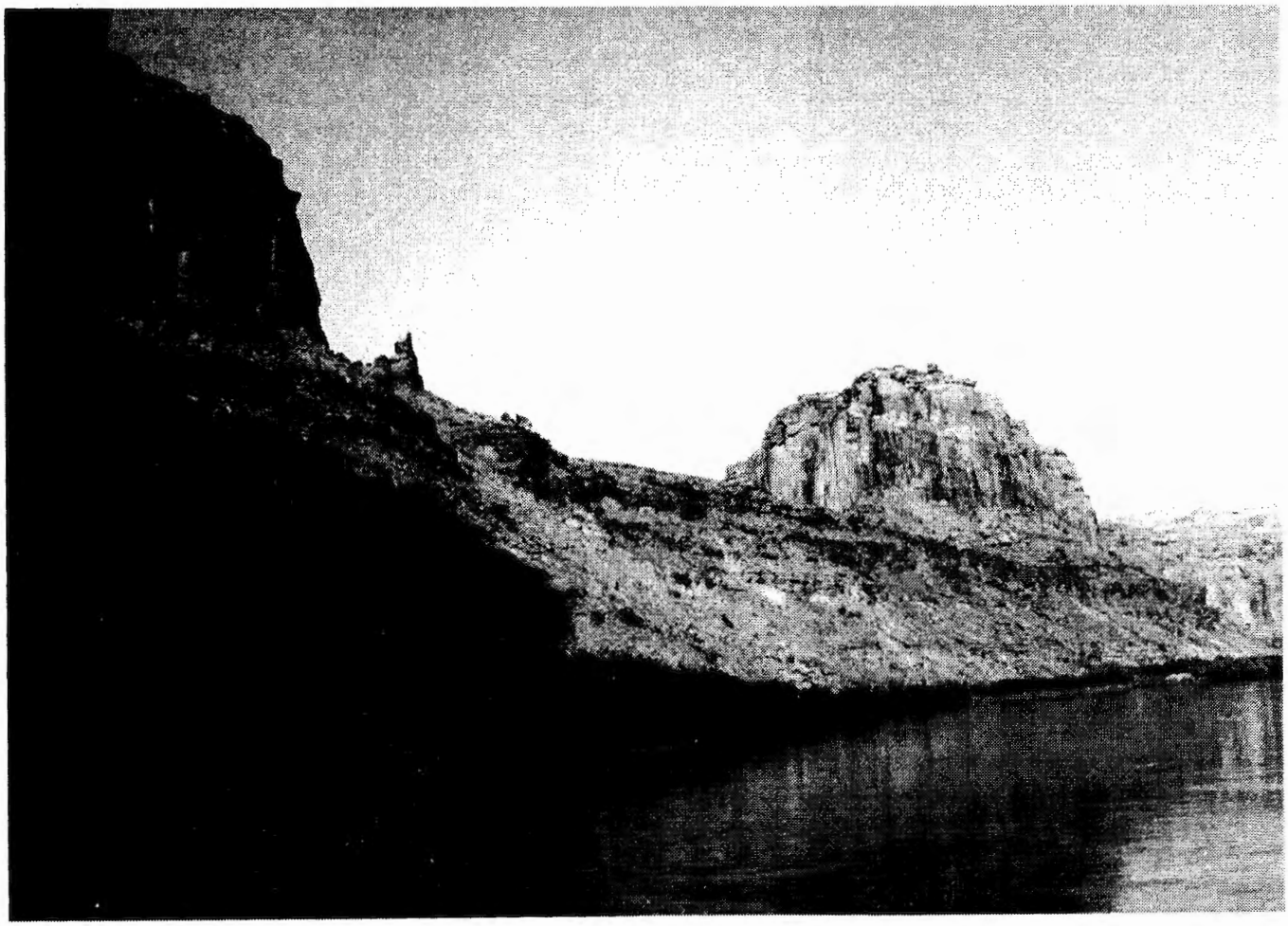
Two other nearby names are associated with Holmstrom's latter voyage: "AMOS BURG 1938" and "Willis Johnson July 5 / 1937". After the history-making trip of 1937, Amos Burg, a river-enthusiast and member of New York City's famous Explorers Club, suggested to Holmstrom that they duplicate his trip in the fall of 1938 for the purpose of filming newsreel shorts, as well as a more lengthy documentary feature. At Green River, Utah, they added Willis Johnson to their number as a general roust-a-bout. Johnson had had some previous river experience, as indicated by the date accompanying his name at Bowknot saddle.

Back at the eastern end, where the trail on the north side of the neck of Bowknot Bend climbs up from the river level, are two sets of inscriptions from the Norm Nevills expedition of 1940. "C. W. LARABEE, A. (Ann) Rossner, and "B. (Barry) Goldwater", were all members of the voyage. In Goldwater's journal of the trip, in his entry for July 12, he tells of stopping here and some of the party climbing up to and over the saddle while the boats went around.

Once again at the western end of the saddle, there is the inscription "ALESON + White OCT 26 1947". In his notes of their river voyage, Harry Aleson tells of making camp on the north side of the neck in the middle of the afternoon, and then their climbing up to the saddle. At the time, Aleson was already a river-runner of some experience, but companion Georgie White had not yet attained her famous status of "Woman of the River".

The last Bowknot saddle inscription of note is that reading, "BEAMAN-HILLERS PHOTOGRAPH ALBUM EXPEDITION AUGUST 19 1968". In that year, to commemorate Powell's second expedition, the U.S. Geological Survey launched its own, retracing Powell's 1871-72 journey as closely as possible. Photographs were taken at exactly the same points as were those of Powell's photographers, E. O. Beaman and John K. Hillers.

Interestingly, sometime between 1868 and this author's visit in 1993, someone has made an attempt to "erase" what he or she evidently felt was meaningless "graffiti" of some of the more "modern" historical inscriptions along the Green River and upper Colorado between The Confluence and the head of Cataract Canyon, the above 1968 one included. The erasing is either done by another stone being rubbed over the rock surface or simply carving lines across the offending inscription. In most cases the attempt has been a failure, since the names and dates can still be seen, and the resulting markings are more unsightly than the original inscription. There is, of course, a debate, never to be agreed upon, of just when in time and inscription constitutes a legitimate historical record and when it becomes merely graffiti. But when people take it upon themselves to "correct" these, they may both inadvertently destroy valuable historical records, as well as mar landscape even more!



The saddle at Bowknot Bend. Mile 69.5, river right, looking upstream. The western Wingate cliff is in the background. The platform near the western cliff is the camera station for Beaman in 1871. The eastern Wingate cliff is in the upper left corner.
Photo by Jim Knipmeyer.

Harry Aleson and Georgie Clark The Log of the "May Qui"

by John Weisheit

Introduction

Amos Burg was the first man to use a rubber boat on the Green and Colorado river in 1938. I did find out, just recently, that the "Charlie" was not the first rubber boat to sing on broken waters. John Charles Frémont used an inflatable rubber-coated canvas fabric boat for whitewater navigation on his expedition of 1842. It was, as it should be, an unexpected joy ride.

This year is the fiftieth anniversary of a river trip that Harry Aleson and Georgie Clark did back in 1947. It is also the story about the first military surplus inflatable boat to be used on a river trip on the Green and Colorado rivers.

Boat talk. The craft Harry and Georgie used is called a "Seven-Person Manually Inflated Rubber or Neoprene Landing Boat" (seven-man) and there are a couple still left on the planet, besides the ones that were the casualties of World War II and now scattered about the Pacific Ocean floor pushing barnacles. Harry called his boat the "May Qui". There is a picture of a seven-man in Roy Webb's book about Bus Hatch on page 88. This boat was the predecessor to the more common 10-man (Webb, page 87). The seven and the 10-man were used as boats for amphibious assaults, but they were also used by underwater demolition teams of the U.S. Navy. This was soon after Jacques Cousteau invented the aqua lung. These boats have machine gun mounts and electric motor mounts. Special forces would sneak into harbors and landing beaches to sabotage ships, concrete barriers (constructed to frustrate beach assaults), and such.

The seven and the 10-man were made by many tire and rubber manufactures, but the prominent contractor in World War II was the Master Tire and Rubber Company of Findley, Ohio, which is now defunct. Neoprene was discovered in 1931 and the process usually included vulcanization with oxides of

magnesium or zinc and sometimes sulfur. The synthetic rubber was processed on to a cotton-based material. The cotton was a short-staple variety called "pima" and is grown mostly on the fields near the Gila and Salt river drainages of Arizona.

The seven man is symmetrical and about 12-feet long and about five ½-feet of beam with two thwarts (I am estimating because I don't fell like inflating the one I have in storage). The main tubes have a diameter of about 16-inches. There are two chambers in the main tube assembly of both the seven and 10-man that are divided by a horizontal diaphragm. The diaphragm is very loose-fitted, so that if the main tube ever suffered a puncture, like from a bullet, you could simply inflate more air into the undamaged half and still have a fully functioning inflatable boat. The repair kits included wood plugs that screwed immediately into small punctures. Immediate repairs for larger punctures were repaired with a metal plate press that was tightened by a wing nut. There is also an inflatable floor that is detachable and provided more flotation. The craft also has a "sponson" that is 4 inches in diameter and circles the perimeter of the boat. This sponson looks like a bumper and it served as a splash guard to help keep radios and machine guns working.

The ten-man is, sort of, diamond-shaped, 15 ft. long and 7 ft. 10 in. of beam and the main tube is 19 inches in diameter. It has three thwarts that are 12 inches in diameter (very accurate dimensions because I have the manual). Two machine gun mounts, a tool kit mount, a mount for bellows, and an electric motor mount in the rear. The 10-man, too, has an inflatable detachable floor and a sponson.

THE LOG OF THE "MAY QUI". On October 18, 1947, Harry, who then lived in Richfield, Utah, was driven to Salt Lake City by his friend, Ralph Badger. Harry bought a used Kodak 16mm motion picture camera, visited some Ekkers, saw a motion picture, visited the USGS office for river gradient data, and received a telegram from Georgie at the Salt Lake Tribune—Georgie will arrive in Richfield on the 22nd from Los Angeles by bus. Harry took a bus back to Richfield.

October 22. Georgie arrived as planned, but lost her purse in transit. They loaded everything they needed for their river trip on to a Rio Grande Trailways bus and headed for Green River, Utah, via Spanish Fork. When they got to Green River they visited a while with the Bakers (including Pearl) and with the Ekkers (including Art).

October 23. They bought their groceries, found someone to haul their stuff to the river, and took off at 2:45 p.m. for Hite. They camped at Crystal Geyser and cooked-up some Franco-American spaghetti with extra tomatoes, bread and butter, tea and ginger snaps. Harry mentions breaking tamarisk branches to make a landing for the boat. The geyser erupted about every 60 minutes. (So far, this is the earliest mention of tamarisk I have seen in written documents.)

October 24. In the morning Georgie was the first one up and started a fire; there was a heavy dew that morning. Harry got up at 7:05 a.m. to 45 degrees. Said Harry in his diary, "the geyser rose high and so did the boatman". Breakfast consisted of shredded wheat with warm milk, bread and butter, and coffee. On a warm sunny day with lots of waterfowl on the river they left camp after much filming of the geyser. At noon they had a snack of mints, and 45 minutes later had a floating lunch of ripe tomatoes and cream cheese. Camp was the mouth of the San Rafael River. Dinner was stewed potatoes, tomato soup, bread, butter and honey; graham crackers for dessert. They made mattresses of tamarisk boughs to sleep on.

October 25. They woke up to a heavy cover of frost and a fog rising off the river. Breakfast was canned grapefruit, shredded wheat, warm milk, graham crackers and coffee. They started down the river and entered Labyrinth Canyon. Lunch was whole tomatoes, bread with apricot jam and cream cheese. At Trin Alcove they hiked up the most northern side canyon about a 1/2 mile and Harry inscribed HLA GHW 10-25-47 on to a rock face. They bathed in the pools and exposed some film. Camp was found after a three-hour float downstream at Mile 82.5. They find the inscription A W 1893. (See James Knipmeyer's article, AW 1893, in *The Confluence*, Volume 3, Issue 1). With a 50 cent piece Harry scratches ALESON 10-47 Dinner was vegetable soup, peas, and graham crackers.

October 26. In the morning no dew or frost had accumulated and the temperature was 50 degrees. Breakfast was pancakes, bacon, coffee and pears. The first stop was at the River Register and Harry records names and dates into his diary. (See Jim Knipmeyer's article "The River Register" in this issue.) Aleson has four inscriptions at the register: Aleson and Badger July 17, 1947, Aleson and Loper (Rachel) July 18, 1947, Aleson July 19, 1947, Aleson and G. White October 26, 1947. The dates by Aleson in July were carved on a motorized hard-hull boat trip Harry made from Green River to Moab and back again; Ralph Badger was his companion. During this trip Harry helped Rachel out with a medical emergency. Bert and Rachel Loper, Ralph Badger, and Blaine Busenbark were probably prospecting for uranium in the Bowknot Bend area. Rachel took a bad fall and broke her arm and two ribs.

Harry and Georgie continue down river to have a floating lunch and made camp at Bow Knot Bend on the right just below the talus slope that takes you up to the saddle. (Menu's do continue in the full course of the diary, but I will refrain from transcribing them at this time.)

October 27. Harry and Georgie hike up to the saddle of Bowknot Bend and Harry records the many historic inscriptions to be found there, and adds them to his diary. (See Jim Knipmeyer's article "The Bowknot Saddle inscriptions" in this issue). Back on the water with Harry looking diligently for the inscription, D. Julien May 16, 1836, not realizing they passed it the day before. They arrived at Hell Roaring Canyon to film the inscription, D. Julien May 3, 1836, and move on down to camp on the right side about 1 1/2 miles below Hell Roaring Canyon.

October 28. They have exhausted their fresh water supply and are now settling water to drink. They made many miles on this day, and decided not to hike up to the ruin at Fort Bottom and made camp just before darkness set in at the head of Stillwater Canyon with the Butte of the Cross in view.

October 29. It is overcast and the temperature is 60 degrees and Harry anticipates rain. A few miles below Anderson Bottom they hike ½ mile up a side canyon on the left side of the river to investigate a prehistoric masonry structure. Camp was just downstream in a cave 40 feet above the river on the left side. Harry says he is about 22 miles above The Confluence; which makes their location on the bend at Turk's Head near Soda Springs Canyon. This cave is no longer accessible from the river due to tamarisk.

October 30. Sunny skies and the rain never came. With current and little wind they arrive at The Confluence around 3:30 p.m. and resupply from a cache Harry left in July on his motor boat trip with Badger. Camp was ¼ mile below The Confluence on the left side.

October 31. Harry looks for the D. Julien inscription that is in the vicinity, but he can't locate it; he is too high. Harry leaves an inscription, GHW HLA, October 31, 1947. They have lunch at Spanish Bottom and hike into the Doll House, which is then called Land of the Standing Rocks (Randall Henderson of *Desert Magazine* called it such on a trip with Kent Frost, circa 1960). He records some of the inscriptions to be found on the ledges near the rim: (This is good, for us today, because most of these inscriptions have since been vandalized.) Joe Ross, Paddy and Bennie, November 10, 1907; A P Mohr, Charlie Mohr, October 10, 1907; Les Wareham, February 10, 1927; L J Durfee, Ed Christensen; E. Larson, 1904; M. Oppenheim, 1907; Al Morten, July 28, 1947. (Morten will later do a Desolation Canyon hard-hull motorized trip with Don Harris); Ned Chaffin, February 1932; Jack Thomas, February 9, 1921; Jerry Page; Roy Sessions, 1942.

Back on the river to camp above Rapid #1, probably on the left side, and they scout Rapids #1, #2 and #3.

Cataract Canyon. Harry records the flow as 6300 cfs. Current USGS records state the flow was about 9800 cfs. Harry and Georgie will spend considerable time scouting, lining and portaging rapids. A portage for Harry will usually mean that the equipment was portaged and the boat was lined.

November 1. Harry runs the boat through Rapid #1 and Georgie takes moving pictures. They line Rapid #2 on left side. Run #3. Scout #4 and run it. Scout #5 and run it. Scout #6 and line it on the right side. Run #7. Scout #8 which Harry runs and Georgie films. Scout #9 and run it. Camp at the top of Rapid #10 on the left side. They noticed they forgot to eat lunch.

November 2. (The text is edited from this point on. Harry's description of the rapids are not matching the USGS map.) Harry runs #10, #11, and #12. Lunch at Range Canyon. He scouts Rapids #13, #14 and #15. Harry inscribes an inscription on the rock that bears the James Best inscription of 1891 (this rock has since rolled over and the rock face that has the James Best inscription has been covered and Harry's inscription is now sideways). They run #13 and #14 and line # 5. Scouts #16, portages equipment and lines the boat on left side and makes camp.

November 3. They line #17 and #18 and run #19. They scout #20 from the island (Been Hurt) and line the boat. Line #21 (Big Drop I) on the right. Lunch time. Portaged equipment around #22 on the right. Harry says this rapid (Big Drop II) is a "big bruiser". Portaged equipment around #23. Scout and run #24. Make camp above #25 on the right. Torch a driftwood pile and leave a coffee can register above the high water zone (it is no longer there).

November 4. Lined #25 on right bank. Scout #26 (Ten Cent) from the island and line the boat. Line lower #27 on left and remarks how narrow the canyon is here. Scouts #28 (Waterhole), runs it and describes it as a "thriller". Scouts #29 and runs. Scouts #30 and runs. Runs #31. Lines Gypsum Rapid or Rapid #32. Runs #33. Runs #34. Portages equipment around #35 on right; there is an island here. Runs #36. Scouts #37 and runs. Camped at the top of #38 on the right.

November 5. Lines #38. Runs #39. Clearwater is #40 and they line the right side. Line #41 on the left. Lunch on the top of #42. Run #42, #43, and #44 (No mention of D. Julien inscription that is in this vicinity). Camp on left above #45 which is Dark Canyon. Leaves a record at the river register, which is a glass jar. They missed a hiking party by a few hours. That trek was led by Kenny Ross and Randall Henderson of *Desert Magazine* was a member.

November 6. Portaged equipment around Dark Canyon Rapid on the left. Harry says there is a "terrific plunge of water over and around great boulders". Run #46. Run #47. They are now in Narrow Canyon and advance slowly because of an upstream wind and arrive at the Hite ferry a little after 5:00 p.m. Hiked to the Chaffin Ranch and a Mr. Porter hauls their stuff up to the ranch in his pick-up. They feasted on a chicken dinner with the residents of the area.

November 7. Cross the river on the ferry with Mr. and Mrs. Porter who will drive Harry and Georgie back to Richfield via North Canyon (Crescent Wash). The vehicle breaks down; generator and a subsequent dead battery. Harry and Georgie hike 14 miles back to Chaffin Ranch and arrive in a total darkness.

November 8. A team of stock animals pulling a cart bring the hikers and a half charged battery to a waiting Mr. Porter. They manage to get to Torrey, Utah, around midnight.

November 9. Generator and battery replaced. Head for Richfield in a driving blizzard arriving at noon. Harry rode in the back of the pick-up the whole time bundled in sleeping bags and blankets.

Epilogue. Harry and Georgie exposed 700 feet of film and recorded 132 scenes. Harry sent a copy of the diary to Otis Marston realizing that they had done a first. A military surplus neoprene boat expedition.

CALLING ALL GUIDES!

NEW!

Canyonlands Field Institute
and the Professional Guide Institute
present

'97

DESERT WATERS RENDEZVOUS

$15 ($13.50 CFI Members)

APRIL 11 (EVENING) -APRIL 12

FOOD, FUN, TALL TALES, A RIVER TRIP, PROFESSIONAL CONTACTS AND A FREE T-SHIRT!

Join us for the spring "rendezvous" event and workshop! Moab evening lecture by well-known river advocate **Dr. Roderick Nash,** followed by full-day on the Fisher Towers stretch of the Colorado River Moab "daily." Focus is on riparian ecology and Western water issues–both facts and methods for hands-on interpretation. Winds up at Big Bend Park for a **FUN** dinner and river tales. Chance to meet and socialize with agency, outfitter and gear reps. Ten-hour course certificate. **Instructors: Dr. Rich Valdez, Tom Corcoran and guests.**

Made possible through the gear and logistical support of participating outfitters.

START THE SEASON RIGHT! SIGN UP TODAY FOR THESE GUIDE TRAINING COURSES:

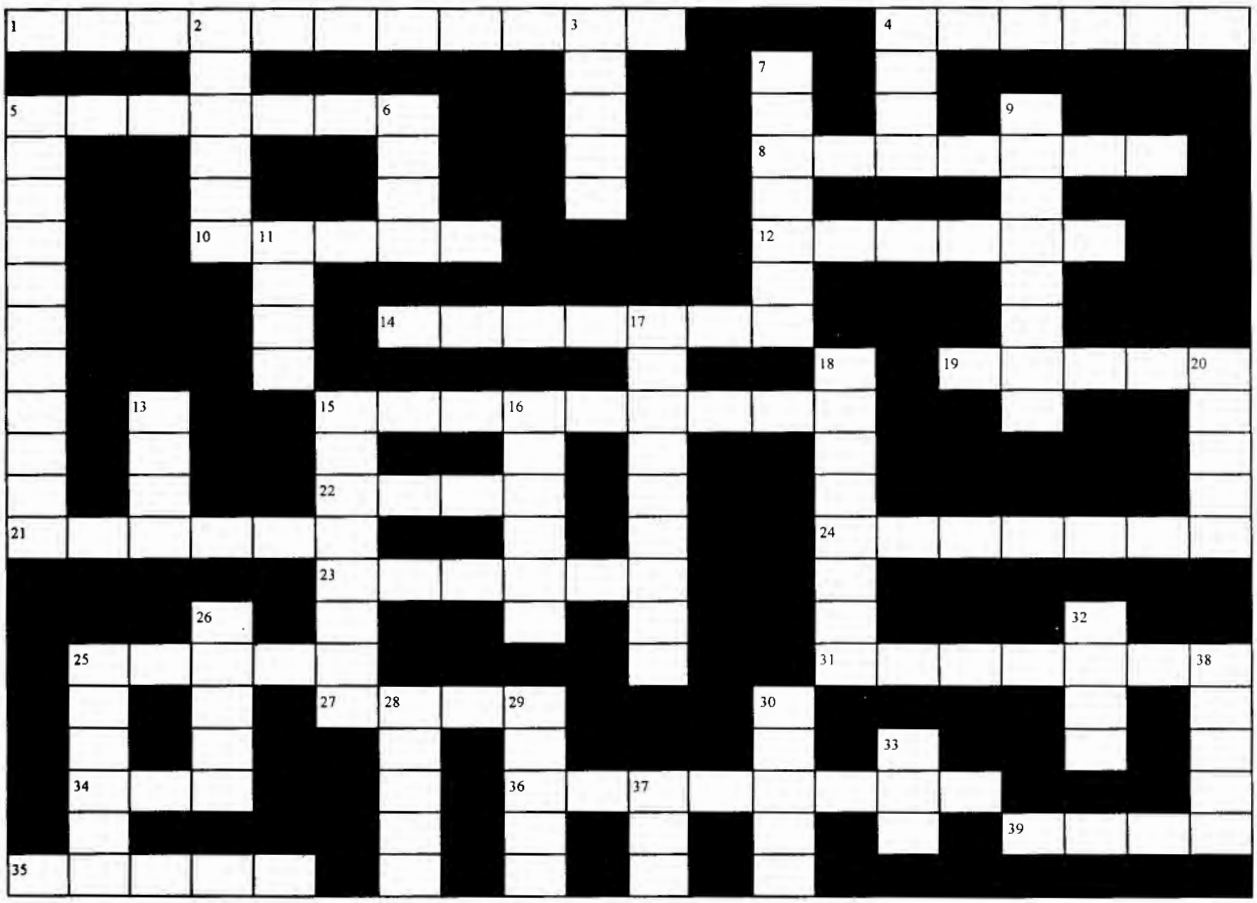
MEDICAL TRAINING		
Wilderness First Responder	March 17-26 & May 25-June 7	$400
American Red Cross Emergency Response Recert.	April 7-9	$80
American Red Cross Emergency Response	April 14-19	$180
RIVER SKILLS TRAINING		
River Skills - Level I	April 18 (eve.)-20	$125
River Skills Level II	May 16-18	$200
Westwater Canyon River Rescue	April 25-27	$260
INTERPRETIVE SKILLS TRAINING		
Interpretive Skills Level I	May 2 (eve.)-11	$65
Interpretive Skills Level II	May 9 (eve.)-11	$65

To register (in advance, please) contact:

Canyonlands Field Institute • Box 68 • Moab, UT 84532

(801) 259-7750

A Crossword Puzzle
River History and Geology



Across

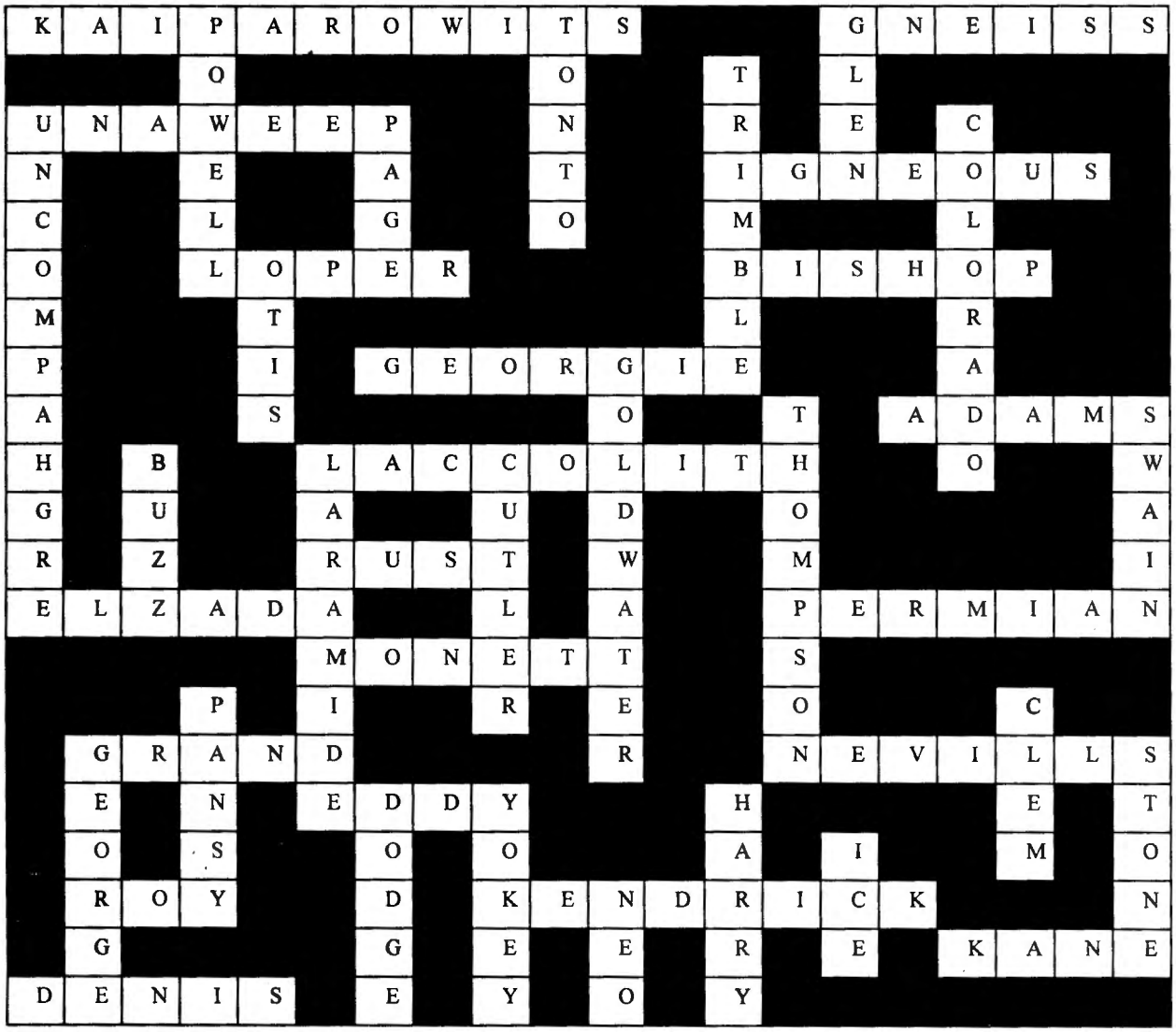
1. A plateau that is now part of Escalante-Staircase National Monument.
4. A metamorphic rock type that is course-grained and banded. Found in Westwater and Grand canyons.
5. A canyon made by the Gunnison River through the Uncompahgre Uplift. The course was abandoned due to rejuvenation of the uplift in the Pleistocene.
8. A rock type that is transported in a molten stage and cools to form lavas and granites.
10. Last name of a boatman who died in 1949 of a heart attack on a private trip with Don Harris in Marble Canyon. Pearl Baker wrote a book about this man called Trail on the Water. Married a woman named Rachel.
12. Last name of a crew member. Powell expedition of 1871. Converted to Mormonism. Sketched the first river maps of the upper basin.
14. First name of the "Woman of the River". Used triple rig boat designs for transporting large numbers of people through the rapids of the Colorado River.
15. Mount Ellen and Peale are one of these. An igneous intrusive mountain. Famous structures in the study of geomorphology. Described by Newberry, Peale, Gilbert and Hunt.
19. Last name of a man who tried desperately to join Powell's expedition of 1869. Formed his own expedition on the Grand River in 1869 which ended in Gore Canyon.
21. First name of the botanist who hired Norman Nevills in 1938 to outfit a river trip to collect specimens of cacti.
22. Last name of the man who guided land trips to Bright Angel Creek. Established a camp that is now known as Phantom Ranch. did Glen Canyon river trips in the 1920s.
23. Last name of the third person who went with Bert Loper and Charles Russell to Lees Ferry in 1907 and then with Russell on down to Needles, California.
24. Last Period of the Paleozoic Era. Typical to this Period are white-colored sandstones: White Rim, Cedar Mesa and Coconino.
25. A name of a river before 1921. Two rivers joined at a confluence in Utah to form the Colorado River. The Green and the ?.

27. Last name of the leader who took "pink-wristed collegiates" down the river in 1927 with Parley Galloway as his guide. Inscription in Cataract Canyon at Rapid #20.
31. Last name of an outfitter from San Juan County, Utah, who honeymooned with his wife Doris on the San Juan River in 1934.
34. A boat name. Second of two names, the first being "Rob". Harold Leich's foldboat used from Grand Lake to Grand Junction in 1933. Hint: _?_ Rodgers and Dale Evans sang this song: " Happy Trails".
35. A first name. A fur-trapper who incised his name on rock panels in Utah from 1831 to 1844.
36. Last name of the civil engineer who has hired by Frank M. Brown and surveyed the Grand River from Grand Junction to The Confluence in the spring of 1889. Used an open dory that later became known as the "Brown Betty".
39. Last name. Boatman for Robert B. Stanton on the expedition that completed the railroad survey of the Grand Canyon in 1889/90. Boatman for the Best Expedition of 1891. Ran Westwater Canyon in 1888 on a skiff. Hint: You use one of these to help you walk when your injured or in old age.

Down

2. A last name. Second director of the USGS. First director of the Bureau of Ethnology. Brevet Lieutenant Colonel of the Civil War. One of the co-founders of the National Geographic Society. Wrote a trilogy on philosophy.
3. A name. The stratigraphic grouping of rocks found in the Grand Canyon that are Cambrian in age. Also a trail constructed on a platform of the Bright Angel shale in the Grand Canyon and parallels the Colorado River.
4. A canyon that is currently flooded by the dam that forms Lake Powell. The first name of Bessie Hyde's husband.
5. A high plateau that includes Westwater Canyon. A tribe of the Ute Nation. A tributary of the Gunnison River.
6. A last name. The commissioner of the Bureau of Reclamation from 1937 to 1943. A city in northern Arizona is named after him. Navajo Generating Station is located nearby.
7. A last name. Leader of the USGS dam survey of the San Juan River in 1921 and of the survey of the Green River in 1922. Bert Loper was his lead boatman on both trips.
9. The name of the river that means in Spanish: red-colored.
11. A first name. Premier river historian who did a sportyak expedition down the Grand Canyon with Bill Belknap in 1964. First descent down the Dolores River. First descent down the Grand Canyon in a hard-hull power boat
13. A first name. He did a solo river trip from Green River, Wyoming to Hoover Dam in 1937. He went again in 1938 with Amos Burg.
15. A name for an orogeny that occurred in the late Cretaceous and into the early Tertiary. This tectonic event created the Rocky Mountains, the San Rafael Swell, and the Kaibab Upwarp, to name just a few.
16. A name for a stratigraphic group that is Permian in age and found in Canyonlands National Park, especially on the Colorado River reach. Type locality is a creek near Ouray, Colorado.
17. Last name. A passenger of Norman Nevills in 1940. Retailer from Phoenix, Arizona. Arizona senator. Won the Republican nomination for the presidency in 1964. Currently thinks Glen Canyon Dam was a mistake.
18. Last name. Tireless brother-in-law of John Wesley Powell. Completed the topographic field work in southern Utah and northern Arizona from 1871 to 1878. Co-authored Report on the Lands of the Arid Regions.
20. Last name. A member of the "Dusty Dozen" trip of 1934. Boyhood friend of Bus Hatch. Was a deputy sheriff who had jailhouse conversations with Parley Galloway about river life and boats.
25. First name. First boatmen in the Grand Canyon to "face his danger" in a boat called the "Panthon" in 1896. Note: N. Galloway was the first ever and did so for many years in the upper basin.
26. Name of the dog who accompanied the expedition by Pathe-Bray to film a movie for Hollywood in 1927.
28. Last name. He was born in Hawaii and was a boatman for the 1923 USGS survey of the Grand Canyon. The name of his canvas boat was called the "Mojave". Boatman for Pathe-Bray and a movie stuntman for their film.
29. Last name. Captain of the paddle-wheeler "The City of Moab". Has inscriptions in Labyrinth and Stillwater canyons. Also near the Potash boat ramp. Lived in Green River/Elgin, Utah. Transported men and equipment by paddle wheeler for the USGS/USRS in 1914 to the dam site at The Confluence.
30. First name. The swimming and hiking partner of Georgie. First to try up-running the rapids above Lake Mead. Was with Bert Loper the day he died in Marble Canyon. Became a competitor to Norman Nevills on the San Juan River and in Glen Canyon.
32. A shortened form of a first name (nickname). Cousin to John W. Powell who was a participant of the 1871 expedition. He was the photographer's (Beaman) assistant and wrote stories to the Chicago *Tribune*.
33. Something you run out of on hot summer days. Basic component of a glacier.
37. Usually a hyphenated word that means new or recent.
38. Last name of an Ohio industrialist. Financier of the Hoskininni Mining Company with Robert Stanton. Patron to Ellsworth Kolb for his Gunnison and Grand river expeditions. Patron to Buzz Holmstrom.

In the next issue the puzzle will be more difficult.



Canyonlands River Management Update

by Susette DeCoster-Weisheit

You are probably aware that the process for Canyonlands National Park (CNP) River Management Plan (RMP) is now underway. There are many possible changes that will affect the guides when the final management takes place after this management review process is complete. Dave Wood, RMP coordinator has been to many CPRG meetings to encourage guide participation in this process. Out of the many park visitors we are certainly the most frequent return visitors. Most Cataract Canyon river guides will do between 14 to 20 trips in CNP per year. I feel our input on an individual basis and as a guiding organization is very important. The RMP is reviewed only once every 10 years and the changes that are now being discussed must estimate for impacts and uses 10 years from now. If you have a problem with a current river management policy you need to bring the problem to CNP's attention and provide possible solutions in order to see that it is corrected. No other group of people in the river corridor see the problems more than the guides that work there on a daily basis. After review of the proposed changes you may find some that do not set well with your ideas or that seem to already be working fine. It is important to provide information, possible alternatives or requests of no change where you feel it's needed. It is also helpful to remember that this process is in place for commercial and non-commercial river trips, which includes canoeing.

In November, CNP sent a work sheet to persons on the CNP mailing list and during December public meetings were held in Moab, Salt Lake City, and Denver. Both of these processes were to provide the public an opportunity to voice their opinions on current management and suggest changes. The work sheet included "summaries of current management and issues identified by the public or park staff, for which current management may need to be changed." Also included was a general questionnaire about the type of recreation experience you seek on the rivers in CNP. Though the deadline for the work sheet is past, CNP is still accepting letters of suggestion and opinion on the RMP. Below I have outlined the subjects detailed in the work sheet; however, you should not limit your comments to these items if you have other concerns. Now is the time to write. Once the draft RMP is released there will be a public comment period but it will be more difficult at that time to give opinions that will affect changes.

Issue	Concerns/Solutions/Regulation
River users venturing out of the river corridor (both day and overnight trips).	Overcrowding or conflicts with backcountry land users.
Allocation/Cataract Canyon (# of available permits).	4-15 through 10-14, 8,000 people per year. 6,935 commercial, 750 private, and 315 unassigned (special populations receive first priority). 10-15 through 4-14 use is unlimited. As of 1995 allocations for private users has been exceeded.
Allocation/Flatwater above the confluence on the Green and Colorado Rivers.	Currently unlimited. Overnight use has increased about fourfold since 1988; day use has also increased.
Motorized uses. Some motorized rafts and the annual Friendship Cruise have established historic use in CNP; however, high-speed "sport boats" and personal watercraft are relatively new.	Positive: provide shorter trips, pass floaters more quickly, do not always camp. Negatives: are louder than floaters, are considered intrusive to a primitive setting and *may conflict with CNP General Management Plan policy of managing the rivers to preserve their primitive character.*
Campsite competition due to increased use, particularly during high water.	Assigned campsites, use of sign-in box required.
Campsite improvements or rehabilitation.	Restoring native plants, cutting new trails.
Launches per day.	Currently unlimited. Per day launch limits would improve solitude but reduce flexibility.
Group size.	Currently 40 persons. Larger groups mean fewer groups but need larger campsites and may reduce other people's experience of solitude.
Minimum or maximum trip lengths.	Currently no limitations
Human waste.	Currently carry out in bagless portable toilets.
Fees.	Currently $25. for Cataract and $10. for flatwater. Proposed increases with new fee demonstration program.
Visitor education.	Should improvements be made?
Boat ramp facilities.	Are changes needed? Toilets have been installed at Potash to be maintained by the river guides.
Commercially-guided canoeing.	Currently no concession for guiding only for rentals and shuttles.
River policies and permits.	Is consistency needed with other agencies on the Colorado Plateau?
Internet information.	Suggestions for information availability on internet.
Wildlife.	Increased impacts, contacts.
Archeological sites.	Increased impacts, visitation.
Vegetation impacts.	Increased impacts, trampling, removal of firewood

Many of the above issues have been discussed at CPRG meetings and upon review of the minutes I found there additional topics and ideas that you may wish to address: overflights, an increased number or unchanged number of river patrols, issues regarding river checkouts at the boat ramp, camping conflicts with canoeists at Spanish Bottom and removal of the red sign-in box. At the September 21, 1997, meeting, CPRG members voted to endorse and encourage these issues: to stop the use of jet-skies in the river corridor; to keep the red sign-in box, require sign in by all river parties, and to move the sign-in box to a location nearer the confluence, to spread out canoe launches, to support a 40 person group sizes; to allow historic use of outboard motors in Stillwater Canyon.

Write to:

Canyonlands National Park
River Management Plan
2282 S. W. Resource Blvd.
Moab, UT 84532.

THE COLORADO RIVER, HUMPBACK CHUBS, AND TOPEKANS

The Value of Day Trip River Interpretation

By Tom Corcoran, Jr.

There is an ironic convergence that occurs on the Colorado River every summer. Just upstream from the small town of Moab, Utah an oxymoronic river; its paradoxical endemic endangered fish; and foreign speaking wanderers from all over the world come together. Initially these three things—the river, the native fish, and the tourists—seem to have little in common. If annual use trends continue, the summer of 1997 could see as many as 30,000 commercial rafting customers, and even more fish; all floating, swimming, and generally loving life on a short twelve mile stretch of the Colorado known around town as "The Daily "(Bureau of Land Management). At the oars in the middle of one of those many rafts on commercial rafting "Daily" trip is the person who can make the connection between these odd partners.

Often those Topekans who visit this Upper Colorado Basin River are here for the first time. Typically those people who take a commercial raft trip, especially a day float trip on a stretch like the Daily, are embarking upon their first river rafting experience. Perhaps in their minds it is one of the most adventurous things they have ever done. If that is the case they may even feel as though they are in wilderness. Surrounded by hundreds of people, acre-upon-acre of alfalfa field being irrigated, and pick-up truck horns echoing off red canyon walls, few river guides would call the Daily stretch wilderness. But wilderness scholar and river guide Roderick Nash argues that wilderness is very much a state of mind. He says, "Any place in which a person feels stripped of guidance, lost, and perplexed may be called wilderness" (Nash).

Hopefully your clients do not feel too unguided, lost, or perplexed, but to some small degree almost all do. It is the job of the guide to lessen the anxiety of the client who after all is a mammal, well adapted to walking upright and breathing air, not swimming in a cold, rushing, frothy river. The guide in this case is facilitating a "conversion experience." The conversion experience is the shift from what is "normal" like a suburban, middle class, 9 to 5, American existence, to the new and unfamiliar place like New Rapid at 50,000 cubic feet per second. A shift in consciousness, the result of being " not normal", but being safely guided to a new realization about a strange, exciting place is possible on any river trip. While the quantity of time spent on the Moab Daily may be less than on a Grand Canyon trip, the quality of the time on the river and with the guide can be a grand experience to the visitor nonetheless.

This conversion experience presents a tremendous opportunity to inform and educate. During a good river trip problems, preconceptions, and prejudices are forgotten, giving way to heightened awareness and open-mindedness. People may be engaging in a sensory experience for the first time in a long time. Commercial rafting customers are open to knowledgeable interpretation and informed, balanced discussion.

Working as a Colorado River guide is one of the most important vocations that one may take up today. As a guide you are not simply responsible for your client's safety, but their minds as well. Guides have the unique opportunity to educate because "your clients have written you a blank check on trust," says Tom Hicks, Director of The Headwaters Institute (Hicks). Hicks' organization is a new national organization dedicated to river guide education. The river guide has exponential education potential.

The Colorado River runs through the Colorado Plateau which is a distinct physiographic province-a place that is vastly different from its surroundings. The combination of geological events and climate have created a place like no other in the world. Exponential education potential works because a river guide comes in contact with so many visitors every season there is tremendous "exponential" potential to pass on interpretive ideas. If the knowledge of the guide is imparted in an interesting engaging manner, the client is apt to remember and potentially pass on that information. Interpretation is a method of communication. Good interpretation allows the guide to translate the experience of the Colorado River to those new to it, visitors who do not yet speak the "language of the river."

The functional and dysfunctional human relationships with rivers are lessons that can be taught on any river. The Upper Colorado Basin is the most manipulated, managed, and watched river system in the world. It is *the* source of water that flows through some of the driest places in the world. While easily seen as a recreation resource, the rivers of the Upper Colorado River Basin provide guides the chance to teach some visitors of the most important lessons that most of the developed world is flunking today.

Largely, we Americans lead a short-term-view unsustainable lifestyle. Stocking Western rivers with non-native fish, purposely poisoning the native fish of the Green River, and damming rivers in the false hope of flood control are recent local examples. This behavior needs to be questioned because it is culturally accepted yet research indicates contrary to our longevity as a species. The persistent economy-at-the-expense-of-ecology national policy is being emulated elsewhere. The Three Gorges Dam project on the Yangtze River will flood a 350-mile long reservoir displacing 1.3 million Chinese and is well underway despite serious engineering problems and major biological concerns. The necessary job of teaching the world the way we utilize our water resources is good business, is good for the rivers, and can be personally rewarding.

Interpretation is something that the public has begun to demand while visiting our recognized natural resources. Required interpretive skills training for guides working on rivers that flow through National Parks is something working its way up the Colorado and across the nation. The National Park Service is responding to the desires of the taxpayers who feel good interpretation enhances their experience of the

public resource. Freeman Tilden, the "father of interpretation" calls interpretation the integral part of "being a custodian of our treasures"(Tilden).

Many commercial outfitters who are not yet required to provide guides with interpretive skills training are training their guides anyway. Customers who have a knowledgeable guide feel that they are getting a more valuable product. Inquisitive and knowledgeable guides are sought after because progressive outfitters realize a guide who can provide interpretation is what the market is demanding more and more.

But the primary motivation for acquiring, practicing, and improving interpretation skills should not come from fear of financial loss or potential gain. A river is a wondrous, living, dynamic being that deserves to be shared. This selfless sharing is essential in teaching and is why interpretation can be very rewarding.

The Colorado River is an altered and not well understood ecosystem. Within its powerful, cold, sediment-laden water live some fascinating creatures that exist nowhere else on Earth. The Colorado Basin contains a higher percentage of endemic fish species than does any river system in North America. Sixty-four percent of its native freshwater fish species are found nowhere else (Minckley and Deacon). The fact that fish like the Humpback chub (*Gila cypha*) are still swimming in the Colorado despite how humans have altered the ecosystem in less than a century is something to celebrate. The Humpback chub and three other federally endangered fish of the Colorado Basin are being studied closely because they are so unique and hold so many mysteries about biological diversity (US Fish and Wildlife).

Not far upstream from the Daily stretch is a place as important to the Humpback chub as redwood forests are to Northern Spotted Owls, perhaps more so. Within the "Blackrocks" and Westwater Canyon sections of the Colorado exist "biological islands" (Miller, Tyus, and Carlson). These biological islands are as important as any rainforest in Brazil because they are one of five places in the whole world that the Humpback chub not only continues to live, but apparently reproduces as well. This is terribly important to the fish as species because if it is able to reproduce, if all other things remain equal it has a chance to survive. The river is energy, always moving, always changing.

The Humpback chub is the hub of a story from which spokes of interpretive knowledge form a spinning wheel, that is the dynamic river interpretative experience. Where to start? That big nuchal hump that provides the name as well as stability in rough waters. How about issues of money? Over $8 million was spent on the recovery of the Humpback chub and the other endangered fish. You could be fined $100,000 and spend time in jail for knowingly taking a Humpback chub. Or you could get esoteric about the hump. Philosopher Ralston Holmes, III said "what the hump is to the Humpback chub, the endangered (fish) species are to humans" —a little understood but stabilizing force in rough waters (Minckley and Deacon).

The interpretive message of a trip does not need to take up a lot of time, nor should it be contentious. The lessons that can be taught on a day trip are limited to simple concepts. Ironically it is the most simple concepts that we as a culture so often forget. The most simple lesson a commercial customer can leave with is a reminder about water. H_20.

Two hydrogen atoms aligned at an angle of 104.5 degrees to an atom of oxygen-the "angle of life." No other substance can exist as a solid, liquid, and gas. It is the foundation of all life on Earth. Without it we would be a frozen mass spinning in space. Water is a finite resource! What water we have right this second is all we have and ever will have. (Todd) While the quality of our water may change the quantity will not! Water is how you exist to wear sunglasses, float the river, eat tuna sandwiches on a beach, and get paid (though your salary may be watered down).

Presented at the correct time, in the proper manner (interpretation), to the right people these little pieces of information, those spokes, become the interpretive lesson. The story that makes them say "Ahh." The lesson that relates to the participant's life is something that they will take with them, hopefully reflect upon, tell others about, and maybe even influence their life. Maybe those sunburned Topekans experience on the Colorado River Daily will change their lives, probably not greatly, or in an immediately evident way, but perhaps in a meaningful way that is good for them, their river at home, and you the guide, the interpreter of the Colorado River.

NOTES

Bureau of Land Management. *Commercial River Use Report. Use Totals 1988-1994.*

William H. Miller and Harold M. Tyus, Clarence A. Carlson. *Fishes of The Upper Colorado River System: Present and Future.* Western Division, American Fisheries Society. 1982.

W.L. Minckley and James E. Deacon, ed. *Battle Against Extinction. Native Fish Management in the American West.* The University of Arizona Press. 1991.

Among other issues, this book discusses the use of rotenone, a plant derivative, as a tool in fish management. It was used in 1962 on the Green and New Fork Rivers to kill native fish prior to the flooding of Flaming Gorge Reservoir in the hopes of helping a traditional sports fishery.

Roderick Nash. *Wilderness and The American Mind, 3rd Edition.* Yale University. 1982.

A major work, the first volume of this was published in 1967 and continues to sell.

John Todd. International Rivers Network membership materials. Berkeley, California.

Dr. Todd is best known for his work with "living machines" -an all natural sewage treatment plant in Rhode Island as an example.

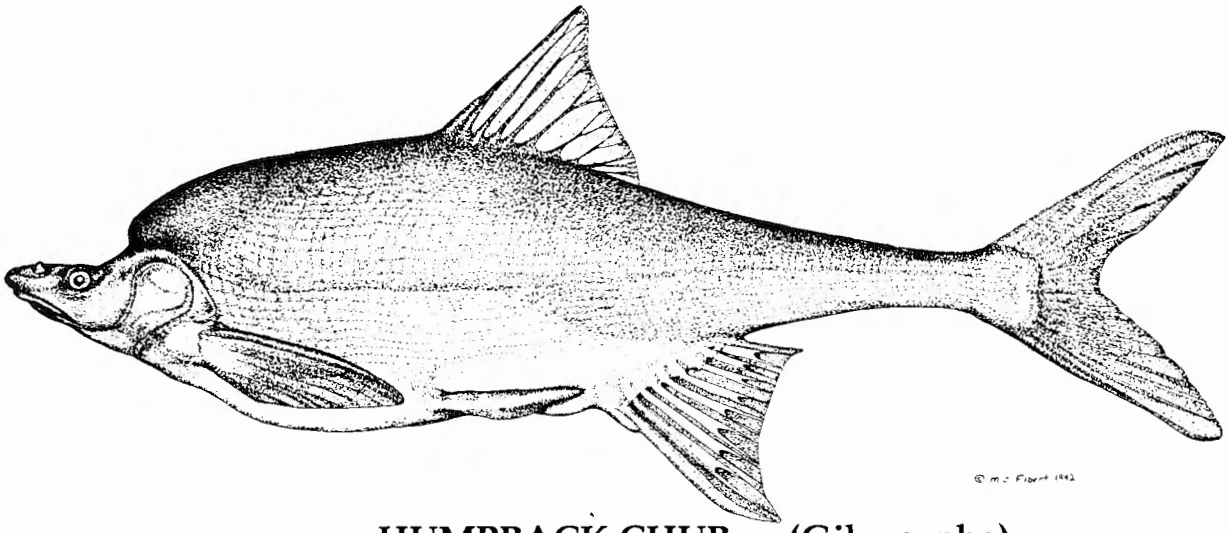
US Fish and Wildlife Service. Recovery Program for The Native Endangered Fishes of the Upper Colorado. *1995 Annual Report.* Denver, Colorado. 1996.

This office is a great source for information on native endangered fish ***(303-236-2985).***

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

NATIVE FISHES OF GRAND CANYON



HUMPBACK CHUB (Gila cypha)

Found as one population in Grand Canyon. Characterized by an abrupt fleshy hump behind the head, that starts developing when the fish is about 6 inches long, and becomes more pronounced with age. Color is a slate gray/green back with silvery sides and a white belly. Matures at about 3 years of age and can live up to 30 years. Maximum size about 20 inches and 2 1/4 pounds. Spawning occurs in spring following peak runoff; females broadcast about 2,000 tiny sticky eggs over gravel/cobble bottom. Transparent larvae (1/3" long) hatch in 5 days and grow to about 3 inches in one year. Found in only six locations in canyon areas of the Colorado River Basin in Colorado, Utah, and Arizona (Grand Canyon, Westwater Canyon, Black Rocks, Cataract Canyon, Desolation Canyon, Yampa Canyon). Is a federally "endangered species" with major threats from flow depletion, altered water chemistry, flooded habitat from reservoirs, introduced parasites and diseases, competition and predation from introduced non-native fish, and possible hybridization with roundtail chub and bonytail due to breakdown of reproductive isolating mechanisms.

Courtesy of Dr. Rich Valdez. Drawing by Marianne Filbert.

The Confluence

The Journal of Colorado Plateau River Guides Volume 4, Issue 2, Summer 1997

BOB DEGLES
THE COLORADO RIVER CASE
HARRY MCDONALD
MOTORS IN STILLWATER
SPILLWAY ENHANCEMENT
HIGH WATER—1997
CPRG MINUTES
A CPRG FUNDRAISER
RUBBER BOATS
CROSSWORD PUZZLE
CHARLES RAY SHERRILL
POETRY



ain Street Moab in 1914. From the E. C. LaRue collection, #1346. Said LaRue in his report concerning his dam sites on the Colorado River at The Confluence, Dark Canyon and Mille Crag Bend, "...the small settlement of Moab would be submerged, and it would be necessary to relocate the highway bridge at this point. The town of Moab could be moved to a higher and better location on Mill Creek."

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (c) (3) non-profit organization dedicated to:

*** Protecting the rivers of the Colorado Plateau.**

*** Setting the Highest standards for the river profession.**

*** Providing the best possible river experience.**

*** Celebrating the unique spirit of the river community.**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau.

General Membership is open to those who love the rivers of the Colorado Plateau.

Membership dues:
$ 20 per year
$100 for 6 years
$195 for life
$295 Benefactor

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Steve Young
Vice President	Michele Reaume
Secretary/Treasurer	John Weisheit

Directors

Bluff	Anne Egger
Grand Junction	Darren Smith
Green River	Shane Edwards & Chris Smith
Moab	Jose Tejada
Vernal	Tom Hicks

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077
Faxes accepted: Please call first.

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Microsoft Word on an IBM PC. If you use a word processor, we can translate most programs. Otherwise, please send your text double-spaced. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

E-mail: cprg@sisna.com

Editor: John Weisheit

Printing: Times-Independent

ISSN # 1078-425X

DISCLAIMER

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing or supporting viewpoint please send your comments to CPRG.

CORRECTIONS FOR VOLUME 4, ISSUE 1

Jim Knipmeyer, ever the faithful historian, wrote to inform us that Gregory Crampton did indeed include photographs of the inscriptions at Galloway Cave for the Glen Canyon salvage project prior to water inundation by Glen Canyon Dam. The photo is included in University of Utah Anthropological Paper #46 and Crampton's book Ghosts of Glen Canyon. The inscriptions read: Jan 6, 1894; 1894; Oc 25/1897 and indicates that Galloway did two trips through Glen Canyon in 1894. Thanks Jim!

THE CPRG FUND FOR INJURED BOATMAN

The river community suffered a jet boat accident this year. Dean Megee and his wife Kathy were severly injured after a collision with a canyon wall that resulted from a steering dysfunction attributed to river debris. No customers were involved, as Dean was on his way down to The Confluence to pick-up canoers. A second boat was following and provided emergency response and evacuation. In the spirit of the river community, CPRG has responded by creating a fund to assist boatmen in their out-of-pocket expenses. Please send a contribution to: The CPRG/Megee Fund. At this time deposits made into the fund amount to $500. Thanks for you support!

SPECIAL THANKS TO:

Bob Degles for a Lifetime Membership
Tom Kleinschnitz for a Lifetime Membership
George Wendt for a Benefactor Membership
Rob Elliott for a Benefactor Membership

FINANCIAL REPORT and COMPUTER UPDATE

We generated some contributions by initiating a traveling interpretive program for interested outfitters such as: Holiday River, Colorado River and Trail, and North American. With these funds we have purchased a scanner, which will greatly enhance our journal and interpretive programming capabilities. This is our status concerning the CPRG word processor: the printer and scanner are paid for; one $600 payment, for the computer, has been made; the balance owed is about $1900. The balance of our checking account, after the scanner purchase and this issue of The Confluence, is about $2000. This has been our overall minimum balance since 1994.

Your Mailing Address

Thought you would like to know that your mailing address in the CPRG database is considered confidential and is never sold or released to advertisers or promotors.

Apologies For An Overdue Issue

It has been a busy summer and the free-time used to complete this issue was found in moments that were few and far between. We will try to do a special issue (or two) this coming winter to make up the difference. We would appreciate any help you can provide this winter to assist CPRG in achieving it's mission statement. Please also notice that the mailing label includes your membership status and renewel date. A form is included in this issue for either renewing or joining the membership of CPRG.

Letters

Motors in Canyonlands National Park

This letter is the result of much deliberation on the Labyrinth/Stillwater motor issue. Ultimately prompted by the two articles in the previous *Confluence*. It describes my dilemmas with, and possible solutions to the motor situation on the rivers, within Canyonlands National Park.

Let me begin by saying I don't care for motors on the so-called "wilderness" rivers and have spent seven years guiding in Canyonlands avoiding their use. So naturally a motorless Labyrinth/Stillwater is appealing to me.

However, this type of designation carries a dilemma I cannot readily overlook. It is discriminatory against our fellow guides and outfitters in Green River, Utah [Moki Mac, Adventure River and Colorado River and Trails], some who have been operating there for many, many years.

These outfitters will then have to engage in costly, inefficient shuttles to Potash to maintain their business. This will also result in further crowding, congestion, and impact on the Colorado River. Small outboard motor use on the Green and Colorado river system dates back to the survey era and they were widely used commercially in Glen Canyon. They are a basic part of the industry and I respect, admire, and enjoy my fellow guides who operate them. The small outboard motor presence is minuscule in Labyrinth and Stillwater canyons and there are other things going on with much greater impact.

For example, to deny the impact from the hoards of unguided canoeists is absurd. We've all seen the toilet paper, the fire rings, the stampeded side canyons; we've heard about the empty *groovers* picked up at the end of trips. We've also all dealt with their inability to use the sign-in box. These are not the actions of a commercially guided passengers, motorized or not.

Ironically canoeists, and the outfitters who provide a services for them, are the loudest opponents to motors on the Green River. This is a little hard to swallow as we all know how canoeists get back upriver. Their credibility as canyon protectionists is in question as a result of their wilderness, or rather lack of wilderness, etiquette.

In response to the loudest voice I have heard on this issue, I can only say that though I sympathize and agree with much of the reasoning and emotions involved, I had a difficult time reading through the inflammatory rhetoric. References to Star Trek beams, jet planes, freight trains, Republican viruses, have nothing to do with the issue at hand. Which, by the way, is not just jet boats. Such talk does not provide for any kind of forum in resolving the conflict.

If we (CPRG) want to take a stand on this issue, we need a solution that will protect the "wilderness character" of Labyrinth and Stillwater canyons, as well as the livelihood of our fellow guides and outfitters. I personally support the following ideas: a ban on motors of over 40 h.p.; a ban on upstream travel; a ban on individual watercraft, i.e., jet skis, wave runners, and etc. These are the biggest nuisances and they have already been banned on rivers throughout the West. If an all out motor ban is considered, CPRG must insist on the grandfather clause for those outfitters currently using them.

Also, the canoeists definitely need to clean up their act. The outfitters who provide services for them need to assume some responsibility for this in the form of pre-trip orientations.

In closing I would like to say that preserving the "wilderness character" of Canyonlands National Park is foremost in my priorities. If it were up to me, and it would not adversely affect my fellow guides and the passengers who ride with them, I would declare all rivers with Canyonlands and the surrounding area a non-motorized zone. This not being the case, however, I feel the options offered are the best solution.

Eric Trenbeath

A Former Ranger on the Motor Issue

In 1973 I accepted the river ranger position at the Island in the Sky District of Canyonlands National Park. I held that position for three years and four summers. Prior to that I was a freelance boatman. Without going into the number of trips accumulated, suffice to say, I lost count somewhere around 11,000 river miles on the Colorado and Green—75% were oar-powered. However there is much that can be done on a motor trip to enhance the experience. Simply allow time for the boatman to shut the engine off to give passengers more quiet time on the river. Sighs of awe, inspiration, and relief from the engine noise invariably come from the passengers and reward all on the boat. I know it is common practice among most boatmen to occasionally do this, but only for short periods of time. There should be no motor corridors along both rivers to give the animals, as well as paying customers, a break from the incessant drone of the outboard motor.

Commercial agendas and itineraries will always be in conflict with the preservation mandate, but without a cohesive unifying policy everyone will lose. By listening to the river I really believe an answer could prove to be easily forthcoming. For seven years the river was my life and my teacher. In its silence it taught me to hear other voices. One truth remains today: control the access and people and the river will take care of itself.

In 1973 there were many boatmen who did their share and assisted me in cleaning the beaches, search and rescue, loaning me "plates" for the Washington bureaucrats on orientation trips, and sharing a wealth of knowledge over blazing campfires (oops!). Anyway, my point is, some were motor heads and some rowed. They all had a hand in my experience. They know who they are. Many times I would turn my patrol boat into a garbage scow (usually after the Friendship Cruise) by receiving unwanted, cumbersome trash they collected on the beach upstream. My jet boat the "D. Julien" wouldn't get on plane for all the garbage left on the sandbars and private campsites.

The river etiquette was good for the most part and in time the following summers proved to be more pleasurable because of the pre-launch inspections and orientation by the

river operation. It is nice to know shuttle drivers impart a message to debarking private trips, but it is crucial to have the river ranger personally inspect and advise individuals of policy on the river. This education process is a solution and helps prevent sending the wrong message to canoeists. In 1973 we achieved 90% penetration of pre-launch inspection and made contacts with the other 10% somewhere on the river itself. If the National Park Service is no longer hitting the 80 - 90% level, the resource will suffer. If they are, then, there is room for both groups to learn from and assist each other. Likewise for the bureaucrats.

Knowing the river is a curse. I miss the Big Ditch and all the trash that awaited me on my patrols. It took my soul and I gave it my heart—but the curse is sweet and it saves me in times of anguish here in the city. It is where I go for solace and peace. When I can't sleep and the city noises prove deafening my mind travels away to the same place: The Kolb campsite above Big Drop III on the right. It is midnight and the moon is full over the canyon. The water is roaring its consuming bass voice. I see moss on the rocks in the middle of the rapid. It is fall the water is low with all the familiar rocks glistening. I study it for hours to decide which way to go. Left down the slot or right where there is a passage between the froth. I plan my route and look at the moon. It is the last trip of the summer. I choose the right side. The noise levels make me edgy but I see the route in the moonlight. My back oarsmen thinks I've lost it. We smile and gaze at the river. It is my friend who never lets me down. It pats me on the back like an old friend. I take a last look at the river and walk back to camp and fall asleep. I sleep easy.

In the city I dream of sleep on the river—and there are no motors in my dreams.

Douglas Carithers

CPRG Needs Volunteers

I have received some communication lately asking questions like: Where is my updated membership card? Where is my decal? Did I miss an issue of The Confluence? Did you cash my check? Did you receive my new address? When is The Confluence coming out? Is The Confluence a quarterly journal or not?

The answers to these questions are very embarrassing to me because it is my responsiblility to manage and fulfill these membership desires. I apologize sincerely. My failure to do these things is not because I am lazy—it is because my plate is much too full and so I am asking for help.

Susette DeCoster-Weisheit has volunteered to help me on the data base overload, but she can't really attempt this project dutifully until the guiding season winds down. Ideally a CPRG member who resides in Moab, who is familiar with data base software, and has an IBM compatible PC would be the ideal volunteer to assist Susette in this particular project.

The reason why The Confluence is late, and (or) not really a quarterly publication, is because little is received from the membership in the way of manuscripts. And this is therefore another plea for help. Please write something for our journal, stuff the manuscript in an envelope, lick a stamp, and put the red flag up. And please don't worry about the deadline or that one last re-write—just do it! More than anything—be creative and have some fun with it.

I could use another CPRG volunteer to provide a helping hand. And this person does not need to be from Moab. I would enjoy someone to help me in producing The Confluence. Someone who has a PC and can transcribe written submissions; to make phone calls and write letters to knowledgeable people who have something to say or to share in the form of a written manuscript. Someone to do the final editing and to catch all those little computer glitches and grammar protocols that I always seem to miss. Ideally, someone to do a special issue would be absolutely wonderful!

Thanks for your considerations!

John Weisheit

River Speak

What do you see
when you look down?

where are the owls going
in your dreams?

and are your deserts filled
with tiger walls or ocotillos?

when a numb tear
meets the quiet roar
do you contemplate oblivion?

drying in giant colors
melted down by days?

growling your way
around the next bend
asking
where is your life going?

be thankful
for boats
and wings

already you
have laughter to lean on
continuing the tune
and the snow and rain started

flowing toward the red star
somewhere
between a slapdash dose of adventure
and strange if not extraordinary night.

Doug Oblak, May 16, 1995

The Prez Sezs

Spillway Enhancements: Not A Good Idea

By Steve "T-Berry" Young

The good fortune of a plentiful (but historically moderate) snow pack in the Rocky Mountains made for another fine season here in the upper basin. Unfortunately, this precipitation caused some controversial topics to surface when Glen Canyon Dam discharged emergency flows to maintain its flood control capabilities, and in the process damaged the beaches that were built during the experimental release last spring. As the water flowed, so did the talk about spillway enhancements, and how they could be used as an aid to protect the downstream environment. The Powers who make decisions and policies concerning this issue insist that by installing flash boards at the top of the spillways, emergency discharges from the reservoir could be avoided and that the riparian habitat of the Grand Canyon would thus be protected. That these flash boards would create a "buffer zone" and would allow the reservoir to hold more water. However, this increased storage would, in turn, effectively drown more rapids on the San Juan and Colorado rivers, and flood riparian habitat in the tributary canyons, as well as the existing riparian habitat on the shores of Lake Powell.

This year the Bureau of Reclamation went ahead and spent a few million dollars to strengthen the spillway's radial gates and to retro-fit them to accommodate 4.5-foot steel flash boards—which are currently in storage. This remodeling project was a result of the *Record of Decision* based on the Final Environmental Impact Statement (page 13 of the summary) concerning the operation of Glen Canyon Dam. Those steel flash boards would have been installed this year had the snow melt been more intense, rather than the slow and steady melt that actually occurred, but the reservoir still rose enough to bury Rapid #27 in Cataract Canyon. We are glad that the flash boards were not installed this year, but we are afraid that in the future they will become a permanent feature of the dam.

Now this idea seems to work if the only objective is to make room for a spring run-off, as emergency discharges are seen as being detrimental to beach building programs, and that these flows would encroach on endangered animal habitat in the Grand Canyon corridor. But did anyone consider the effects on Lake Powell? How about the Colorado River in Cataract Canyon and the San Juan River? Why do we have to ruin and destroy other places to protect a place that is troubled and struggling from our limiting ecological practices already? Has anyone figured out how much willow flycatcher habitat would be destroyed by the lake level, not only presently fluctuating, but also being raised by another 4.5-feet above the normal lake level? How many beautiful places, untouched by the hordes of visitors on Lake Powell, would be reachable by a higher pool elevation? Why do we need to bury more rapids under a cloak of sediment? What will more water in Rainbow Bridge National Monument do? Does anyone honestly think that these flash boards will not be used as a way to increase the storage capacity of the reservoir?

Water rules the West and this is another way for the greedy to further line their pockets, and they are also taking another step towards a situation where the dam could fail in the event of a mis-balancing between inflow reality and outflow capability—like in 1983. To date, even moderate moisture content years have run the lake level up, causing higher flows from the dam in order to manage the lake level. If Mother Nature gives us a snow pack resulting in a 300,000 c.f.s. run-off (which the dam was designed to handle) do they think, even with this buffer zone, that they could lower the level enough without doing a spill in order not to exceed the maximum flow recommended to honor the Grand Canyon Protection Act? That day will bring chaos! It was chaos in 1983 with only an inflow of 120,000 c.f.s.

The Board of Colorado Plateau River Guides endorses the Glen Canyon Institute and their mission statement to drain Lake Powell and restore Glen Canyon to some form of what it was like before its inundation. By restoring the Colorado River back to something more similar to its original state, we will solve a majority of the riparian and human habitat problems in the Grand Canyon. **Colorado Plateau River Guides also endorses the less dramatic option of using Glen Canyon Dam as a flood control reservoir and not as a storage reservoir.** We in no way agree with the spillway enhancements nor even the thought of a higher pool elevation. Necessary studies done on Lake Powell exploring a probable riparian-lake habitat damages, human impact on previously unreachable terrain, and sociological impacts of increased pool size, would ultimately supply concrete data supporting our views.

A plea goes out to all supporters of spillway enhancements to look for true solutions, not just a quick fix that will drastically impact other places and people. Spillway enhancement is an idea from the Powers-That-Be who have proven to flail at managing Mother Nature so many times in the past. Are we really willing to throw our trust unchecked towards these people again? Especially when they have obvious conflicts with the reasons for the enhancements from year-to-year? We are of one family and industry and should all be concerned about the whole system and how to ensure the greatest experience for the people who live and vacation within any part of the entire river corridor. Let's look at options that put beaches and habitat in the Grand Canyon, but do not ruin other places within the Colorado River drainage.

To learn more about the spillway enhancement program and the monitoring and research program at Grand Canyon please contact:

Bureau of Reclamation; Colorado River Studies Office; 125 South State Street, Room 6107; Salt Lake City, UT 84138-1102; 801-524-5479.

To learn more about restoring Glen Canyon write to:

Glen Canyon Institute; 476 East South Temple #154; Salt Lake City, UT 84111; 801-322-0064.

Despite high river runoff in `97 NPS rescue efforts helped keep injury statistics at a low level

From an excerpt in The Times-Independent, Volume 104, Number 28, July 10, 1997

Forty-three "swimmers" were plucked from the icy waters of Cataract Canyon by National Park Rangers during this years high water [91 swimmers either self-rescued or were retrieved by guides].

Beginning on May 16 and concluding 42 days later, a rescue station was operational below the Big Drops, where most of the flips occur. The park's High Water Incident Action Plan [better known as the "Catch and Release Program"] calls for the search-and-rescue pre-positioning at any time the flow through Cataract Canyon exceeds 55,000 cubic feet per second (cfs). This year the Colorado River peaked on June 10 at 71,100 cfs in Cataract Canyon, creating a fairly continuos four mile stretch of whitewater with waves often exceeding 25-feet high.

Between May 16 and June 26, 326 boats with a combined total of 2,336 passengers attempted to make the run through Cataract Canyon. Thirty boats flipped, dumping 134 passengers into the river. Often these "swimmers" would have to manage up to a mile in the 50-degree high-volume whitewater before reaching safety. There were no fatalities during this years high water, although some of those rescued were near physical exhaustion. There was one helicopter evacuation after a passenger sustained a fractured pelvis.

"Past experience has taught us that we begin to experience significant problems when the flow through Cataract Canyon exceeds 55,000 cfs," said Walt Dabney, the Southwest Utah Group Park Superintendent. "We operate the rescue camp above that level in order to provide essential visitor and resource protection services. We know that we saved at least a few lives during this years high water," Dabney said.

The National Park Service will present a special program, with video footage, of this years rescue operations on Thursday, July 17, at 7:00 p.m. at the Moab Information Center. The public is invited to attend. Home videos may be purchased from Canyonlands Natural History Association, 3031 South Hwy. 191, Moab, UT, 84532, (801) 259-6003.

California Condor in Arches

Also of interest in the above-mentioned issue of The Times-Independent was a headline article to inform the readership that one of the California condors released at the Vermilion Cliffs of northern Arizona in December of 1996 was spotted at the visitor center of Arches National Park on July 6, 1997. This particular condor, tagged #49, was three days previous in the vicinity of the Vermilion Cliffs, according to biologists who have the bird rigged with a radio transmitter.

Minutes of CPRG Meetings

by John Weisheit
Secretary/Treasurer of CPRG

I was encouraged by Diane Grua, who works at the Cline Library on the campus of Northern Arizona University, to include the minutes of our spring and fall meetings for regular publication in The Confluence. It's a great idea and I just wish we had thought about it sooner. Because of time and space I have decided to recapitulate as far back as the spring meeting of 1996, and also to make them abridged versions that will convey the gist of the discussions. Someday I'll get around to abridging the minutes of 1993, 1994 and 1995.

Minutes of the Spring Meeting

May 3, 1996
Abridged

Attendance: Sean, Susette and John at the Dan O'Laurie Canyon Country Museum, 118 East Center, Moab.
Honorary member: Jeanne Treadway nomination approved.
Vernal Director: Tom Hicks was nominated pending his acceptance.
Bluff Director: The office is vacant and Tim Thomas will be asked if he will fill the vacancy till the fall meeting.
Computer payment schedule: $150 a quarter to be paid to our anonymous donor until satisfied. No interest.
Membership dues increase: Tabled
River Rendezvous: Grand Canyon River Guides would rather do this in the fall. Site might be Cunningham Ranch in the Book Cliffs. Need permission from Utah Natural Resources. Susette volunteers to chair this committee. We have volunteers who will help.
Professional Guide Institute and Headwaters Institute: Resolve that CPRG be an advisor to this process and advocate that programming be supported by the outfitters.
Internet: We have e-mail on Steve Young's computer. No need to be subscribers at the CPRG computer terminal.
T-shirts: Develop a CPRG T-shirt in the future. Need investment monies.
America Outdoor: Doug Tims says we can be members but doesn't know what the classification or fee would be for a guide's organization.
Cataract camping issue: Spanish Bottom conflicts with canoeists increasing. Canoe education is needed. What do we do about the red box? Tabled.
Lake Powell: Advocate removal of Glen Canyon dam.
Adopt a highway sign: Tabled.
Toilet at Potash: Park service has a toilet to donate. Will be installed by 1997.
Tri-folds: Do a reprint of a membership tri-fold.
Grant: We could use one to pay for our publishing infrastructure but we need whole-souled volunteer.
Adjourn.

Minutes of the Fall Meeting

September 21, 1996
Abridged

Location: Old City Park, Moab, Utah
Attendance: Attendance was well represented by the CPRG board, outfitter management, and guide membership. Best attendance ever with encouraging dialogue that indicates the organization is maturing .
Election of the president: Three nominations were made and considered. Steve Young was elected.
Moab director: Three nominations were considered. None of the nominees were present for consultation and so the office is vacant.
Bluff director: Anne Egger wrote a letter expressing her interest in the position and was voted in.
Grand Junction director: We created a new position for the CPRG board. A Grand Junction Director. We elected Darren Smith to fill this position.
Guide interpretation trip: We felt it was time to do one in Dinosaur and will work on this concept for the future.
Prospectus: Canyonlands and Dinosaur prospectus in the mail and will be due in January 1997.
Drug testing: The majority of the membership feels that this issue is unconstitutional. The majority are not willing to lose their jobs over it; some are. We decided to be pro-active on an individual basis. In *The Confluence* encourage members to write letters to NPS Denver Regional Office and to Congressmen. Encourage guides to send money to "Guides Defending Constitutional Rights" Box 1123; Flagstaff, AZ; 86002. We nominated a committee to research this issue. Committee is: Jose Tejada, Carol Van Steeter and Tim Thomas.
Canyonland's River Management Plan: After much debate we endorsed these issues: no jet-skis; allow outboard motors in Stillwater Canyon; red sign-up box [change the location, change the text and the map]; spread the canoe launches out; keep group sizes at 40.
Red Box: CPRG will make an educational tri-fold to reduce confusion; change the format at the box.
Finances: We have $2000 in the bank.
Spring Meeting: Date to be announced
Adjourn.

Minutes of the Spring Meeting

April 26, 1997
Abridged

Location: Ray's Tavern, Green River, Utah
Attendance: Largely represented by guides of these outfitters: Sheri Griffith, Moki Mac, and Adventure Bound.
Moab director: Jose Tejada will serve.
Green River director: Shane Edwards and Chris Smith will share the position.
Spillway enhancement at Glen Canyon Dam. Unanimous motion to oppose any construction that would increase the capacity of Lake Powell. To educate Grand Canyon preservationists that this measure is contradictory.
Glen Canyon Institute: Unanimous motion to endorse the mission statement of this non-profit organization. To encourage this organization to remove Glen Canyon Dam.
CPRG membership brochure: To be revised, published and distributed.
CPRG educational brochures. For Dinosaur, Deso/Gray, Labyrinth, Ruby/Horsethief, Westwater, Canyonlands, and San Juan. To be drafted, published and distributed through the agencies reservation systems.
"Red Box" registration in Cataract. To be revised and updated.
Drug testing: Drugs are not the issue; methods are. Initiate a dialogue of options.
The Confluence: Allow land issues to have a place in The Confluence.
Land guides: Initiate a dialogue to form a land guide organization.
Membership clarification: Definition of "working in the guiding profession" would include, for example, shuttle and bus drivers, office personnel; not restricted to just boat guides.
River Rendezvous: In process. Should be in middle September. This date conflicts with the organizers; still working their season.
Canyonlands Field Institute: Might want to turn guide training over to us and give us a space at their headquarters. Requires a part-time director to develop, market and program.
Grants: We still need to develop.
Fall meeting: Will be in Uintah County. September 21?
Guide interp trip: Will be in Dinosaur National Monument.
Newsletter: Develop a simple newsletter to fill the time-span between issues of The Confluence.
America Outdoor: Introducing a bill concerning concession reform. Will stabilize the industry and letters to congressmen will help.

How Are We Doing?

An Analysis of the CPRG Board and the Membership
by John Weisheit

When CPRG was born in the fall of 1993, I volunteered to be the Secretary/Treasurer. Our partners, Grand Canyon River Guides, suggested that this position should not carry a term limit to provide a continuity in the changing executive leadership. The following is my honest appraisal of this organization as that link of continuity.

What Susette DeCoster-Weisheit did for CPRG, as the first president, was to effectively introduce this organization to the outfitters and the agencies. As a result CPRG has been accepted and welcomed into the collaboration that exists between these entities; were legitimate is another way to putting it.

Steve Young, the current CPRG president, understands very well that we now need to now turn our attention back on

ourselves and to keep our house in order; that we need growth and internal strength.

Our biggest surge of growth was in the very beginning. Since then the membership rose slowly and steadily to about 225 members, where it has basically been for the last two years. We have tried various programs to initiate growth and they have not produced any significant results. Memberships seem to be generated by word-of-mouth. The problem with consolidating the guides of the upper basin are many, but the basic characteristic that best defines ourselves is—terminal diversity. The "old school" guides are not the largest contingency of the CPRG membership, and neither are the "new school" guides. The strength of CPRG basically lies somewhere in the middle of these two ideologies. **I feel that we need to prove to all the guides that there is a real value to this organization and that the basic unifying principle should be the resource—the rivers of the Colorado Plateau—not our ideologies.**

What I think really needs to be done to increase membership and membership involvement is to meet the challenge of our inherit diversity. Steve Young and the current Board are doing this very thing. The Board feels that the Moab guides need to take a back seat for a while and give the Vernal, Green River, Grand Junction, Bluff, and Durango (etc.) guides an opportunity to develop this organization to become exactly what the name implies: Colorado Plateau River Guides.

We have received so much from the Colorado Plateau in the form of an enriched life. Being pro-active in CPRG is one of the best ways to return that appreciation. Thanks for getting us there and more importantly—thanks for being here.

Star Guide

Just when I was about to quit
looking for life
under stones
and in certain reflections

a blue spirit appeared
and pulled me down
for a drink
from the waterline

blue hushed circles
remembered
a strange dog star
that already knew my hand

and a silver slippered moon
angling
over Crescent Junction
like a dime on edge

wiping away a jealous tear
I pulled back to look
upstream
for the owner of the kiss.

Doug Oblak — November 7, 1995

CPRG Membership Brochures

Anne Eggar and T-Berry have produced and published a new brochure to help generate memberships. How many would you like? Let us know and we will mail them to you!

Nonnezoshe (Rainbow Bridge)

In a far off place there's a lonely trail,
For a time when the heart goes wondering,
That leads to a place, an awesome place,
Where the wind still leaps from the sacred rock,
Of a highland wall,
To rustle the pools, the rocky pools,
At the foot of Navajo Mountain.

Where the gay swift streaks a high curved course,
Twixt chameleon cliffs of molded sand,
Grown hard with time and unknown magic,
Where the lonely God of Creation placed his hand,
With fingers wide and steady stroke,
In a way that knew only his reason, his mystery.

Where time travels lightly, leaving traces,
To be read when the eye sweeps upward,
To the tip of the Universes, to the lip of creation,
Where echoes await the slightest sound,
To roll back their murmured notes,
That drop to a hush, a dwindling hush.

Where a rainbow of stone joins cliff to cliff,
To span time handed down by a generous God,
Who stirs there still to those who hear,
Where the Indians gods still chant,
Their songs of beauty and peace,
On that lonely trail to that silent place,
At the foot of Navajo Mountain.

J. F. Carithers — 1962

When Is a River Navigable? Supreme Court Will Decide

Compiled and transcribed by John Weisheit

From a headline article that appeared in The Times Independent, Volume 55, Number 42, October 17, 1929. [Black Thursday occurred on October 24, 1929, and ushered in the Great Depression]. Special thanks to Diane Allen.



When is a river navigable? That is the question the Supreme Court will have to settle in a suit brought by the U.S. against the State of Utah for title of the beds of the Colorado, Green and San Juan Rivers. Photo shows Governor George H. Dern and party heading down the Colorado River in search of evidence as to the past history of the river as a means of transportation. The governor is in the boat nearest the shore.

Ownership of Colorado and San Juan Riverbeds at Stake in Important Hearings Now Being Held; Some Interesting Decisions in Similar Cases are Given.

Is the Colorado River navigable?

This question will soon be decided by the supreme court of the United States. For the past month, evidence tending to show that the river and its tributaries are not navigable has been introduced by government counsel in the case brought by the United States against the state of Utah to quiet title to the beds of the Colorado, Green and San Juan rivers. Hearings have been held before Charles Warren, special master representing the supreme court at Denver, Los Angeles and Salt Lake City. The Salt Lake hearing closed Tuesday, and an adjournment was taken until Nov. 4, when the government will complete the introduction of its testimony at Washington, D.C. on Dec. 4, an additional hearing will be held at Salt Lake City for the introduction of the state's testimony.

At the Salt Lake hearing the past week, some twenty or thirty witnesses testified regarding their knowledge of the rivers. Evidence was given regarding dozen of boats which have been used on the Colorado and Green rivers during the past thirty years and several old prospectors told of their experiences on the streams.

The state, represented by Philo T. Farnsworth, is endeavoring to show that the rivers have actually been used for navigation for a long period of time. The federal government, represented by Charles D. Blackmar of Kansas City, is attempting to prove that the current of the rivers is so changeable and the water so shallow that navigation is impractical. The supreme court will review the testimony at a later date and it is expected that a decision will be rendered within the next eighteen months [the case extended into 1933].

Supporting the state of Utah's contention that the Colorado, Green and San Juan rivers are navigable in law as well as in fact, a large numbers of court decisions bearing on the question were compiled by Harvey H. Cluff former attorney general. These decisions form the legal basis of the state's contention of navigability. Briefly summarized courts have ruled on the question as follows:

If a river is navigable in fact, it is navigable in law.

Logging, utilizing spring freshets [the snow melt] may be considered navigation.

Pleasure boating is as much navigation in the eyes of the law as is commercial shipping.

A stream may be little used for navigation but still be classed as navigable.

Mr. Cluff's report concerning navigability of streams is as follows:

What constitutes navigability?

Contention: That navigability is a question of fact to be determined by local laws or decisions.

Since the Kenesse Chief case, 12 How. 443 (1851), it has been uniformly held that all waters that are navigable in fact are navigable in law.

The Fact and In Law

"That these rivers must be regarded as public navigable rivers in law which are navigable in fact and they are navigable in fact when they are used or susceptible of being used, in their ordinary condition as highways for commerce over which trade and travel are or may be conducted in the customary modes of trade, and travel on water. Vessels of any kind that can float upon the water, whether propelled by animal power, by the wind or by the agency of steam, are or may become the mode by which a vast commerce can be

conducted, and it would be a mischievous person that it would exclude either in determining the navigability of the river".

The Montello, 20 Wall 4304439.

Cited approvingly in the U.S. vs. Rio Grande Irrigation Company, 174, U.S. 690.

Leevy vs. U.S. 177 U.S. 621-630

The Robert W. Rearsons, 191 U.S. 17-26.

"It results from the principles already referred to that what shall be deemed as navigable water within the meaning of the local rules of property is for the determination of the several states."

Donnelly vs. U.S., 228 U.S. 234-262 and the cases therein cited.

In Water Power Company vs. Water Commissioners 168 U.S. 349-359, the supreme court of the United States said:

Logging is Navigation

"In order to be navigable, it is not necessary that it should be deep enough to admit passage of boats on all portions of the stream."

"A meandered stream one hundred feet wide and of the usual depth of three feet, which is not of sufficient depth to float logs, but which is subject to annual freshets for a considerable time, which enables it to be profitably used for floating logs during such time, is a navigable stream for its purpose of floating logs and timber to market.

Walkins vs. Darris, 64 Pc. 840 (Wash.)

"Streams capable of being used for the purpose of carrying boats, passengers, freight, floating logs, timber, wood or any other product to market, are navigable streams."

Johnson vs. Johnson. 95 Pac. 399 (Idaho 1909):

"Every stream which in its natural state is capable of floating logs or other commercial or floatable commodity for any practicable period of time, is to such extent and for such time a navigable stream.

Continuous use Not Necessary

Mashburn vs. Improvement Company, 113 Pac.92, (Idaho, 1911).

"Where a lake had a total area of 905 acres, 499 of which were covered to a depth of over 25 feet, with a maximum to depth of 50 feet, and boats of considerable dimensions, as well as smaller craft, at different times, had plied its waters and timber products had been transported from place to place thereon, the lake was navigable though little used for navigation.

Brace and Herbert Mill Company vs. State, 95 Pac. 278. (Wash. 1908).

"A stream which at certain periods of the year it is practical to use in its natural state for the purpose of floating timber products, is a navigable stream for such a purpose."

Logan vs, Spaulding Logging Company, 190 Pac. 349. (Ore.).

"Whether or not a stream is navigable is, in the absence of legislative declaration, determinable by its practicable utility for navigation during ordinary stages of water at any particular time."

San Francisco vs. Main, 137 Pac. 281. (Calif.)

Recreational Value Considered

"Grand River is one of the largest and most important inland streams in the state. It is a navigable river. It has never been navigable for boats except canoes and bateaux above Lyons and no steamboats have been above the rapids at Grand Rapids for many years. Above the rapids it has served little usefulness as a navigable stream, except for small pleasure boats. BUT IT WILL EVER BE AN IMPORTANT PUBLIC STREAM AND ITS NAVIGABILITY FOR PLEASURE IS A SACRED IN THE EYES OF THE LAW AS ITS NAVIGABILITY FOR ANY OTHER PURPOSE."

Grand Rapids vs. Powers, 89 Mich. 94

"Many, if not most, of the meandering lakes of this state are not adapted to and probably will never be used to any great extent for commercial navigation; but they are used—and as population increases and towns and cities are built up in their vicinity will still be more used—by the people for sailing, rowing, fishing, fowling, bathing, skating, taking water for domestic agriculture and even city purposes, cutting ice and other public purpose, which cannot now be enumerated or even anticipated. To hand over all these lakes to private ownership under any old and narrow test of navigability would be a great wrong upon the public for all time, the extent of which cannot perhaps now even anticipated."

Lamprey vs. State, 52 Min. 181-100.

Great Salt Lake was declared to be a navigable body of water by the district court and for Salt Lake County, Utah. (Judge Morse.)

Judicial Knowledge

"Courts take judicial knowledge of the navigability of streams constituting great national highways of commerce as well as the navigability or non-navigability of smaller streams within the jurisdiction. Such matters are sometimes deemed to be common or general knowledge, but judicial notice thereof is sometimes placed and the ground of historical knowledge or statutory recognition.

"Considering the various degrees of navigability, the various kinds of navigation, the various appliances for the purpose of navigation and the different conditions along different portions of the same river, there remains a large class of cases in which to determine this question by judicial notice, would deprive a party averring navigability of non-navigability as a foundation of his rights of the opportunity of trial and hearing. Never-the-less where facts of this case fall within the realm of common or historical knowledge they will be judiciously noticed."

(Corpus Juris. Vol. 23, section 1802, Page 81).

Upcoming issues of <u>The Confluence</u> will disclose the process and results of the court's decision.

The Colorado River Case
Harry McDonald's Day In Court: 1929

Compiled by John Weisheit

From a newspaper article [publisher unknown] dated September 27, 1929, concerning testimony given by Harry McDonald during the Colorado River Case, sometimes referred to as the River Bed Case, and archived at the Marston Collection, Huntington Library, San Marino, California. Special thanks to Rosalyn Jirge for transcribing this article.

The mantle of time dropped from the rounded shoulders of Harry McDonald in the courtroom yesterday and he lived again his happy, strenuous life on the Colorado River as hunter, trapper, prospector and adventurer of the turbulent waters.

'Mac', as everyone calls him, was one of the government's chief witnesses in its suit against the State of Utah to quiet title to the river beds of the Green, San Juan, and Colorado Rivers in Utah.

His story was such that, at times, the privileged few in the courtroom, including Master in Chancery Warren, sat on the very edges of their seats with thrills and, again, were convulsed in laughter over the raw humor of the old timer. As for Mac, he was in his element as a raconteur—and he was superb. He knew the old Green and Colorado Rivers like a book. He grunted his disdain for mistaken versions of appraisals given by others as to the antics of the rivers or the conditions in those days.

There were spells when Mac's story raced along like the river itself, but, again, the fog of an intervening span of years would cloud his memory, at which moments he would sit in the witness chair, head bowed for a full two minutes or so, rubbing his yellow-white mustache, finally shaking his head and saying in a low, reminiscent voice: 'No, I just can't remember that now'.

For several days the government's men have been combing Mac over for his story, telling him which parts the court would be particularly interested in and cautioning him not to wander too much and to listen to what the attorneys and judge would ask. And so he was primed as he took the stand. He ran his hand back over his nearly-bald head, adjusted his thick glasses, and bent a receptive, although nearly-deaf, ear over to U. S. Attorney Blackmar, who took a position alongside of the witness stand.

Like an old horse trained on the track Mac launched immediately into his account of how he drove a herd of cattle in 1867 or so, from Elk Mountain, Wyoming, or was it Montana? down through Utah, across the Colorado, and into old Fort Bridger. It was a long drive and took nearly 10 months. When they were crossing the desert toward the end the cattle were barely moving. 'Their tongues hung out that far?', said Mac, as he extended his left arm, fore fingers straight out, and cut off the required length by placing his right hand at the left elbow.

He and his partners prospected up and down the Green and Colorado Rivers using 'hosses and booros, picks, shovels, and pans'. He was with the Stanton and Best Expeditions down the Colorado, the adventures being described in great detail—and with gestures.

He described the progress of the Stanton Party down the river and came to Cataract Canyon where the trouble began.

'We started to "line" the boats down the rapids empty, but it was too much', he said. 'The Black Betty [Brown Betty] was the first to be crushed to pieces in the rapids and we lost three [two] of our six boats'.

By this time the old timer had warmed up to his narrative. He was actually living the scene again, for he had arisen from the witness chair and stood with his arms flung out to the heartbreaking sight of the Black Betty being crushed to pieces against the rocks in the roaring rapids.

'And they all had said she would last longer than the rest because she was made of inch stock and had iron bindings that were forged in the blacksmith's shop at Green River', he muttered, as he fell back in the witness chair.

Then a mischievous smile lighted up his face and he resumed, with a chuckle: 'I showed the boys, one day, how to do it, when I bet them 5 gallons of whiskey that I could ride the rapids alone. So we towed one of the boats up to the head of the rapids and all the boys saying: "Mac, you're crazy; you're crazy, ya fool" and I got in the boat and away I went. I come out all right down below - but we didn't take any chances; we drank the whiskey first!". Whereupon he swept the courtroom with a broad grin.

Again: 'Yes, I knew Old Rocky, the old trapper and hunter. I would have stayed with Old Rocky, but he was too tough for me (shaking his head hopelessly and chuckling). Say, he was the most untidy man I ever knew. And another thing: he was the greatest trapper in the world. Why he could start from Green River with nothing but a jug of whiskey and a plug of tobacco and not another solitary thing to eat, and that man would go on and keep going just on what he caught and killed.' And, as he said it, Mac made a challenging gesture with his clenched fist cleaving the air, chin thrust forward and eyes bulging out as if to dare anyone to equal his old partner as a hunter and trapper.

And so Mac's story was told to a small but appreciative audience in the courtroom, most of them being gray-haired men who themselves knew the river and the country of that day. They sat there with ears cupped in their hands listening to Mac and occasionally nodding their heads in approval of what he was saying and again slapping their thighs as they roared with laughter at his anecdotes of the life on the river in those pioneer days.

Others heard during the day included Robert Allen, civil engineer, now employed by the Department of Water and Power for the city; David E. Rust, of Provo, Utah; and Dean Daily. The hearing was expected to be concluded today."

The Court Record: Harry McDonald's Testimony

Transcribed and edited by John Weisheit

From a working collection to be archived at the Marriott Library, University of Utah, Salt Lake City, with special thanks to Dr. Greg Thompson and Roy Webb; also to Bob Stevens for his generous hospitality.

He resides at Highway Highland, California; is 77 years of age; since he grew to manhood he has followed trapping, hunting and prospecting principally as vocations. He has lived in the western country since 1866. He doesn't remember the year in which he first entered Utah but believes it was in 1868 or 1869; his second trip was made in 1888.

His first trip into Utah was made while driving cattle from Elk Mountain, Wyoming, to Fort Mojave, Arizona. The trip was made over the old Pony Express trail through Wagonhound, Medicine Bow, Rawlins, Bitter Creek, Saltwell, and Green River, Wyoming.

From Green River, Wyoming, the trail led to Fort Bridger, which is on Black's Fork on the Green River; south on Silver Creek to a divide between Silver Creek and the Provo River; down the Provo River to Provo.

From Provo they trailed south leaving the cattle in Spanish Fork about five days to rest up. From there they went south to Cold Creek by way of Parowan, Fillmore, Round Valley and near Cedar City, to Mountain Meadows.

From Mountain Meadows they dropped down the old Virgin River at Beaver Dam and crossed the Virgin River twenty-four times on the way down to St. Thomas.

At St. Thomas they laid over and rested the cattle a couple of days and filled their barrels with water.

There were three wagons on the trip and water was carried for camp purposes and for the purpose of keeping older cattle in trim for the trail. The younger cattle were sold to the Mojave Indians.

From St. Thomas they started trailing across the desert between Muddy and Las Vegas springs. After a stop at Las Vegas Springs they trailed into the head of El Dorado Canyon, above Hardyville, Arizona.

Hardyville at that time was a small place containing eight or ten houses, a number of adobe houses built by the Mexicans, and several Mexicans and Mojave Indians. Hardyville is located seven miles above Fort Mojave.

They reached the Colorado River in El Dorado Canyon near a quartz mill that is located about a half mile from the river.

After reaching Hardyville the trip was continued on across the river to Fort Mojave.

From Las Vegas Springs to El Dorado Canyon the trail followed a wagon road but the road did not reach Hardyville.

At Fort Mojave the cattle were distributed. The outfit consisted of eleven men, six hundred eighty-two head of cattle, three wagons, and quite a few horses.

Through the state of Utah a wagon road was followed but he does not know the name by which the road was designated.

Hardyville, Arizona, is on the Colorado River and there was a ferry at that place for the purpose of crossing the river to the Nevada side.

On his trip back he passes through a place known as Callville where there was a stone wall of a burned store but the place was deserted. Callville is not far from the present Boulder dam site. At Hardyville, he saw Captain Melon's old steam boat, Gila. The boat came up river from Fort Mojave, where it had been unloading freight for the government. It would come up from there to Hardyville in high stage of water.

When he was camping in Callville in 1871 he saw a boat come down the river carrying the American flag; it was at the quartz mill at El Dorado Canyon.

> **Question:** Was that boat a steam boat or a row boat?
> **Answer:** No, just a row boat. A steam boat couldn't get up.

On the latter trip he left El Dorado Canyon at the quartz mill, went up through Callville and up to the mouth of the Virgin with burros, following a trail, there being no road.

From the mouth of the Muddy they went up to St. Thomas and struck the same route followed on the way down with the cattle. They then followed the same trail back to Provo, Utah, then digresses through Salt Lake City and Ogden, went to Corinne, Utah, and up the Bear River into Helena, Montana.

The last time he saw the Green or Colorado river was when he went on a prospecting trip in southern Utah. The trip was started on the Grand River at Grand Junction, Colorado. He and an associate constructed a boat in Cramer's wagon yard at Grand Junction and hauled it on a rack down to the river in March, 1887. The river was frozen over and the boat was run through the ice for some distance when it was pulled on top and skidded over the ice like a sled.

On this trip they went down through the first Granite Canyon to what is now known as Bar X Bottom, stopped and built a cabin, put in a small dam, a sluice box, and commenced mining.

The place where he stopped and built his cabin was about a mile from the Utah-Colorado line. That was in 1887. He stayed there seven or eight months and then went up into the Book Mountains [Book Cliffs]. From there he went down to Glen Canyon with burros.

From Glen Canyon they went to a point on the Green River about midway between the San Rafael and the city of Green River, Utah, on horseback, having a pack outfit consisting of seven head of horses and burros, camp outfit, and mining equipment. They then forded the Green River a short distance below and went over on to the Colorado down below Cataract Canyon.

From the point where he crossed the Green River he got down below Cataract Canyon by crossing the top of the mesa to the north of it.

...you can ride across that anywhere in towards Hanksville, between there and the mouth of the Dirty River on the river, but you can't go down the river along Cataract Canyon that way all the way.

This trip was made about a year and a half after he built the boat at Grand Junction, Colorado. He didn't make any notes of his expeditions so that all of his statements are from memory and his memory might not be exactly right unless something happened to remind him. It was before the first Stanton Expedition.[1]

After reaching the mesa he went down on it to the Colorado River at the mouth of North Wash, passing through Hanksville. At that time Hanksville was a place only a few settlers and a few scattered buildings. It was the only town, however, in that part of the country, the last town down the Dirty Devil, or Frémont River. He did not get any supplies at Hanksville as they already had them.

After reaching the mouth of North Wash, he commenced prospecting, and his partner, Jess Fuller, decided to go back and took with him the burros, leaving the horses. He stayed, together with Tom Hall, Claude Sanford, Bill Curry, Bob Farley, and a man named Nichols.

He prospected and explored the country and found gold in the bars but not in sufficient quantities so a man could make much at it. The gold was flour gold and it was impossible to save it with the gold pan and quicksilver.

While he was in the canyon there he built a small boat, or flat-bottomed skiff, for the purpose of crossing and running up and down the river with lumber that was purchased in Hanksville.

Question: Did the lumber come in by way of the river?
Answer: No, it came in overland; couldn't come in by way of the river.
Question: How much work did you do on the river with the boat?
Answer: Didn't do very much work with the boat; just crossed from one side to the other to get the bars; we did use it once out in one of the bars in the center of the river, sandbars in the center; the water split both ways; we took some of the boats we brought down and made a sluice box, and we dug a channel through the sandbar, which formed just where there was a rapid there, just above North Canyon, between that and the mouth of the Dirty Devil; we dug through the bar, and put the sluice box in, and commenced shoveling the dirt in from both sides; the water running through washed it down, a riffle block catching the gold.

On that first trip he did not get anywhere near the San Juan River.

Question: While you were in there did you experiment any with this boat in the cataracts?
Answer: Yes.
Question: Just tell me about that.
Answer: We prospected along up, working along up the canyon, came up to the foot of the rapids, we crossed the Dirty Devil before you get into the rapids, we crossed the Dirty Devil before you get into the rapids at the foot of Cataract, Curry, Farley, and myself. I told them, I says, "If you fellows will help pull this boat up through the edge of the cataract I will show you a nice ride down." So they pulled it—we put the line on—they pulled it along the edge, and one of us kept prying it off, warding it off from the edge of the rocks, and finally says, "You are crazy, Mac." I says, "All right, if none of you fellows get in, I will show you something." So I shoved the boat in, when we got up where it wouldn't go any further—I shipped quite a bit of water. I was in there alone, and just using one stay oar, no other oars, let the current take me along. When I came out below, he says, "You are crazy, damn fool, damn fool." He says, "You will drown." That is as far as we went up Cataract Canyon with the boat[2].
Question by the Special Master: You didn't drown did you?
Answer: No, I didn't drown. They bet me five gallons of whiskey, after Mr. Brown drowned, when he was in town there, if I went the second trip I would drown. I bet them, and used the whiskey before I started.

When he got through down in Glen Canyon he went out with wagons and on horseback.

...you could get a wagon in and out from Cass Hite; we finally got a wagon in down North Wash.

There were no other boats on the river in Glen Canyon while he was prospecting and besides the men who were prospecting with him, another outfit known as Hite's outfit was prospecting down the river about three miles. There were no dredges of other machinery operating on the river at that time.

On leaving, he went out overland by the way of Hanksville to Green River, or Blake, Utah, which is on the west side of the river. The railroad into Green River had been completed at that time.

Mr. [Frank M.] Brown and Mr. [Robert B.] Stanton sent for him and he talked the matter over them at Blake[3] or Green River, Utah, and decided to go on the trip with them.[4]

Question: Now, just tell me what kind of equipment in the way of boats Mr. Stanton had on his first trip.

[1] The trip leader was Frank Mason Brown, president of the Denver, Colorado Canyon and Pacific Rail Road (DCC&PRR), until his death in Marble Canyon; Stanton then became trip leader.

[2] This would be Narrow Canyon; Mille Crag Bend to Dirty Devil River.

[3] Green River, Utah, was originally called Blake after the last name of the first postmaster.

[4] McDonald has forgotten that he did not join this expedition until Dandy Crosing (Hite) in Glen Canyon, where he was placer mining at the time, when Brown passed by in late June, 1889. He did this section, however, with the Best Expedition of 1891.

Answer: They had six boats. They were what is called lap stock boats, the side nailed on, lapped: little bow boats; they were fourteen or fifteen feet long—I think they were fourteen; they had air-tight compartments stem and stern; they were light cedar boats, sharp at both ends, and one boat was the Black Betsy;[5] it was built of inch stuff; it was bound some with iron, wagon tire iron from the blacksmith shop.

The boats when loaded drew about seven or eight inches. There were sixteen men in this first Stanton party. He had charge of the running of the boats. They gave him that position to get them out of trouble if they got into trouble down the lower river, because he had already been down there.

Question: At that time in your life had you been a sailor?

Answer: Yes, and I have run the Mississippi River from St. Louis up and down quite a while on the old Dan Hine—Captain Joe Quinn.

Question: Just tell me about the progress of this trip from Green River, Utah, down to the junction with the Grand River.

Answer: We run along feeling out the channel. The channel down through there is arbitrary, down through Green River. It is different from most any other river. Where the channel should be, it will be shoal water, and have to change your channel. You will get aground. We got aground every once in a while, and we would have to get out and feel around, hold on to the boat and drag it along to find our channel.

Groundings on sand bars occur four or five times a day, sometimes not so much, dependent on the stretch of the river.

Sand bar conditions were pretty bad in places from Green River, Utah, down to the mouth of the San Rafael. There were a great number of bars in this stretch of the river and it was necessary to get out and wade and pull the boats off. The sand is shifting all the time, a good deal like desert sand.

You may drive across Death Valley, any place, the same as I have, just as nice a road as you want, and come along tomorrow and there is a pile of sand piled up; it is the same in the river; it keeps changing.

On the first Stanton trip the party was not equipped with life preservers and the boats were lined through Cataract Canyon.

Question: Tell me about going through Cataract.

Answer: We lined the boats through Cataract.[6] But even lining them through, they found out we were too heavy loaded then. Mr. Hughes and Reynolds[7]—I can't think of his name—they threw away good overcoats that was worth forty-five dollars or fifty dollars, in Cataract, to lighten up, rather than portage and load the boats any more; they had them overloaded going down; they thought they would need them; they throwed them out; they throwed blankets worth twelve or fifteen dollars a pair to one side and left them in Cataract Canyon.

We lost three boats [actually two] there. The Black Betsy, the boat they thought would go through, was the first boat that went to pieces: nobody in it, though; we didn't take any chances.

We had the lines fast to it; we would run the line down here (indicating) and a man stationed here (indicating), and there, and there (indicating). We would shove the boat off in here (indicating); this man would throw the line over a rock, and the next one, as she checked up going down, so as to give the boat a clear run.

The first boat after the Black Betsy ran on to a rock; just as soon as she did that, the water piled over her gunnel and turned her completely over and tore the bottom out of her, in Cataract Canyon.

None of the rapids in Cataract Canyon were run with those boats on that trip. Starting at Green River, Utah, rafts containing food were towed by the boats.[8]

Question: Where did you start towing them?

Answer: Started towing them at Green River. I had forgot about that. They had the same as boxes down below, big board boxes; they thought that would lighten the load some, which it did, some,—the top screwed down, and had a rubber gasket around; they put the stuff in them they had in the bottom of other boats, canned goods, condensed milk, and other stuff the water wouldn't hurt.

But they lost them, lost all that food in Cataract Canyon, in trying to let then run with the boats when they were lining them through.

The second boat after the Black Betsy, the line fouled, the line holding the boat as she was running lose down stream; she up-ended; just the minute you check the boat in a stiff rapid, the current was so swift on the bow, although she is sharp there, the back ended up, and she dove, and we lost that second boat there.[9]

The boats wouldn't stand the force of the water, when they get under and you hold them still, if you let them go they would be like a ship, come up again.

Then we lost the third boat; Mr. Reynolds was in the third boat, around one of the rapids; he had hold of the line; they was lining that, and that boat, when we lost it and it went down, he went down with the boat, but he

[5] Actually called the *Brown Betty*, which was the kitchen boat and named after a Dutch oven breakfast treat.

[6] McDonald did not do Cataract until 1891 with James Best; the Best Expedition did not line or portage any rapids in Cataract Canyon.

[7] Hughes and Reynolds joined the expedition as guests of Frank Brown.

[8] The "rafts" were waterproof galvinized boxes that thumb-screwed to the bottom of the boats. They removed the boxes and floated them behind the *Brown Betty* to make room for the abundant gear and personnel.

[9] This boat was actually retrieved.



Christmas dinner at Lees Ferry, 1889. Left to right: Robert Stanton, Franklin Nims, William Edwards, Reginald Travers, H. G. Ballard, Langdon Gibson, Elmer Kane, L. G. Brown, Arthur Twining, James Hogue, Harry McDonald, John Hislop. From Miami University Library.

held to the line, and we pulled him ashore on that line, and the wreck of the boat.[10]

That was the third boat in Cataract Canyon. Then we wouldn't risk it; we got driftwood and laid it on the rocks, and skidded them along the keel, in place of lining them through, to save them, and then at the lower edge we put them in and run.

The boats were skidded along sometimes for a distance of a hundred yards, sometimes less, across the rapids, sometimes one side of the river, sometimes the other. After the boats had been skidded along they would be placed back in the water again in the stretch of river between the rapids, and then when they came to another rapid place, they would take the boats out of the water at the upper edge of the rapid, and skid them again.

Question: How many times would you say, in the course of Cataract Canyon, you skidded these boats?
Answer: About five; we would run some of them at the upper edge—we would line them through, some of them, at the upper edge, where we lost the other boats.

The Black Betsy was lost in the same rapid where number one was sunk about five or six miles down from the junction of the river.[11]

At North Wash, or a little below, the party stopped and obtained some supplies, then went on down to Hite. At Hite he ripped out lumber and put three new strips on the side of one of the boats to strengthen it because the ribs had been crushed in amidships. The ribs were crushed in Cataract Canyon

Leaving Hite, the party started on down the river for the San Juan.

We had trouble all the way down the river—had trouble several times down there.
Question: Tell me what you mean by trouble?
Answer: Running on to the bars and on to rocks. There is one place there where there is a shelf runs across the river; it is not as level as the floor, but apparently as level under water; it must be anyway nearly one hundred yards in width, but it runs clear across the river; that is a ledge of rock; I don't know whether it is slate, or what it is, sandstone or what, but it runs clear across the river, and you have got to find an opening to get a boat through.

That is where the river is cut in one or two places. We run on to that—every boat run on to that; we got out, held on to the boat, pushed back up into deeper water, and kept feeling and working across; you couldn't see, too much sand working in the river—feeling across until we came to an opening, then put the boats through the opening.

[Mr. Ryan:] The large rock which crosses the river is located about one hundred twelve miles above Lees Ferry and is very close to what is known on the map accompanying Mr. LaRue's Water Supply paper as Bed Rock dam site.[12]

[10] This was the second boat that was actually damaged beyond repair and abandoned. The boat was called *Mary*, after Brown's wife.

[11] The "number one" McDonald is referring to is the boat that was abandoned during the Best Expedition of 1891 at Rapid #15. According to Stanton's survey notes the *Brown Betty* was destroyed at Rapid #6.

[12] From Water Supply Paper 556; Water Power and Flood Control of the Colorado River Below Green River, Utah; E. C. LaRue; 1925: "The bedrock dam site is on the Colorado River 6 miles below Hall's Crossing and 1 mile below Lake Canyon, where the water surface is 3,325 feet above sea level. The bedrock, which extends across the river, is a very hard laminated red

There were quite a few rapids encountered in Glen Canyon but most of them were not bad.

> ...you could run them going down; but if you went up them you would have to get out, haul your boat or walk alongside and pull it along.
>
> Bull Frog rapid—I don't know what they call it—it is the mouth of Bull Frog Creek, anyway—just above that is where we blasted a ledge down and hauled the dredge material in;[13] I think they call it Stoney Bar, on account of so many rocks and boulders across there. That is a bad place. There is rocks in that as large as a quarter of the room here, almost, and lots of them.
>
> Dan, [sic Ben] and Homer Hite were there then; there was only Cass and Johnny Hite there before
>
> **Question:** Now bring the expedition on down to Lees Ferry.
>
> **Answer:** Mr. Stanton wouldn't travel on Sunday, and they laid up just above the mouth—Saturday night—just above the mouth of Escalante; Escalante is about twelve miles above the mouth of the San Juan.
>
> Mr. Brown and I and Reynolds got into the boat Sunday morning and came on down; we slept all night —Mr.—Stanton, we knew, wouldn't come—and we couldn't get back up; we slept all night, by gracious, on a bar, laid right on a sand bar, no blankets, no nothing, all night long.
>
> Just as the sun was getting up Mr. Stanton and them come along, then we piled in. and Mr. Brown had them make a landing, and we ate a little breakfast; hadn't had anything from the day before, when we started. We thought we would go back up the river, and couldn't get back up the river there. That is the reason we had slept out on the bar all night.
>
> **Question:** Why couldn't you get back up the river?
>
> **Answer:** It was too swift; we couldn't pull up along the edges, because the was no shore line there. That is below the Escalante, between the Escalante and the San Juan.

From the San Juan down to Lees Ferry little trouble was had except at the Crossing of the Fathers, where some bars and rocks were encountered and twice below opposite Navajo Creek the boats were stuck on sand bars.

After leaving Navajo Creek the party moved on down to the old John D. Lee house above the mouth of Paria and camped. The endeavored to buy supplies from Warren Johnson but were unable to obtain any. Supplies were finally brought in by Mr. Brown from Kanab, Utah, and were brought overland, with Johnson's team, up by way of House Rock, up over the mountain through to Kanab and back again. It took him ten days to make the trip. He had no part in the railroad survey except having charge of the boats. While Brown was gone to Kanab for supplies he stayed at Lees Ferry. At that time there was at Lees Ferry only the Johnson family and Al Huntington.

He stayed at Lees Ferry about fifteen days and while there saw mail brought in by Tom Greenalt and Fred Kaw on horseback from Kanab, Utah, coming by way of Jacob's Pool, and around under the Vermillion Cliffs to there, then he crossed the river there and went through to Moenkopi; from Moenkopi through to either Holdridge [Holbrook?] or Flagstaff. They made three trips a week.

After leaving Cataract Canyon the expedition did not lose any boats on that trip between there and Lees Ferry; "we left Lees Ferry with three boats and eight men; we started with six boats and sixteen men."

After obtaining supplies the trip continued on down the river and terminated at North Canyon, that is, on the saddle of the Buckskin Mountains. The party then went through the country parallel to Buckskin or Kaibab Mountains to Kane Springs, almost opposite Jacob's Pool where the road swings around the cliff from House Rock to Lees Ferry; then across the valley is the Buckskin of Kaibab range of mountains, and Kane Springs is up in there.

> **Question:** Did you have any pack animals of any kind?
>
> **Answer:** Pack nothing—no; didn't have no clothes, even, hardly.
>
> **Question:** You were on foot?
>
> **Answer:** Yes, on foot, everybody. Jacob's Pool, Kane Springs and House Rock, were owned and used by the Mormon Church for their cattle, which they had in there. It is a horse range all through there.

From Kane Springs the party went to Kanab and from there to Milford by way of Panquitch, Beaver, and Beaver Canyon. The end of the railroad at that time was up at Frisco, up in the mountains, a little mining town above Milford. The route followed was the road over which freight was hauled in southern Utah. He did not try to get any pack animals there.

> **Question:** Did you walk from Kanab?
>
> **Answer:** No, we rode in a wagon we hired at Kanab; Mr. Stanton borrowed six hundred dollars when he got there, to take us through to Denver, from Mr. Mariger, who was bishop of Kanab at the time, and telegraph operator.

After arriving at Denver a second trip was planned and he was asked if he couldn't plan a boat that he thought would run the river and he told them he could. He thereupon drew plans and

---

sandstone. The rock in the abutment walls was found to be satisfactory, with the exception of a few layers of soft sandstone. If a concrete dam were constructed at this point it would be necessary to excavate a considerable distance into these soft layers in order to prevent leakage around the end of the dam. A dam at this site to store 6,000,000 acre-feet would raise the water 372 feet. The volume of the dam would be 3,500,000 cubic yards. As bedrock is at the surface of the river channel the construction of the dam at this site would either interfere with the development of power in Cataract Canyon or afford inadequate storage capacity. Futhermore, the volume of the dam and the inaccessibility of the site make it less attractive than other sites lower on the river."

[13] Talking about the dredge of the Hoskinnini Mining Company which employed McDonald in 1897.

superintended construction of boats at the Douglas Boat Factory, Waukegan, Illinois.

The boats were shipped to Green River, Utah, by rail, loaded on to wagons and hauled overland with teams to the Dirty Devil by way of the San Rafael, through Iron Wash, Hanksville, and the head of Trachyte Canyon, to North Wash, and down North Wash with the boats.

The boats were of oak, and caulked, and were soaked overnight to close up the cracks.

> **Question:** These boats, did they have air-tight compartments in them?
> **Answer:** They had one hundred and forty-four feet of air-tight compartments under the running board, twelve heavy, galvanized iron cans.

The boats were constructed with air-tight compartments stem and stern and all long the sides under the running board; "they would float if you tore the bottom out of one of them; with two thousand or three thousand pounds on then they would float, nine or ten inches high; that is the way they were."

This second trip was a great deal like the first trip; quite a few sand bars and rocks were encountered.

At Bull Frog rapids the load on the boats had to be lightened,

> ...because we had to work here through the rocks; we couldn't go in where the big boulders were and run here—none of the boats—without fear of losing them.

The boats were worked through rocks close to shore and they portaged the stuff so that the boats would be as light as possible to handle.

> Outside of that we got on to quite a few bars. When we come to that flat where that ledge runs across the river there, we ran on to that before we thought of it. It is apparently level under your feet; we ran on to that, and we had a job, then, everybody had to get out and had to back up, and had to feel along; even where we had found the channel before, there was no channel the second trip, but we found a channel through, got the boats through.
>
> You couldn't pick your boats up and carry them, like we could with the first ones.

He remembered where the rock ledge was on the second trip from the experience he had had there on his first trip but was not looking for it when the boats ran on to it, although the rest of the party were.

Most trouble with sand bars was encountered on the second trip.

By previous arrangement, supplies were obtained at lees Ferry.

The party stayed at Lees Ferry over Christmas and then went on down the river to the Gulf of California.

On the second trip he thinks the Chaffin boys were mining on the river down below Hite. No machinery had been brought in on the river, only the boilers and pump that the Hite brothers brought in.

The next rip made by him through Glen Canyon was made in 1891 and was known as the Best Expedition, the Colorado Grand Canyon Mining and Improvement Company at Denver, Utah and Arizona. The boats used on this expedition were the same type as were used on the second Stanton expedition and were constructed by the Douglas Boat Factory. The expedition started at the Green River bridge, Green River, Utah.

> **Question:** Mr. McDonald, just tell me about the progress of that rip from Green River down to the cataracts, and also tell me whether or not you found a channel in the same place as you did on the first Stanton.
> **Answer:** No, you bet your life you don't find the channel in the same place; run along thinking the channel was the same place, and run it wrong, and find the channel by gradient had disappeared somewhere else.
> **Question:** Tell me about the progress of the trip from Green River down to the cataracts.
> **Answer:** We had the same trouble getting on bars and hunting the channels, getting on rocks.
> **Question:** Did you get on the bars on this Best expedition frequently?
> **Answer:** Yes, we got n bars frequently.
> **Question**: What do you mean by frequently?
> **Answer:** Sometimes two or three times a day get on to a sandbar.
> **Question:** And then how would you get off the sandbar?
> **Answer:** Hop out into the water and back the boat off, feel along the channel.

Boat No.1, the one in which he was lost in Cataract Canyon on this trip.

All of the rapids in Cataract Canyon were run, as he remembers it at this time, no portages being made—

> Mr. Edwards[14] ought to be remember if we did.
>
> I know, after we lost the No. 1, they run the rest of them.

The Best Expedition, in going through Glen Canyon, had lots of trouble through there.

> **Question:** That is what I want to know.
> **Answer:** Getting on to sand and bars; but the channel down in there in the Colorado wasn't as bad nor as changeable as it was on the Green, but it changed in places, the sand moving all the time, always moving, and

[14] William Hiram Edwards. A crew member of the Best Expedition and captain of the steamer *Major Powell*. One of my favorite river personalities who will be featured in coming editions of The Confluence.

where you would think it was smooth, nice piece of water and run ahead on it, you would run on to a bar, and you would have to hop out, back the boat off; sometimes we would try backing off with the oars, but the oars would go down into that sand so far you could hardly get them out.

At the time of the Best Expedition there was more water in the river than at the time of the second Stanton expedition and, as he remembers, was about the same as on the first Stanton Expedition.[15]

Question: Now, about the ledge on the Best expedition?
Answer: We got around on that in good shape, ran the boats out on to the ledge, and had to get out and wade, walk around and hunt a way through before we could get down the river.

He does not believe that the water over the ledge across the river averages over six or eight inches deep.

The ledge of rock extends across the river for about 75 or 100 yards.

Question: Did you encounter any rapids in Glen Canyon on this Best expedition?
Answer: You bet your life; Cataract rapid ...
Question: I am not talking about the cataracts.
Answer: Trachyte; Trachyte and Bull Frog rapids. Mr. Stanton always called it Stoney Bar; I don't know whether he got it from government maps, or what he got it from; he called it Stoney Bar there, it is where Bull Frog creek comes in, where that rapid is.

According to his best recollection, supplies were obtained from the Wheeler brothers near Green River, Utah, no supplies were obtained on the trip below Green River.

The Best Expedition terminated at Lees Ferry. From there the party went to Kanab, through House Rock, along the old mail route. He then purchased twenty-four head of horses, went back to Lees Ferry, and after that worked up into Utah again.[16]

Some time afterward he again went back to Glen Canyon for the purpose of mining. At that time he was working by himself and does not remember the exact month or year but places the time as four or five months after the Best expedition.

He helped construct the Stanton dredge[17] on the Colorado River in 1899 or possibly the year later. Most of the lumber for construction was brought from the Pacific coast.

Question: What I want to know is, how you got it down on the Colorado River.
Answer: Had to haul it with teams.
Question: From where?
Answer: From Blake, Utah—from Green River, Utah, we will say, across the desert, and it was slow, hard work up through the mountains of the Henrys, down on the west side of the Henrys, and on down through that country, sand, by gracious, knee deep, before they got it in there finally; and after they got the dredge built, got it to working, it was an eight-two bucket dredge, worked sixty yards of gravel an hour; we could dig in twenty-eight feet of water.
Question: What do you mean, dig in twenty-eight feet of water?
Answer: We were working in the river, see? We were working in the river, the gravel in the river; we were going on the assumption that nature for maybe thousands of years has been enriching the basin—same as with sluice boxes, —when we shovel gravel in, only nature in her crude way has been eroding in the sides—this is in a place where the river was slow, a sidling basin—put the dredge in there ...

The material for building the dredge was taken on to the Colorado River over a trail which was constructed by blasting through the sand rock and it came down just above Bull Frog rapids to the upper edge of the bar.

Question: How much was there to this dredge, what did it consist of?
Answer: It consisted of the buckets—consisted of the hull, the buckets, the big centrifugal pump, five engines, three on the starboard, there on the port side, eighty-two tables for saving the gold, the amalgamator, the settling tank and the amalgamator, and the plates to run the amalgam over to gather the gold.

We had an ice plant on shore.

The ice plant was used for keeping the supplies from spoiling, and was necessary because it was hot down in that country, and without it you couldn't keep fresh meat.

All the equipment for the dredge and the ice plant was brought in overland with teams to a point about a mile below where the dredge was working, where it was loaded on a flat-bottom scow and pulled up the river to the dredge. A telephone line was installed between the two bars where they were working, and the place where they camped, or where the teams came in.

We had a heavy telegraph wire, and we had that anchored up the river, and a windlass on the scow; they would let that wind off and let the scow go down the river to the bar, then the men on each side

[15] The first DCC&PRR expedition was during the snow melt of 1889 and the flow was around 50,000 cfs—maybe higher. The second trip was in the winter of 1889/1890. The Best Expedition occurred in July of 1891and the rocks at Rapid #15 were exposed, indicating a flow of around 10,000 cfs. The flows did increase to around 20,000 cfs due to a flood.

[16] Actually went to Bright Angel Creek in the Grand Canyon were the Best Expedition disbanded.

[17] The dredge referred to here was a placer mining operation that was initiated by Stanton who received financial backing from various investors which included Julius Stone. The operation was called the Hoskaninni Company.

would windlass that up to the camp and unload it. We left most of the gasoline we were using on the lower bar, didn't take so much up; I left several thousand gallons of gasoline on the bank in a tank.

No difficulty was encountered with sand bars in taking the scow up and down the river in that place;

We couldn't have gone up the river any further, though.
The Special Master: Strike the latter part of that out.

Wagons couldn't get up the river from the landing to the dredge because in that place the river ran along a perpendicular bluff.

We had to use the scow and boat running up.
Still, at the same time, I have road horseback with a horse across the bar, right across the river, and rode up the bar time and again, and never got my feet wet. Took a horse on to the upper bar, rode it time and again, never got my feet wet.

Question: Was the dredge brought in altogether?
Answer: Oh, Lord no; it was built there, piece by piece; the heaviest thing was the engines, the two Fairbanks-Morse fifty-four horsepower, they were the two heaviest; then there was the sixteen, next, — or the thirty-two, then the sixteen, there was three on the starboard, two on the port side. the small one, the ten, was for running the dynamo.

No boilers were used; just the engines, which were pretty heavy. he does not know the weight of the heavy machinery in tons but it required eight or ten span of horses on the wagon sometimes to transport the machinery overland.

Question: When you would get a heavy piece of machinery like that to the river, how would you get it down from the highland down into the canyon?
Answer: They let it down where they came down from the highland. They didn't care about getting up it, on the trail that we built, but getting down, —they could always get down. We had iron shoes made that went under the wheels, under al of them; we cut a trench down in the sand rock formation down the road a foot or a foot and a half deep, and used those shoes on the wheels bringing the loads down, coming down.

But going up, with the empty wagon, we had a block and a cable anchored above; the horses couldn't go up there and pull the empty wagons up; they would hitch them on the cable down here and drive the horses down to the foot and pull the empty wagons up, then take the horses up and hitch on and go.

That is the way they got up and down; but they could get down with the loads by putting those shoes on; they put the shoes on both wheels; broad, rough, heavy iron across them, and a chain run up and fastened to hold the shoes under the wheels; they just dragged and cut into the sand rock.

That was an expensive proposition, getting in.

While the dredge was being constructed, fourteen of fifteen carpenters, or ship builders, were employed. After construction was complete, only the operating crew consisting of about eight men, stayed with the dredge.

During the construction and operation of the dredge there were no supplies brought in by way of the river so far as he knows.

Dredging operations continued for a period of eight or nine months, and then the outfit went into the hands of a receiver. he was there with his family all of that time.

The dredge was still on the river the last time he was there. It was anchored to shore with two steel cables running across the river up to the pilot house, so the dredge could be moved back and forth.

Question: The sand and gravel which you were working, from what part of the river did that come?
Answer: That came from different parts, the center of the river; we worked in and out; we worked across the river on a line backwards and forwards where we thought it would pay.
Question: What I want is, did you work the banks of the river and also the river bed?
Answer: Oh, no, not with the dredge.
Question: What did you work with it?
Answer: We worked just the river bed; we got aground with the dredge several times; we had a job getting off, as big as she was.

He has never been back in Glen Canyon as far as the dredge since he left but has been from Lees Ferry as far up as the mesa back of Warren Johnson's and along the mesa toward Escalante. At that time Escalante was a town of possibly fifteen hundred people.

During the time the dredge was working it was not necessary to dam the river, the dredge working in the river in its natural condition.

The dirt that was dug up was carried in buckets to the grizzly which turned all the time, and fine sand was taken by the elevators and carried to the tables, and then a heavy stream of water running would then carry the fine sand on to the tables, thus saving what gold and platinum it contained; the heavy part [of the rock] would run down out of the grizzly into the carrier, and was stacked behind the dredge with an apron or bucket, and was throw back into the river.

Question: What was the condition of the water around the dredge as to whether or not it was swift or slow water?
Answer: It was medium slow water there; wouldn't have been any use to hunt up a settling basin if it hadn't been.

The swift water carries the light gold down, when it comes to a broad place it sinks; that's the reason we were working in that stretch of the river.

During the time the dredge was in operation he saw no boats traveling on the river except those used in operations running back and forth from the bar. They used the Hite Post Office; the mail coming in there by teams from Hanksville.

Hite was down [actually up] the river from the dredge about four miles. He occasionally went down [up] to Hite and back, but he never went down there in a boat.

He never saw mail come in to Hite.

He was back in Glen Canyon four or five years after the dredge ceased operations for the purpose of placer mining. On that trip he went in on horseback with a pack outfit by way of Escalante and at another time about half way between the dredge and the San Juan River.

On the trip into Glen Canyon he stayed about three months, using what he terms a crevicing iron for the purpose of saving gold from cracks in the bedrock where the swift water had washed it during high water periods.

> We use a long iron called a crevicing iron. We pull that out, and maybe in an hour's time I got ten dollars' worth of gold, but it don't last; it might be two or three years before I could do that again.

This type of operation is called sniping.

That was the last time he was in there.

> **Question:** The three months you spent in there that time, did you see any travel on the river in boats?
> **Answer:** Yes, I saw an old fellow named Meskin, him and his dog; I saw him several times; he passed by the camp several times.

Meskin had a small, light, flat-bottomed boat that drew two or three inches of water; he did not carry many supplies, not much of anything. He was prospecting and mining along the river and stayed there for years. he saw the prospector take his boat up stream.

> **Question:** How did he take it up?
> **Answer:** Pull it along. He said he put on a bridle—the line was hitched from the bow here to a piece coming out here (indicating), rope hitched to the pins here; he pulled—it was only a small, light boat; fastened the line that he was pulling with, and regulated it so when he pulled on the 'bridle' the nose of the boat would run out here, he could walk along here, he didn't have anybody to steer, so he had to arrange some way of keeping the boat from pulling ashore all the time; that's the way he done it.
>
> He would be going up the river, he told me—he didn't care how long he was gone ...

The Special Master: That can go out.

Mr. Farnsworth: I don't object to it staying in.

He recognized picture No. 215 in Complainant's Exhibit No. 11-D. He believes it looks like the Hite operations, part of the dredge, or the leavings of the dredge, where it was wrecked, and it is placer ground there.

> **Question:** I am talking about this (indicating).
> **Mr. Farnsworth:** Indicating the structure there.
> **Answer:** No, I don't recognize that picture.
> **Cross Examination:**

At the time he was camped at North Wash he took his boat up the river at times above the rapids and ran some of the rapids for the sport of it.

The boat used was constructed at the mouth of North Wash from lumber obtained from Hanksville of Kaneville and which was hauled down to the mouth of north Wash overland with teams. The boat was constructed for the purpose of traveling back and forth across the river during high water.

> **Question:** What did you want the boat for?
> **Answer:** To cross the river; in high water we couldn't prospect both sides of the river; we couldn't ride horseback when the river was high.

The rapids in Cataract Canyon [Narrow Canyon] which he ran for the fun of it were possibly four miles above his camp at the mouth of North Wash. The boat was towed up most of the way; there was a little stretch between the mouth of the Dirty Devil and the camp, about half a mile, which was poled,

> ...and then it was swift, there was a rapid there, and a bar out in the river, and the water split around it, where we put in sluice boxes several times.

> **Question:** You took it up to one of the rapids at the end of Cataract Canyon [Narrow] and you shot the rapid alone with that boat?
> **Answer:** I shot two or three of them there close by, small ones.
> **Question:** Then you all rode down in your boat, did you, after you got through shooting the rapids?
> **Answer:** No, couldn't all ride down, when we come to a bar along there, where them sandbars was, too many in; but we could between them.
>
> We would cross them over the river and they could prospect the bars and pan it on the other side.

On the second Stanton Expedition the party left the river at the second big canyon below Bright Angel, which is below the Little Colorado. He remembers a place just below Lees Ferry where the first expedition stopped.[18]

[18] McDonald left the party at Crystal Creek; not the entire expedition. The first expedition abandoned the trip at South Canyon.

During the second expedition he saw sections of the survey lines run by Stanton during his first expedition down the river below Lees Ferry.

Soap Creek rapids mentioned by Mr. Nims is about forty-six miles below Lees Ferry. The first Stanton expedition did not stop at Soap Creek rapids but at what was known as Saddle or Fence Canyon, approximately forty to forty-five miles below Lees Ferry.[19]

When the dredge was being operated in Glen Canyon there was no upper or lower camp, or two camps,

> ...but the teams come into the lower bar, on account of the point of rock and every thing, and we had to camp on the upper bar; we had a little telephone line between the two places, and they would telephone up that a team was in, and had a load.

The bar in which the dredge was located is known as Good Hope Bar. This bar is located about a mile above the lower bar. The scow was taken down to the lower bar and then towed back up.

> We didn't carry anything down unless something was going out.

They would carry whatever load of supplies came in. The scow was operated for the purpose of bringing supplies that had come in from the upper bar to the camp, and they would haul it a distance of about a mile.

Gold that was saved during dredging operations was shipped out to New York in the form of amalgam but he had nothing to do with the clean-ups and the shipping of gold. The gold went out without being separated from the quicksilver. he was no knowledge of how much gold was taken out in the nine months. When taking the gold out those who left the canyon made their exit from the canyon at the place where supplies were taken in; that is the only place they could get out. Those going out did not always take the scow down unless somebody was loaded with something,

> ...you see, they would take one of the smaller boats; we had two other smaller boats there.

They would go down either in the scow or the smaller boats. They had to go down there to get to their horses.

He has been on the Green River between Green River, Utah, and the mouth of the river three times, two times with these expeditions [one time] and once with Old Rocky.

The trip made with Old Rocky was for trapping and hunting, and was before the Best Expedition. It started at the old ferry above the present location of the bridge and ended a little below the Wheeler Ranch, about sixteen miles below Green River city. The boat used on this trip belonged to Old Rocky.

He left the boat at the Wheeler Ranch and went back by way of Court House Rock or Spring, which is about twelve miles from Green River, to Thompson Springs, Utah. This trip was two of three years before the first Stanton expedition, and the only other two times he was ever on the Green River was between Green River, Utah, and the mouth of the Green River on the two occasions referred to on his direct examination.

> **Question:** You said, Mr. McDonald, that in going down the Green River on those two trips you encounters some bars?
> **Answer:** Yes.
> Question: You also spoke about changing channels on the Green River.
> **Answer:** yes.
> **Question:** That the Green River was rather an exceptional stream.
> **Answer:** Yes, it is, in that respect; there is few other rivers like it.
> **Question:** So that because of the bars and the changing channel you had more trouble with your boat on those trips going down over the Green River than you had, for instance, between the stretch of water below Cataract Canyon and Lees Ferry?
> **Answer:** No, you didn't have more trouble.
> **Question:** What would you say, was it about the same.
> **Answer:** About the same.
> **Question:** And from your observation of those river, the Green and the Colorado, you would say that the troubles and impediments and obstacles to travel up or down it on boats are about the same on that part of the Green River between Green River, Utah, and the mouth of the Green River, as it is on that part of the Colorado River lying between Cataract Canyon and Lees Ferry—about the same?
> **Answer:** Yes.
> **Redirect Examination by Mr. Blackmar:**
> **Question:** Who was this man you call Old Rocky?
> **Answer:** Old Rocky was an old trapper and hunter. I would have stayed with him longer, but he was a little too tough for me. By gosh, he was the dirtiest man I ever saw. There was water enough in the river to bathe in, but he wouldn't bathe.
> **Question:** You left Old Rocky there?
> **Answer:** They know him well there along Green River, but he is dead, quite a number of years.
> **Question:** You left him there at Wheelers?
> **Answer:** I left him bellow Wheelers a ways. He would get his furs, go up there and trade them off at the ferry. He would start up there, by gracious, with tobacco and a jug of whiskey and not a bite of anything else to eat, and go down there to be gone for months; just live on what he could kill and catch; it's a fact.
> **Further Examination by The Special Master:**
> **Question:** Mr. McDonald, in answer to Mr. Blackmar and to Mr. Farnsworth as to the difficulties that you encountered on the Colorado River, have you named all the kinds of difficulties that you encountered?

[19] Actually speaking about their exit at South Canyon, Mile 31.5.

I don't mean have you named each special bar and each special rock, but were there any other kind of difficulties that you encountered in going down the river?

Answer: Just the rocks and the bars and the low water. The trouble of it is, the lowness of the water and the shifting of the sand.

He did not have any memory of difficulty with sand waves except on the Green River, he thinks somewhere near the mouth of the San Rafael but he does not remember whether it was above or below.

Question: Do you know what a sand wave is?

Answer: Yes, I think that is them waves in the bar, sand moving.

He did not use maps on either of the Stanton expeditions or the Best expedition. Mr. Stanton had government maps with him in the boat but he did not know what maps they were. He never kept any notes of any kind for himself on any of these expeditions, Mr. Stanton and the engineers did,

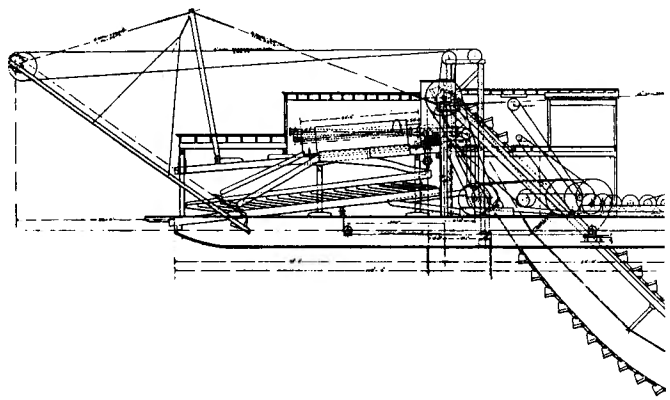
...and Mr. Brown, when he was living, on the first trip, did; and Hislop and I guess some of the other men.

End of McDonald testimony. Frederick S. Dellenbaugh was then re-called for the Complainant to look over some old photographs of the Powell Expedition of 1871.

More on Harry McDonald

Gleanings From the Marston Collection

Harry McDonald was 12 years old when he ran away from home in Providence, Rhode Island, and went West. He went back when he was 16. His stepfather chastised him and he left again. McDonald carried a bullet in his back and that he was shot with an arrow by Indians. McDonald cauterized the wound by himself with his hunting knife. He was roughly 94 years of age when he died.



The facsimile of the original plan of the Hoskaninni Company dredge. Courtesy University of Utah.

⇒ If you have seen the inscription in Cataract Canyon at Rapid #15 that says, "BOAT No. 1 DOWN—HELL TO PAY", apparently McDonald is the one who carved it.

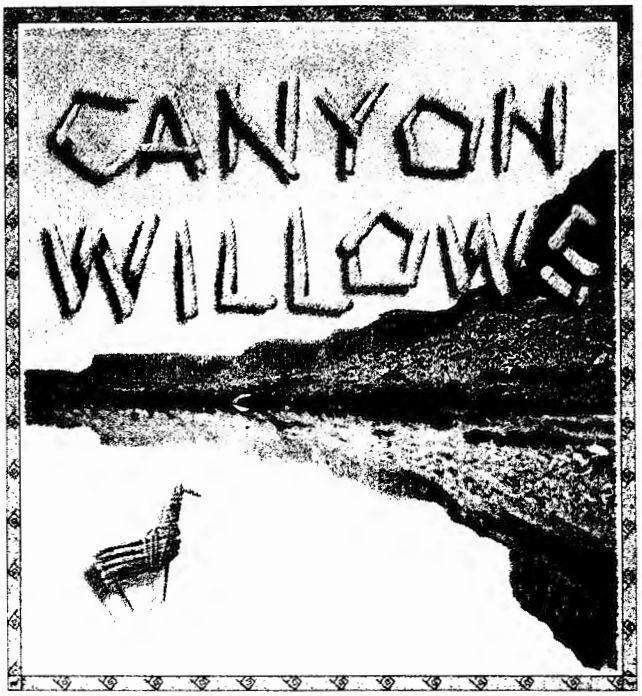
⇒ Otis Marston interviewed Harry McDonald's daughter, Mrs. Nels Rosene, In May 1949: "Where Boat #1 sunk, my father swam out and took pulleys to raise boat as it had water-tight compartments with some provisions. Best Expedition spent 14 days and nights where picture was taken." [One week according to the diary of William H. Edwards.]

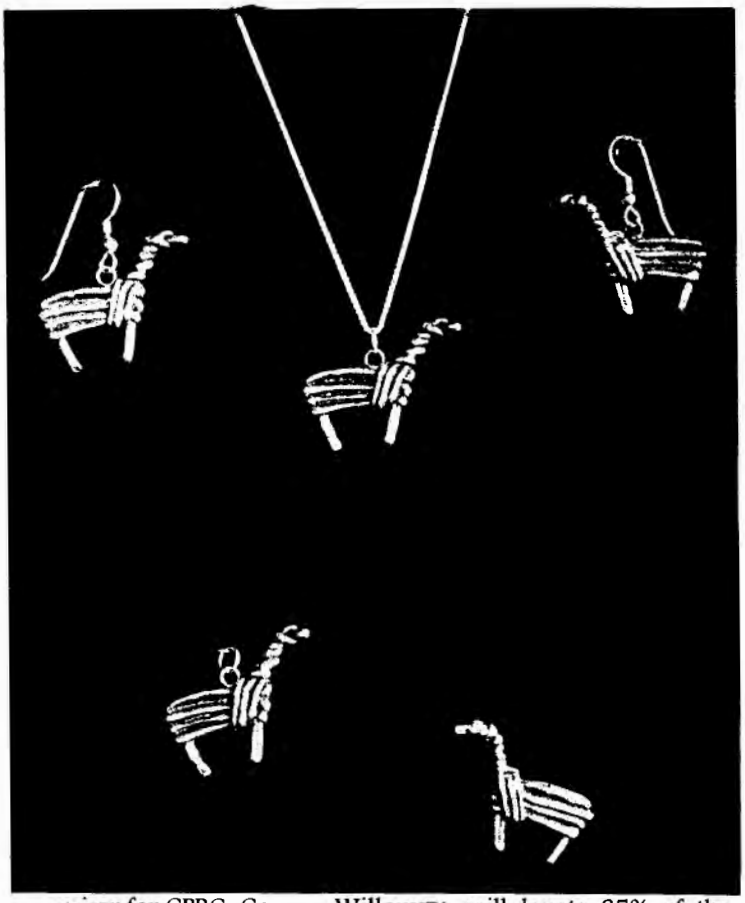
⇒ A letter written by Harry McDonald's daughter to Otis Marston: "Dad, too, kept a diary and the diary disappeared and Dad accused Nims of taking it. He threatened to sue Nims, if it were ever published. Some years later a story appeared in a publication under the name of 'Christmas Dinner at Buckskin Mack's'. The author's name was Knarf Smin (Frank Nims spelled backward). The publication was either the Leslie's or Harper's Magazine or, as one of my brothers thinks, the Railroad Man's Magazine. We are not sure. I can remember my father's anger when he read this story—we had a copy for a long time, but I don't know what became of it."

⇒ Marston is asking the USGS for data regard a McDonald Creek. He wants to know if it was named for Harry McDonald. McDonald built his cabin right around that place in 1887 and it looks to be about 2 1/2 miles from the Utah-Colorado state line. [It is named for McDonald]

⇒ A letter from Mcdonald's grandson, Bill, to Otis Marston: "I have reviewed my records for H. M. McDonald's birth date and have come up with the following:

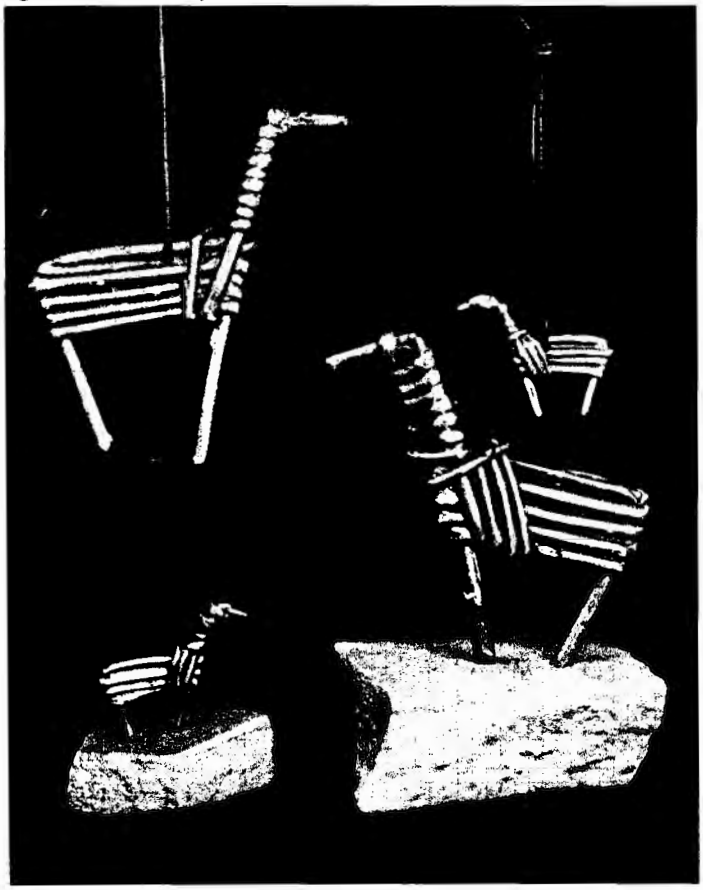
- Lafe Robinson (H. McDonald's brother-in-law) told me, in 1943, that McDonald was 40 years old when he married on January 10, 1892. This would indicate his birth year as 1852.
- On September 27, 1929, during the River Bed Case, McDonald testified under oath that his age was 77 years, 8 months, and some days. This would indicate his birth year as 1852.
- On December 20, 1933, in a declaration for survivors' pension (Indian Wars), McDonald's birth date was given as January 14, 1849. This declaration was filled out by McDonald's family and signed by him.
- In a newspaper article recording the death of Harry McDonald on February 26, 1937, his age was given as 94, with an indicated birth year of 1843.
- In a Rocky Mountain News article of July 6, 1891, the reporter said McDonald was 46 years old and his indicated birth year is 1845.
- "I tend to go with the second reference, since this was given under oath. The first reference also agrees closely with date. The day on which the family celebrated my grandfather's birthday was January 14th."





Canyon Willows™ is the family owned and operated business of Todd and Nadine Weber, who live in Prescott, Arizona. Todd and Nadine are career professionals in the making of fine jewerly and sculpture. Todd is also a river guide and a member of CPRG. Todd and Nadine have two sons, Seth (13) and Caelen (10), who too are very much involved in this family business of casting split willow figurines into pewter, sterling and gold.

The Webers are offering these replicas of split-twig figurines made by the Desert Archaic Culture as a fund-raiser for CPRG. Canyon Willows™ will donate 25% of the total sale price for any purchase made through the auspices of The Confluence. These funds will be used by CPRG to make computer upgrades and to initiate more guide training programs in various Plateau localities.



Price List

Description	Order #	Price
Decorator Pieces - Cast Pewter		
Lg. figure on stone base (5x5)	LW-B	$24.00
Sm. figure on stone base *	SW-B	$10.00
Lg. hanging figure (4x4)	LH-W	$16.00
Sm. hanging figure* (ornament)	SH-W	$10.00
Jewerly - Cast Pewter		
Pendant on leather cord*	W-P	$10.00
Bar Pin*	W-PN	$10.00
Tack Pin**	W-SPN	$ 9.00
Earrings**	W-E	$15.00
Jewerly - Cast Sterling		
Pendant w/chain**	STW-P	$28.00
Charm**	STW-CH	$24.00
Tack Pin**	STW-PN	$26.00
Earrings**	STW-E	$42.00
Jewerly - Cast 14k Gold		
Pendant w/chain**	GW-P	$300.00
Charm**	GW-CH	$250.00
Tack Pin**	GW-PN	$260.00
Earrings**	GW-E	$525.00

*1½ x 1¾ in.
**1 x 1¼ in.

Canyon Willows; HC 30 Box 990; Prescott, AZ, 86301;
(520) 445-2639; Fax: (520) 776-1821
(See order form on page 24; reverse side.)

Membership Form — Colorado Plateau River Guides

☐ Check here if you are renewing. See expiration date of mailing label this issue. Ex: 0997 = Sept. 1997.
☐ Check here if you are a new member.

Membership dues:
☐ $20 per year
☐ $100 for six years
☐ $195 for life
☐ $295 benefactor

Membership status:
☐ Guide Member (Have worked in the river industry of the Co. Plat.)
☐ General Member (Must love the Colorado Plateau.)

Name/Organization: _____

Address: _____

City: _____ State: _____ Zip: _____ Phone: _____

Comments and suggestions:

Please return this form with a check or money order for your dues. 32 cent postage stamp is also required. Thank you!

✂ - - -

The Memorial at Cisco



By Louise Sherrill and Michele Reaume

Through the generosity of Louise Sherrill the following story and photographs describe the individual whose memorial most river runners only get a glimpse of near the Cisco take-out on the Colorado River below Westwater Canyon.

Charles Ray Sherrill, known as "C. R.", was born January 11, 1943, in Knifley, Kentucky, to Ferman P. Sherrill and Ora Mae Sherrill. He had two brothers and two sisters: Ferman P., Jr., Larry Dean, Paula, and Suzanne. C. R. grew up on a farm. He attended grade school in Knifley, Kentucky, and graduated from the eighth grade there. He then attended Adair County High School where he graduated June 2, 1960, with honors. He enlisted in the army on June 3, 1960. His assignment was in the secret service of Korea or Vietnam. All he ever said, of that work, was told in an office behind four locked doors. He received the Good Conduct, Sharpshooter, and Driver and Mechanic awards. On June 5, 1963, C. R. was honorably discharged and arrived in Utah directly thereafter. C. R. was named after his uncle Ray of Green River, Utah. As a boy C. R. always wanted to visit his uncle Ray in Utah. C. R. lived with his uncle and aunt Louise for three years and became the brother, his cousin Arden, never had and always wanted; Arden had three sisters.

On September 17, 1966, C. R. married Phoebe Martinez in Las Vegas, Nevada. They honeymooned in Kentucky and soon returned to live in Green River. He did leave Green River once to live in Orlando, Florida. After one week uncle Ray answered the phone at his establishment, Ray's Tavern, and heard C. R. ask, "Can I have my old job back?" Uncle Ray offered to send money to get C. R. back but C. R. exclaimed he would get back on his own. He said he wouldn't trade ten acres of Green River for the entire state of Florida.

Here's a story about C. R. and frogs; C. R. loved frogs. On the way back from their Kentucky honeymoon, C. R. and Phoebe stopped at various motels. C. R. had five frogs that he caught in Kentucky which were placed in the motel bathtubs to keep them hydrated. Back in Green River he and Lee Smith let the frogs go in a nearby reservoir to populate. The frogs didn't survive the first winter. In fact, the day before C. R. died, he caught a frog and brought it home to live with him and Phoebe.

C. R. was an outdoorsman; he enjoyed hunting and fishing. One time he and Pat Gahaghan caught an eight pound catfish and put it in Pat's swimming pool. The fish was fed a pound of liver, hamburger, and different meats every day until it weighed 10 pounds. Pat and C.R. grew fond of the fish and couldn't eat it, so they let it go in the river. C. R. bragged that he turned loose a catfish larger than most people would ever catch.

C. R. was a small man, measuring as a giant by the number of friends he had. He was an entertainer; the bigger the crowd the better he liked it. He was an officer of the Gun Club receiving trophies for his shooting skills. His religion was to be honest and to help the needy. He once cleaned and mopped the house of a buddy who was ill.

The Westwater Tragedy

It was the last day of hunting season. Cousin Arden had to work at the tavern, or he too would have been hunting that day on the Colorado River with C. R., Franklin L. Greenhalgh (called La Marr), Bob Hubbs, and Rex Christensen. Lee Smith and C. R. bought the raft. Pictured on the following page is the raft they used previously for hunting on the Green River from Rattlesnake Canyon to the town of Green River. This is the same raft these men used in Westwater Canyon. In Skull Rapid there was an upset. By this time there were four men and two deer carcasses in the raft. Rex managed to grab hold of a rock and after an ordeal of 12 hours walked out for help. No one answered his plea for help so he continued on to Green River. Ray and Arden responded immediately to the tragedy, but to no avail.

Search and Rescue located a cook trailer and established a base camp near where C. R.'s memorial is now placed. There was a net strung across the river at this point too. The two deer were snagged during this search. Sherrill's jacket was found on November 19, 1970, and then his hat and hunting license were found thereafter. La Marr's body (34) was found May 29, 1971, 52 miles below the site of the tragedy. Hubb's body (43) was found June 19, 1971, 2 ½ miles upstream of Dewey Bridge. One year passed and still no trace of C. R.'s body. The family held a memorial service near the Cisco take-out one year later. Perry Olsen owned the property at the time. Phoebe was Catholic and so a Catholic priest presided over the day. Richard Bedier and Jake Bastion donated the memorial rock, which was called Geyser Rock because it came from a quarry near Crystal Geyser downstream of Green River. Malcolm B. "Moki Mac" Ellingson donated the plague. He had one left over after using the other for Bert Loper's memorial in Marble Canyon. It was the donation of this plague that fueled the idea of the memorial.

Robert Crawford and Coombs Hall were doing road work near Dewey Bridge for the Lowdermilk Construction Company on February 28, 1972, when they discovered a skeleton in a driftwood pile seven miles upstream of Dewey Bridge, where Sagers Wash enters into the Colorado River. It was identified as C. R.'s by dental records and by an army belt buckle with a hunting knife that was still attached to the skeleton. C. R. was 28-years old at the time of his death. His remains were shipped for burial to his hometown of Knifley, Kentucky, and interred at the Dunbar Hill Cemetery, March 7, 1972. Phoebe now lives in Denver, Colorado. C. R. and Phoebe had no children.

Rex Christensen, the survivor, lives in Delta, Utah. Arden moved to Wyoming, but moved back to Green River in 1995 to be near his mother, Louise Sherrill. Arden's wife died last year (1996). Louise Sherrill met Ray in Castledale, Utah. She is a Utah native. Ray came out from Kentucky to work a CCC camp in Castledale. Together they moved to Green River in 1945. As of today, April 1997, Louise has lived in Green River for 52 years. Ray retired and sold Ray's Tavern to Bob Scott, who in turn sold it to Kathy Gardner. Ray died on April 27, 1988.



C. R. Sherrill during a hunting trip in Desolation Canyon. Probably at the Seamounton homestead at Rock Creek.



C. R.'s wife Phoebe during the ceremony at Cisco.



Rex Christensen, the sole survivor of the Westwater Canyon tragedy, and C. R. during a Gray Canyon hunting trip one week before the accident. The boat is probably a WW II seven-man inflatable.



Uncle Ray and Aunt Louise Sherrill.



Wives of the deceased: Phoebe, Violete Grunhalgh and Verna Jean Hubbs.



The fisherman, C. R., in front of Ray's Tavern in Green River.



T. Bradford, L. Smith, C. R., Rabon and Jim Hurst's plane.



C. R. and friends with the catfish.

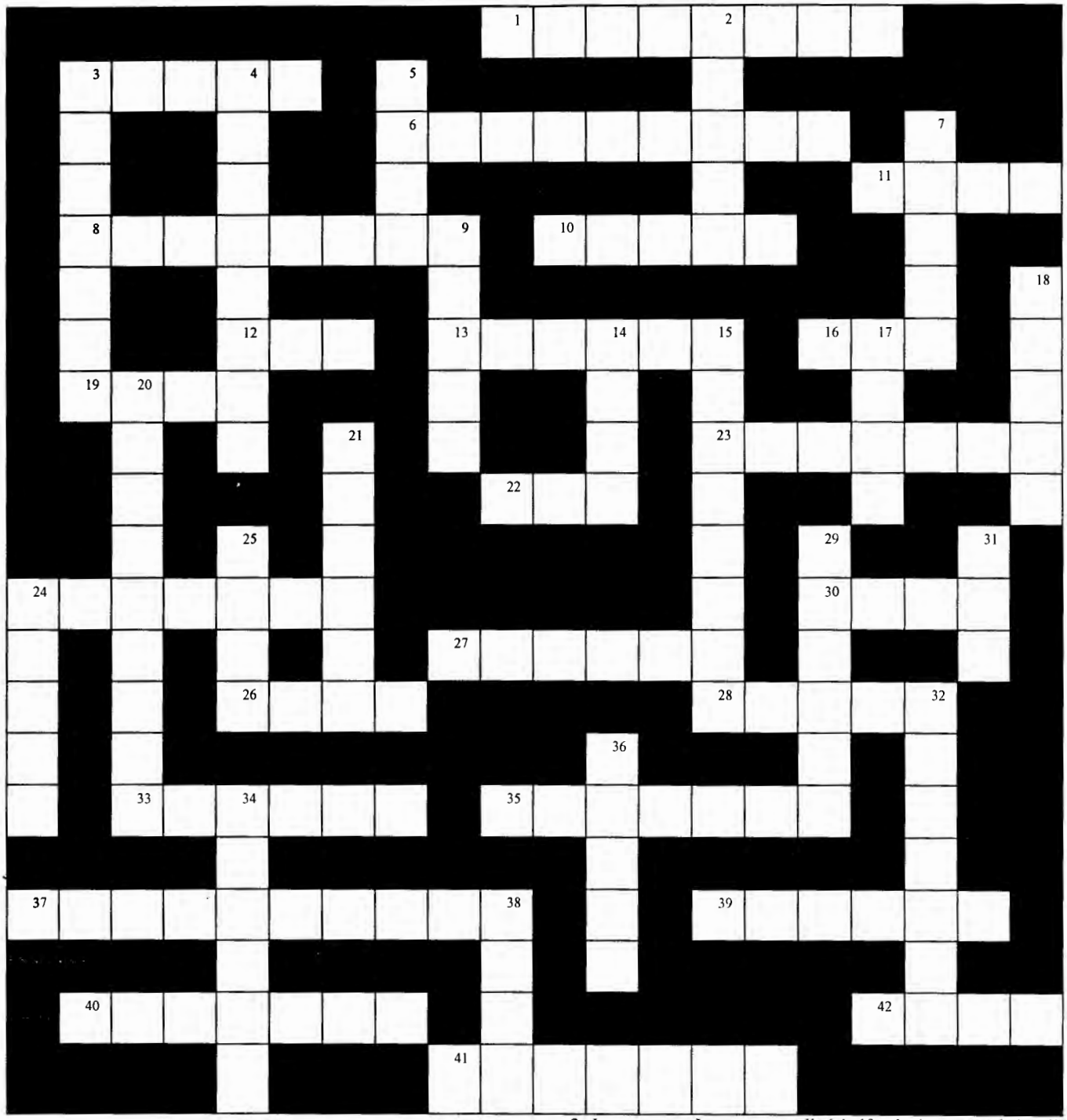


Military salute at the memorial site.

PHOTOS COURTESY OF LOUISE SHERRILL

Cross Word Puzzle

Theme: Beyond the Hundredth Meridian: John Wesley Powell and the Second Opening of the West by Wallace Stegner.



Across

1. Last name of the Illinois senator who endorsed Powell to acquire a congressional appropriation for his 1869 river exploration; the appropriation was declined. Powell named a lava capped mountain on the Arizona Strip north of the Grand Canyon in his honor.

3. Last name. James was pulled half-naked and much bewildered from a cottonwood raft by Mormon settlers in Callville, Nevada, in 1867.

6. Powell's father Joseph, who was born in England, was a traveling circuit overseer of this Christian denomination.

8. Last name. George was Powell's childhood mentor and gave him his first instructions in "natural philosophy."

10. Last name. Joseph was a zoologist and became one of the most distinguished paleontologists in America. A peak in the Uinta Mountains is named after him. He was appointed librarian and curator at the Philadelphia Academy of Natural Sciences in 1846.
11. Name of a mountain range in Colorado where Powell conducted part of his field trips with students in 1867. John C. Sumner had a trading post in this range at Hot Sulfur Springs. It was Powell's original name for the Rocky Mountain physiographic province.
12. A geological time frame that is longer than an era. We live in the Phanerozoic____.
13. Last name. William was the first territorial governor of Colorado and became Stegner's antithesis of Powell's character. He believed "rain will follow the plow" contrary to the report given by Lt. Stephen Long who called the land west of the 100th meridian "The Great American Desert."
16. A moment of humor amongst hungry men. In 1869 Powell used a sextant at the confluence of the Green and Grand rivers. Billy Hawkins then picked up the sextant to find the latitude and longitude of the nearest ____.
19. A town. Powell and Jacob Hamblin had talks with the leaders of the Hopi towns in 1870. This town has connections with the Tanoan people of New Mexico.
22. Name of a Native American culture that Powell classified in his ethnology reports as the Numa, or the Numic. A western state is named after this culture.
23. Last name. George has a peak named after him in Nevada, which is now in Great Basin National Park. Leader of *Geographical Surveys West of the 100th Meridian.* Towed boats up the Colorado River from Fort Mojave to Diamond Creek in 1871.
24. Last name. Powell stole a willing Grove K. away from the Wheeler Survey. Grove is considered to be the grand sage of American geology. He wrote monographs describing the Basin and Range, Lake Bonneville, and the Henry Mountains. A peak in the Uinta Mountains is named after him. He declined Powell's invitation to succeed him as director of USGS.
26. Last name. Clarence was the leader of the *U. S. Geographical Survey of the Fortieth Parallel* and wrote a brilliant monograph called Systematic Geology. The first director of the USGS. Married a beautiful Black American woman. Unfortunately went into a mental dementia. Has a peak named after him in the Uinta Mountains which is the highest peak in Utah at 13,528 feet.
27. First name. Powell's brother who went on the first river expedition and affected the morale of the participants due to his deteriorating sanity caused by time spent in a Confederate prisoner-of-war camp during the Civil War.
28. Last name. Leader of the Latter Day Saints during the Powell Survey. Powell was very impressed with the irrigation methods of the Mormon communities in the arid West.
30. Last name. Edward was a vertebrate paleontologist who described fossils collected by Ferdinand Hayden. A peak in the Uinta Mountains is named after him. He held a fierce resentment for Marsh, another paleontologist.
33. Last name. Samuel F. was the distinguished geologist of the King Survey. He eulogized that Powell was the father of geomorphology. Has a peak named after him in the Uinta Mountains which he wrote about extensively.
35. Last name. Alexander was born in Switzerland and was a marine biologist. He was the curator of the Peabody Museum at Harvard University from 1874 to 1885. He has a peak named after him in the Uinta Mountains and at the San Francisco Peaks.
37. An adjective. A geologic term that was described by Powell concerning how a river can cut a gorge through a relief structure (anticline or monocline) as they elevate. That the river forms first and the relief structure forms second. Superposition is another theory of Powell's that describes the relief structure as forming first, is later buried by sediments, and then a river cuts into it from above.
39. Last name. He was a physician in the Civil War. Leader of the *U. S. Geological and Geographic Survey of the Territories* which did surveys in the La Sal and Abajo Mountains; Albert Peale was one of his geologists. His photographer was William H. Jackson. A peak in the Uinta Mountains is named after him. The Indians called him "The man who picks up rocks running."
40. Last name. This officer of the U. S. Army Corps of Topographical Engineers has his name attached to so many geographical places in the West that it is almost ridiculous. He was a Californian senator, ran for president in 1856, a general in the civil war, and a territorial governor of Arizona. A river that passes through Capitol Reef National Park is named after him.
41. Last name. A civil engineer who completed a reconnaissance of the Colorado River after Powell in 1889 and 1890. He berated Powell for publishing exaggerations concerning the 1869 river expedition in a book that was published posthumously by Julius Stone and called Colorado River Controversies.
42. Powell's only child, Mary Dean, was born in this state.

Down

2. A last name. Spencer was a vertebrate zoologist and in his time was the leading authority on North American birds and mammals. In 1878 he became the secretary of the Smithsonian Institute. He establish the U. S. Commission on Fish and Fisheries in 1871.
3. A last name. Charles was a paleontologist who became the director of the U. S. Geological Survey after Powell until 1907 when he became the secretary of the Smithsonian Institute until he died in 1927. He used Hindu mythology in naming the metamorphic and granitic complexes in the Grand Canyon. Famous for describing the Cambrian fossils of the Burgess Shale at Yoho National Park in Canada.
4. A place name. A valley in the western Grand Canyon that was named by Almon Thompson and overlooks Lava Falls and Vulcan's Throne. Also a limestone formation in the Grand Canyon that is Permian in age. (The valley was made famous by landscapes composed by artist/geologist William Henry Holmes which appear in Dutton's classic monograph Tertiary History of the Grand Canyon District. Stegner included these landscapes in Beyond the 100th Meridian. Gilbert named a peak in the Henry Mts. after Holmes.)
5. The first name of Powell's wife. Climbed Pike and Lincoln peaks with her husband and students in 1867.
7. Last name of either two brothers Arnold or James. Geologists who worked for King during the survey of the 40th parallel and became part of the USGS staff under Powell. James was also a mining engineer.
9. A last name. W. J. was one of Powell's best buddies and succeeded Powell as director of the Bureau of Ethnology after Powell's death in 1902. Powell had a bet with W. J. that his brain was bigger and heavier than his; which it was.
14. Last name. Zebulon was a U.S. army officer who did a reconnaissance of the Arkansas and Red rivers in Colorado in 1806. He was actually spying on the Spanish; apprehended and later released. A mountain of the Front Range is named after him which Powell climbed in 1867.
15. Last name. John was a medical doctor and the first geologist to enter Grand Canyon and Canyonlands national parks while working with the U. S. Army Corps of Topographical Engineers in the late

1850s; a decade before Powell. A butte in the Needles District of Canyonlands National Park is named after him. He was the first to describe laccolithic mountains while near the Abajo Mountains. He was a charter member of the National Academy of Sciences and president of the American Advancement of Science.

17. Joseph was a lieutenant in the U. S. Army Corps of Topographical Engineers and commanded a steamer called the *Explorer* that chugged up the Colorado River from the mouth to about where the present site of Hoover Dam is. Did a reconnaissance of the Grand Canyon District and reached the river at the mouth of Diamond Creek in 1857.

18. Last name. Joseph was the first director of the Smithsonian Institute which loaned scientific equipment to Powell for the 1869 river expedition. Powell named some mountains after him and sent Gilbert to study them and made them world famous in his classic monograph.

20. Place name. The last river to be named in the 48 contiguous states and discovered by Almon Thompson of the Powell Survey while going cross-country to retrieve the boat *Canonita*—cached at the mouth of the Dirty Devil River.

21. Last name. Clarence was a captain in the U. S. Army and was a geologist who specialized in volcanic rocks and became the Chief of the Division of Volcanic Geology at the USGS in 1884. Stegner called him the "John Muir of the Colorado Plateau" and did his thesis on this man's literary skill. His much desired monograph Tertiary History of the Grand Canyon District is sold to collectors for up to $3000; he also wrote a monograph called High Plateaus of Utah.

24. Last name. The president of the U. S. when Powell did his surveys. Powell's chief commander during the Civil War. Gave Powell orders to acquire food provisions from any military post.

25. Last name. Fielding was Hayden's chief collaborator during his survey of the Territories and was a student of James Hall, the father of American paleontology. In his day he was a highly respected paleontologist.

29. Last name. Carl was the Secretary of the Interior when the USGS was established in 1879 during the administration of Rutherford B. Hayes and when Powell started as the director of the USGS. He was born in Germany and became a highly respected political reformer, a brigadier general in the Civil War, a senator from Missouri, and a journalist and editor for such magazines as *Harper's Weekly*.

31. The total number of men that left the Green River railroad station in Wyoming by boat on May 24, 1869.

32. Last name. Henry was the chief topographer for the Hayden survey and became the chief topographer of the USGS when it was first organized. Was on the first topographic survey of the La Sal and Abajo mountains in 1875, which had a serious incident with some Ute Indians that occurred between these two mountain ranges.

34. Last name. John was a captain in the U. S. Army Corps of Topographical Engineers and led the first scientific exploration into the area of the confluence with the Green and Grand (Colorado) rivers in 1859.

36. Last name. Othniel was a vertebrate paleontologist and in 1882 Powell placed him in charge of the department for the USGS which fired a fierce and bitter rivalry between him and E. Cope. A peak in the Uinta Mountains is named after him and his greatest discoveries where found in the Eocene deposits of the Uinta Basin.

38. Last name. William was a president of the U. S. and a chief justice of the Supreme Court. He was Attorney General when Congress passed the Sundry Civil Act that appropriated money for Powell and the USGS to begin an irrigation survey.

The Invention of Rubber Rafting

by Michele Reaume

"With a loud hurrah, through the foam we went."

From an entry written by Charles Preuss during the Fremont Expedition of 1842 when they shot the rapids of the North Platte River in a rubber boat.

Charles Goodyear patented the process of vulcanizing rubber in 1837 and other inventors soon used Goodyear's technology to provide consumers with various kinds of rubberized goods for outdoor applications. For example in 1837 John MacIntosh of New York invented a rubber boat that included leggings for amphibious-like use; you simply walked into a body of water, flailed around by kicking and walked out.

In 1840 Samuel White of England created a rubber hat that doubled as a buoyant life preserver. Also in 1840 Colonel John Foote Lane of Indiana patented (postmortem) lashable inflatable bridge pontoons. It was developed during his experience in the Seminole Wars of Florida and became the prototype for actual use in World War II; which in turn became the prototype for the bridge pontoons we use as whitewater boats today.

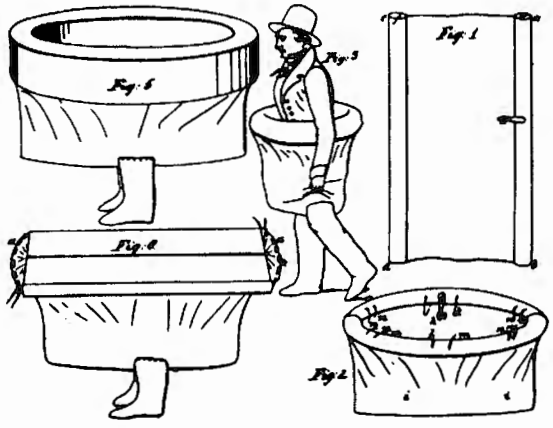
Colonel Henry W. Stanton also created ideas for applications of rubber in 1840 like a rubber raft that could ferry wagons across rivers. In 1853 the artist H. B. Mölhausen sketched the use of this rubber raft crossing the Colorado River near Fort Mojave during a railroad survey commanded by Lt. Amiel Whipple of the U.S. Army Corps of Topographical Engineers.

By 1851 Charles Goodyear won awards for his designs. He himself designed a self-inflating boat based on accordion-like folds, partitioned pontoons and sheets of whalebone board, which upon unfolding sprung open and sucked air into the chambers.

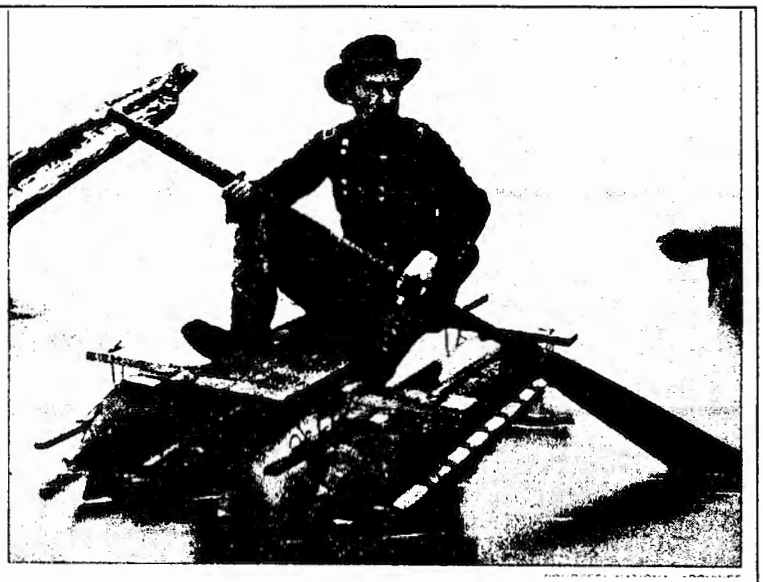
John Charles Frémont, also an officer for the U. S. Army Corps of Topographical Engineers, rafted in Wyoming on the North Platte and the Bear River in Utah on his expedition of 1842 and 1843 that included Kit Carson as a guide and 24 other participants. Frémont's father-in-law was the ambitious senator from Missouri who was eager to acquire the Oregon Territories for the United States; they were mutually controlled by Britain and the United States, as per treaty accords that resolved the War of 1812. In New York Frémont purchased from Horace H. Day a rubber raft for $150. It was displayed near the dining room of the Frémont household in Washington D.C. until a pregnant Mrs. Frémont became ill from sniffing the reeking odor of glue. It was promptly stored in the barn. Mr. Frémont described the raft as 5-feet wide and 20-feet long. The raft was first used to ford the Kansas River. On the return trip, after climbing Frémont Peak in the Wind River Range of Wyoming, seven members of the expedition avoided a 15 mile horseback ride by inflating the raft and negotiating the low water of the North Platte River from its confluence with the Sweetwater River.



Artist H. B. Möllhausen records the crossing of the Colorado River with a ferry boat comprised of three inflatable rubber cylinders during the Pacific Railroad Survey of 1853, Lt. Amiel Whipple in charge. Courtesy of National Archives.



John MacIntosh's rubber life boat patented November 11, 1837. Courtesy U. S. Patent Office.



General Haupt on a rubber raft used for reconnaissance purposes during the Civil War in 1864. Courtesy of the National Archives.

Robert Degles

An Oral History Of A Man Who Loved Rivers, Women, Guns And Roses

Put-in: February 18, 1946 — Take-out: May 1, 1997

By Michele Reaume



Listen Michele. This is really hard because the situation, you know, strikes the tone and all of a sudden you remember something. But talking about Kent, Kelly and Verle [Green] ... ah ... Verle ran ... sold SAN JUAN EXPEDITIONS out of Mexican Hat to Mitch [Williams; TAG-A-LONG EXPEDITIONS]. And that's how he [Verle] ended up here [Moab]. I think there was a divorce or something else involved. And I'm sure if he wants to tell you about it—he probably will. How he got here is a very interesting story. Anyway, he came up here and I was driving 37's [37-foot pontoon] for TAG-A-LONG and I taught him essentially how to drive a 37.

Verle or Kent?

Kent and Kelly at that time were still in High School. This was 1973—74? It had to be later than 74—75, because I started working for Tex [McClatchy] in 76. Anyway, sometimes one of the boys would ride with me, or we would all ride together on one boat, and I'd just sort of .... You know there's a thing to running a big boat. It's not like a J-rig [22 foot pontoon]; it ain't no sports car; there's a motion to it; you kinda get into it. And anybody who can run a boat can run a 37; if you just take the time and feel the motion; feel the wave of river pushin' ya; you don't beat the river in a big boat; it's like a row boat; you got to stay with it.

We were running a lot of trips that summer. We'd get off a three-day Westwater; we'd put in at the ranger station, drive a J-rig down, and end up at the boat dock in Moab, and pull up to a *fucking* 37; throw my stuff off the J-rig on to the 37 and go for a four-day trip down Cataract. And Verle was along on a lot of these. Ask Verle about running the right side of Skull [Rapid] rock at 400 [cfs] in a J-rig (laughs). Oh *fuck*, he had to unload all the people; all of the *shit* off the boat, and let the air out of the *fucking* boat to get it through the slot, because there wasn't any water in the crick; he got *fucked* up and got on the wrong side of the rock. We ran a lot of trips that summer through the canyon. There was a stretch there—I'll bet five or six, seven or eight trips in a row—where something would happen in the top of Big Drop II. Something would *fuck* up; one time it was a couple of times. I'd yell at those *fucking* kids about tying the bow line up right. Yeah ... uh-uh ... right! 37-feet of bow line gets stuck in your prop and you don't pull the motor; you're set up and the *fucking* thing goes *ploo*. You can't pull the motor because the bow line is tied in it. So you are hanging over the back of the boat; hanging over a 20 [20 h.p. MERCURY], you know, where it has the grip on the back—hanging over that—and locking your feet under the metal frame and slashing around with a knife between the rubber tubes; trying to get the rope cut so you could start the motor, so you didn't die in III [Big Drop III]. I don't remember anymore; my memory is already gone; you don't have to wait until 70. In the top of III? I'm pretty sure we was. Just setting up for that big hole on the right. In a 37 you can hit that *fucker* and it'll .... What a ride! It'll knock the *shit* out of everybody (laughs). And the *fucking* motor died just like a bow line [caught in the prop]. I think it was Kent ... no Kelly ... who was on my boat. I looked at him like: you *son-of-a-bitch*. And I pulled the motor and it pulled right up. It was a sock—a *fucking* sock that was that long [indicating]—it had to be four feet long. Somebody had a leg that went all the way up and made an *ass* of itself—you know. Essentially we free-floated the *fucker* sideways; through all the holes, and getting beat up and thrown around. It was a wonderful thing.

Ask Verle about Pabst Smears. Why don't you shut that off [tape recorder] for a minute and I'll tell you the story.

Verle was the only guy I knew who could tell a joke, you know, with a pretty severe speech impediment. He could tell a joke with the 20 running all the way and everybody would listen. Everybody heard every *fucking* word Verle ever said. It was neat. Running with Verle was always a *fucking* hoot.

What was her name? Betty. This was in the spring—I think. We were doing a four day trip down Cat. I think two boats ... maybe we were both working a 37 ... I don't remember. Betty, who was a *fucking prima donna* from .... She had to be six hundred years old. She used to be a ballet dancer and she was involved with the arts in New York City. She fancied herself quite a camper. You know ... back ... I was pretty outrageous in ... that's when my way was the right way or the *cocksuckers* walked out! But we were at the first nights camp. Set up the *groover*—I think we had a JENSEN back then—a blue goo machine ... mmm (laughs). It was the kind where you take and dig a hole on the beach and empty it, and it still left the green turds and the blue turds floating in a little pool that you threw sand over. But it was a wonderful thing (laughs). That was back when we were still learning and that was back when there was no one down there for one thing.

I think we had a JENSEN or what we called the blue goo machine. And I set it up and explained how it was working, and this woman said, "I refuse to use that." And it turned into a pretty heated discussion. And finally I told her she wasn't going to *shit* at all if she wasn't going to *shit* in that! And she said, " This is an affront to American camping." And I said, "No, it's an aback to it" (weak giggle and Bob mumbles as if working up for a big laugh).

Yeah. Then later on I was working for Tex—we did the gonzo trips. It was some flight club out of Denver—PORTS OF CALL. They'd come in ... in a [Boeing] 727... no ... they brought a jet prop, but the biggest thing they could land at Canyonlands [Airport]. We'd pick them up and do ... oh ... Brad [Hansen] knows real well about this one. We were sitting down—there was a 37, a 35, and six or eight J-rigs all in a line, you know—where that ramp is just up from Gold Bar. Yeah ... okay. We were all parked there waiting for the PORTS OF CALL, which is a hundred people. Brad—I don't know how much of this you need to edit out or what—had a 20 [20 millimeter ammo can], maybe two 20s full of rockets, and m80s and bottle rockets, and we had just filled up with gas. So we had gas all over everything and we were shooting bottle rockets at each other—seeing if we could blow up the boats. Something real casual—you know. There was Big Linda [Wittkopf], Mark [Wittkopf], Brian Eaglehorn and Dean Morris—I don't know. So Brad has the ultimate ammo—right? He's got a 20 mil open and we're shooting off these big rockets ... er ... he's shooting off these big rockets. I wouldn't have anything to do with it of course (laughs). In the process some sparks fell into the box—this *fucking* ammo is crammed full of *shit*. So some sparks fall into the box and all of a sudden ... didn't think anything about ... I don't know ... he didn't know about it ... nobody knew about it ... we were just sitting there *fucking* around shooting rockets off. All of a sudden there is smoke and *shit* is starting to go off in this *fucking* motor box! There's fifty gallons of gasoline here—now come on. So Brad goes ... ahhh ... and picks the *fucking* thing up and throws it into the river. About that time is when the bus shows up ... I think ... some things get a little confused ... but there was still explosives and *shit* going off underwater as the ammo box is going down river and the people coming down from the buses. We could have killed everybody there (laughs). It was pretty cool—we lucked out. Ask Brad about that one. He'll be glad not to remember it. He threw it out—it was a pretty heroic thing to do, you know—cause *shit* was happening and it was all bad (laughs). There were bottle rockets going off and all the boats were getting hit. They were landing in motor boxes and people were scurrying to throw *shit*, and put out fires, or put out things. So he picks this box full of explosives up and chucks it into the river, and they keep going off for quite a while (Bob makes explosion sounds.)

Those PORTS OF CALL trips—those people were really *fucking* cool. That's why I don't boat anymore. People aren't cool—people are *fucked*. People who come on trips anymore want to have their *asses* wiped. They don't want an adventure. They want a DISNEYLAND *mother fucker* ride. And that's not the way life is, you know, it just doesn't work that way. At least not in my life—you know. I'm not going to do it. But these guys, all of them, you know ... from, from, from ... I mean ... I've took trips with people who have just gotten off two months on a train from Leningrad to Peking. And this was back in 76, 77 and 78. They always had an armed guard with them—they weren't allowed to look at certain things. All of these people were adventurers. Every *fucking* one of them wanted to have a good time and they realized it wasn't always going to be comfortable. It was always going to be safe as we could make it, but they had to watch out for themselves. They were really neat to work with—every *God damn* one of them (clap)! Yes!

[About airline hostesses] Everything their reputations say they are?

Absolutely. Coffee, tea or me. It was wonderful. This is all really disjointed, but it is the only way I can remember it.

We were doing PORTS OF CALL. We were broken into two groups like: two big boats—one big boat [for] each group—and then however many ... usually four J-rigs. And I had the pilot with me on this trip and we're down at the ruins at Lathrop, and you go around and look at the ruin where the hand prints are and everything, and theres a cliff that drops off and a great big *God damn* boulder sitting in the middle of a slickrock bowl. We were starting there and working our way to the Kachinas on the other end—we were hiking up the slickrock bowl. Its not a climb at all—its just sort of a scramble. I was in front. I turned around and watched the pilot come up backwards, and lit on his *fucking* head on that rock in the middle of the bowl. He must have fallen five or ten feet, and sprung back ten feet. Well, he had a seizure for what ever reason. It was the last time he was a pilot. I'd never seen anything like it and have never seen anything like it since. But he had a seizure and it sounded like dropping a watermelon on a concrete slab. He hit without hands or anything else. So what options do we have? First of all, we are talking about a rock that is six or seven feet off the ground. How he lit there ... and didn't move ... and he sorta twitched, but he didn't convulse. I thought the *fucker* was dead. Got up there; took his vitals; got him on a backboard—he came to by then. We had a couple of doctors on the trip. The people of PORTS OF CALL are all well to do and all reasonably well educated and stuff. And we had a couple of doctors on this trip. We discussed the options: We could ... ah ... it was probably noon ... we could hike out and have someone down the next day—this was before LIFE FLIGHT. We could blast out of there; camp somewhere in the canyon and be out first thing in the morning. Talked with the doctors; the sooner we got him out the better; the guy was out of it; he didn't know his name; he didn't know what the *fuck* was going on—nothing. We got him stabilized on my 37; down to #5 or Brown Betty; that night he kept getting better. The doctors said he was fine: "Let's just continue the trip and watch him." And that's where I learned to fix scalp wounds by taking the hair and tying the wound together. Those doctors taught me that—its a good trick. Yeah! And it works too! And I had occasion to use that again and it works just fine—you know. Especially with a lady with longer hair or a guy—it works like a champ. And you aren't worried about infection for a couple three days. All you want to do is stop the bleeding and close the wound. It's dirty and they have to take it all apart and clean it all out, but it ain't your job.

PORTS OF CALL was really interesting. I bet there were more bones broken on those PORTS OF CALL trips out of any group of people I've ever run. For one thing, it was a hundred people at a time. We wouldn't camp together, but we would all go to Indian Creek together. Out of that hundred people someone would inevitably slip, fall, break a leg, twist an ankle, break an arm—on one of those hikes. That's just the way it was with a hundred people—your chances were a lot better.

PORTS OF CALL always happened about during the FRIENDSHIP CRUISE. I can remember three times, sending three people out of Indian Creek, through the three or four years that I ran PORTS OF CALL. And there were five trips back-to-back—sending five people out with the FRIENDSHIP CRUISE who had *fucked* up enough they didn't want to finish the trip.

Have you ever worked for Tex? Do you know anything about Tex? Have you ever been out to his place? Oh God do it! He essentially built the place by himself. He stripped the logs; cut the

logs; brought the logs off the mountain—built the *fucker*. It is the most incredibly intricate place I've ever been in. Millie [Tex's spouse] had a bathroom built a few years ago—you crawl into a ruin. And the place is huge with a caboose up top [on the roof]. She had a mason come in and build the ruin; you'd stoop over and everything was built of rock—it was living in a *fucking* rock. And then the living room had every thing you can imagine in it: wagons hanging from the ceiling. He has a red velvet couch made out of a porcelain bathtub. Oh God it's cool! Everything there is really, really, cool.

So you've heard a story why Tex and Mitch really hate each other? Tex was going to do the river—it is his river after all—he made it. Just ask him. And Mitch was going to do jeeps—he didn't have any reason or desire to *fuck* with the river. Then John [Williams] and Greg [Williams; not related to John] came along. And that's when they started mostly with *dailys* [commercial raft trip in Professor Valley]. That's when I went to work for TAG-A-LONG—72 I guess. And that was just getting started: John and Greg were developing, and that's essentially where the baby J-rig came from. It had been around, but they sophisticated it. 2 ½ tubes gave two extra people worth of carrying [capacity]. And we were testing motors: I must of broke so many *fucking* MERCURY motors down there. New carburetors would come along, but you ain't going to keep gas clean—it just ain't going to happen. It doesn't matter how many filters you put on it—it is just not going to happen. And they had such low tolerance on the carbureation, that a speck of sand in there and your carburetor would *fuck up,* and you'd float ... and you'd float II, III, sideways ... backwards ... you'd run completely backwards and have a perfect run.

I discovered TAG-A-LONG sitting in the POPLAR [Moab pub and eatery] one night. I had just gotten through with my one and only divorce—looking for something to do. I had MOAB CYCLE, which is where RIM [CYCLERY] is now, except it was twenty years earlier. I sold bikes, climbing gear, outdoor equipment, and that all went with the marriage. So I was basically looking for something to do. And John said, "Why don't you do a Cataract trip?" I was doing a lot of climbing, so I pretty much was able to get to where I wanted to get. And rock art people from all over the world. And I was a *nigger* on the boats and drove jeeps. *Christ*, what a whirlwind this was. Got out at Hite; got in jeeps and went to the great panels in Horseshoe [Canyon]. That's when you could still drive in the sand side and drive out the scary side. I drove there from Horseshoe Canyon; the second night at Peek-A-Boo [Needles District], or somewhere down there, and then spent two days wandering around, and looking at glyphs and ruins. That's how I got introduced to it and I liked it. I helped cook and I just really liked it ... the fun ... and I liked the women. It was a good time—it was really a good time.

I grew up in Salt Lake. I went off and played army [Vietnam] and came home and graduated—University of Utah in 1968. And started working on my Masters and went to work for a Human Resource Center. It was the *avant garde* of the 60s kind-of-thing—dealing with society's dregs. All the people who couldn't make it on welfare, or rehabilitation, or whatever. I was a psychologist and I designed a behavior modification program that we used in the school. I was working as a counselor and there were two sections: there were kids trying to finish their GED and women who were into secretarial skills. And then there was another section of: diesel mechanics, regular auto mechanics, and body and fender. Met some really cool people there—the dregs of society are really *fucking* smart. Two brothers had been in jail for twenty years ... sixteen years ... and they weren't very old when I met them ... thirty five. When they were sixteen they went down to Green River, Utah; put the sheriff in his own jail and robbed the whole town essentially, and they got drunk and got caught in Crescent Junction. It was winter time and I was going across this basketball court, to where a meeting was, and I slipped and broke my neck. It was like the second time. The first time, I was 18, working at a lumber yard before I went in to the army. That laid me up. Three, four months later, I was hauling [towing] somebody in [a car] and they ran into the back of the vehicle I was towing them with, and that laid me up again. I couldn't raise my arms above my shoulders. I was on PERCODANS and vacation for nearly a year.

[How Bob got to Moab] Frank Mendonca—one of my roommates in college. I came here and went to the Fiery Furnace [Arches National Park]. I felt better after spending a day in the Fiery Furnace than I had felt, literally, in years. I said, "*Fuck* it." I went back; quit the job; told them all to stuff it up their *fucking ass*. The woman I was married to, at the time, and I, came down and started the bicycle shop. And that's how I got down here.

I didn't need that particular hole to throw money down [Bob says of his llama tours]. What I am doing now? I've got 80 acres on the mountain [Castleton; La Sal Mts.] and I [will] have 3000 Christmas trees in the ground by fall, and I'm going to try and put 20 acres under cultivation this spring—I'll probably grow oat hay—something that's got a pretty good return. I'd like to grow *dope*, but that doesn't work anywhere—20 or 30 acres of *dope*. I'd only have to do it once—you know.

Use it for retirement?

That's right. I could retire to the state pen. No Problem (laughs).

I never pictured myself as a farmer, but I really like *fucking* around with the dirt. It's a neat feeling to watch something grow. Its a real *drag* to watch it die, which I do a lot—I can kill anything. I'll probably find someone in L.A., or take them to L.A. myself, to sell the Christmas trees. I figure $50-$100 for a good tree, and I have a 1000 trees for eight years that I can take down and sell. That's my theory, and if that doesn't work, I'll sell the property and retire with a million dollars. That's becoming valuable land out there and that's too bad, because it all ought to be left like the *fuck* it is.

Kent Green told me I should ask you about a BOATMAN RENDEZVOUS.

Ah yes. We welcome you to the RENDEZVOUS! Oh God, I don't know which parts to leave out.

He says, "There is a part about my Dad being naked, but my Dad won't admit to it, but Bob will tell you it is true."

I know a lot of things. This had to be 1976. We had been talking all year about putting on a RENDEZVOUS. We put on the night before from Potash. There was five half gallons of whiskey between Verle and I. There was no food—we didn't need no food. We had the four major food groups: whiskey, whiskey, whiskey, and whiskey. The women who came along had their four major food groups: wine, and wine, and wine and wine. The first night we decide to do a night float. The first night we drink till ... well ... one half gallon and part of another half of whiskey I'd drank, and the ladies help and drink wine.

And, of course, when you get drunk you *screw*—that's just what you do. So all over the boat, in every conceivable manner and fashion, we manage to do that—you know. It's just one of those things that happens (laughs). Finally we pass out about three o'clock in the morning. It's just about light and you know the disease I have:

I have to get up real early in the morning. Well, Verle had the same disease and we were up just before light, you know, that pre-dawn thing, and we are looking around wondering where the *fuck* we are. And we're looking around and figure we must just be in a channel that's just petered-out, and we'll have to drag the boat. We get out and pull the boat a half mile before it gets light enough to realize we have been pulling upstream (laughs). And this is ... October 15th was the RENDEZVOUS ... so this must have been the 14th. Well, we didn't have any coffee, so we started drinking again. The rest of the days, who knows, but we get to The Confluence that afternoon and ran into some other people who didn't know *shit* about the RENDEZVOUS. They were just private boaters trying to have a good time and ... well ... we made sure we ruined it for them (laughs). Oh *fuck* ... I remember now... I remember what I was told happened. We are going along and drinking a coffee cup of whiskey before each rapid, and Verle and I would take turns. Must have been Capsize [#15] ... who knows where it was ... but Verle is sitting on the old TAG-A-LONG food box telling a *fucking* joke, and that *son-of-a-bitch*, there's nobody who can tell a joke better in this world than Verle Green. So he's telling his joke and I'm laughing—ho, ho, ho—and I do a back flip right out of the *fucking* boat in the middle of the *God damn* rapid, and the motors cranked up all the way and the boat pulling away. I don't think I had a lifejacket on ... I'm pretty sure I didn't ... we were too drunk to figure out how to put them on.

Verle, when I first met him, he'd wear long pants and cowboy boots. And he had the toes cut out of the cowboy boots, so they'd drain. Yeah!

Somehow I get back on the boat ... I don't remember. We were down at Calf Canyon. That's where the party was going to be, and I remember I didn't run anymore rapids that day. I was on the front of the boat with a half gallon of whiskey—gargling and hanging on to the webbing—being very Bob-like. So Verle comes screaming in after Ben Hur [Been Hurt; #20]. I remember the results, because the next morning the boat was almost high and dry. I was on the front and don't remember anything until I was rolling into the fire at the camp with a bottle of whiskey.

Spontaneous combustion?

I didn't combust at all—I was too wet (laughs). When you bring a J-rig in like that, it brings in a lot of water with it, and it pretty much douched everybody on the beach. Apparently, I crawled around camp for a while dragging this bottle of whiskey until it was empty; then I got drug-out of my clothes; changed my clock; wound and woke up in the middle of all this. Steve Bathemas was saving lives, and screwing girls right and left. He and Thuey [Mark Thueson] were young pups at this point. They had been working for WORLD WIDE: Richard Jones up in Dinosaur [National Monument], running Mormon trips. They were still floating—not everybody drove their boat up on the beach like we did. The girl I brought was now in the process of *boffing* Stevie, because he had just saved her when she'd gotten between the boats to take a leak. Then the boats went like that [indicating]and she fell in, and the boats were closing in, and the boats were going to drown her *ass*. He literally saved her *ass*.

I crawled around for the rest of the evening with another half gallon of whiskey. The next morning, I got up and didn't make a big pot of coffee, and made a big coffee pot of peyote tea, and more whiskey and beer. You name it and it was there: it was a variable cornucopia of the 60s. Every possible *fucking* drug of the world. So the private boaters camped with us, and they were out of Washington—I guess. I *fucking* near drown this one *son-of-a-bitch*: he *pissed* me off so bad. They'd eat out of a can, and when they finished they'd fill it full of sand and throw it out in the river, which in reality is probably not a bad thing, but at the time I was more a purest than I was smart. They camped with us and left in the middle of the night, because it was too much for their sensibility. So they ended up running [Big Drop] I and camping at that little beach at the left at II. There was four of them on one boat, so it was possible, but not very much fun. And water was low, so they had an all right camp.

Who else was there? Everybody. [Bob] Dudek. It was wonderful. All your buddies. You always worked with one another, you know, always worked together—you relied on one another. Dudek was a commercial boatman. He never liked it very much. I think he ran for TAG-A-LONG. WESTERN was putting trips out, but you never talked to those guys. And HOLIDAY: I got some *fucking* horror stories about HOLIDAY. They were triple-rigging. The way you got hired was to have no brains and eat a live chicken every morning. They were out of Green River [Utah]. They were all meat and no brain. The sloppiest runs I ever saw in my life were made by triple-rigs down there. And the only ones to run triple-rigs were Dee. And his people were so concerned with posturing that they didn't take care of their people.

One day, Tom Rees and I were down there. HOLIDAY pancaked in II and floated that [way] through III. There were people in the water; hurt and bleeding, and everything else. We got them off to the side. They were slapping themselves on the back. Tom and I did basic first aid. We were getting ready to pull out and I saw this guy who was blue, on the back of the boat, not ten feet from where the guides were patting themselves on the back. Tom and I got back to shore, and took one guide by the ear lobe and told him how to take care of this blue guy.

Ask Verle about last day soufflés. On the last day we'd always have eggs, or whatever leftover, and we'd do a soufflé. We'd do this Dutch oven omelet. Everybody loved it and they all got the *shits* by the time we got done.

Early in TAG-A-LONG, John and I pulled into Dark Canyon. Before the water came up there were a few places where you had to turn sideways to get over it [the jumps]. [This] *fucking* dumb bastard dove into the water a lot and [I told him] don't do it—you'll get hurt. So we are up in those pools and you can see how shallow it is, and he dives into it and he is paralyzed. We tie him to a back board, and I learned you have to be good, because we had to turn him on his side and hand [him down the jumps]. There were four people on each side. There was no room for any people in the middle. It's scary *shit* sometimes. We didn't have any cam buckles back then—we used ropes and triangular bandages. We were still primitive in using ropes. I don't think we even carried duct tape. I don't know if the boating industry had discovered it yet.

[Of Big Linda (Linda Wittkopf)]. She always got a man. Before the Big Flood, and she's out playing with this guy, and she is at Indian Creek. He's losing it, and she's floating around, and all that is sticking up is her nipples, and you know how big her tits are, and she's floating around with this guy, and he is going ape *shit*. And everybody is watching. People were a lot different then.

Have you talked to anyone at MOKI MAC about the 80s? About 83? I think it was Bob Quist. This was right before they closed the canyon. It had to be at II on the big eddy—on the left. That was when everything was coming down the river. He was sitting there in his motor box, smoking a cigarette on the gas tank, and a railroad tie came up out of the bottom of that eddy, and took his motor and his transom off. It just cleaned the back of his boat off. And he was sitting, you know, not very far, a couple of feet at the very best. *Fuck*!

...ts did you run in 83 and 84?

I ran A-I [AVON SPIRIT]. I love that boat. That boat is *fucking* wonderful. It knows more about running rivers than I'll ever know. So when did we do that trip? We did that in 83. It was at 86,000 [cfs]. And there was still a lot of *shit* in the water. And that was the first year, and that's when you would vie for position with cottonwood trees going ... (Bob makes tearing and crashing sounds).

I really enjoyed running that trip with you—that's for sure[1984's high water]. I had stopped and scouted that so much and as we were headed down I asked, "Scout"? You signaled we were going downstream. I was going—bless you man!

I can read it better from the water. If you're going to *fuck* up, you're going to *fuck* up. You got a better chance if you're in the water than if you're trying to get in the water. The "Carp Run," that's 85—the 127,000. 85, that's the really big year. [Bob is confusing years: the peak in 1984 was 115,000 cfs, and in 1985 the peak was 68,000 cfs.]

83?

No! 83 was the least of the years [The peak in 1983 was 105,000 cfs], 'cause that was the first year of the flood. That is when everything got washed downstream. Then, after that, the next two years were 100,000. The next year runs 127,000—the last. The window in tow was just so *fucking* small, and closing in and opening up, and closing in. What a *fucking* rush.

Rowing up that slick?

And watching it crash. And it gets smaller, and that's when you really wanted to be there. That's the same rhythm you get in a really big boat. You got to get the pace of the river—you know. You try not to get there when the window closes off, or you are going to get beat up. I got through that and going down ... oh ... the tail waves ... I got ... oh ... I remember what happened. That was DESCENT [RIVER EXPEDITIONS]—when I had that company. Oh, it gets worse. I had a HAVASU, a self-bailer, and you know how high those *fuckers* are, and I couldn't stay in that boat, and I just got the *shit* knocked out of me in every rapid. Went through II; broke through the window on the down side; got in all that *shit* on the other side of the ledge hole, and I remember the boat going up on edge, then getting hit underneath by the inflatable floor and pitched, and on the way out I grabbed the throw bag. And it was the first time I ever had a throw bag on my boat. I looked up and all those people with eyes that big around [indicating] looking at me. I'm sitting in the tail waves of II, headed for III thinking: this is not where I want to be, this is not what I choose—this is a wrong choice. And I pull myself up with the throw bag back into the boat, and somehow I manage to get all the rope in the boat, and manage to have one of the best runs I've ever had in there (laughs)—'cause I didn't do anything. Yes it is! The water knows a lot more than you do.

So did Ken [DeVore] ever tell you about the "Carp Run"? This was a DESCENT trip. Ken was on a J-rig and I was running my AVON. He was parked down at the bottom of III. It was about 70 - 80,000, and I got *fucked* up in the tail waves again. Went right down the middle of III, and you know how *fucked* up that is at any water level, but at high water it just trashes and beats you up. My boat fills up with water, and you know when my boat fills up people are standing on the floor, and it is six feet deep. They're kinda floating around in their lifejackets in the front of my boat. Get through it. "Bail *God damn* it!" Everybody is bailing and I'm getting the *shit* knocked out of my legs, and I couldn't figure out why, thinking: God that hurts. Finally it got down to where they were out of water and able to bail—we're coming into III. Ken pulls out to catch me, but I think I was able to make it in, and I pull up along side and I had a carp in the rowing box about that long and this wide [indicating]. I picked it up and threw it at him. The "Carp Run." He was trying to get out. So they had to bail up over their heads to start with. I think that is the best boat. I run the round end forward, and the other end is squared-off and kicked-up, and I use it to ferry with.

And then there was the time for TAG-A-LONG, but I had broken my arm, and got thrown up against the frame and broke this radius [indicating]. I got the thing tied up. I had it *half-assed* splinted and I was running through III. I showed them my *fucking* arm was busted. I went and got it casted, and was back on the river the next day. Too stupid to know any better I guess.

There used to be a big log that used to sit at #5, at the camp on the right side before 83. There was that big rock down there, and a log that spanned over it, and you could throw a tarp over when it was raining. And every scorpion in the world wanted to hang out there. So, I was sleeping there one night and I got stung in the eye. Yeah! I felt something crawling around and I knocked it off, and it stung me after I had opened my eye. The next day, there was no one else in the canyon, and we weren't going to see anyone else in the canyon. The next day the whole side of my face felt like it had been hit by a baseball bat. My eye was as big around as the top of that coffee cup [indicating], swollen and yellow, and yellow, and yellow—pussey—bloody shit was running out of it. I had to run the canyon that day. And then by ... I kept ice on it ... and by the time I got down to Clearwater, I felt good enough to make another camp, rather than get out of the canyon early.

There was a ... we're doing FAM trips—right. There was a lady travel agent; came in from New York; some *God damned* place, you know, some place that is not here (laughs). Whether she was expecting ... she didn't find it exactly ... you know (laughing), "Look, [this is] the only trip we got. I'm going on this RENDEZVOUS. I don't know how you ended up here—obviously a lack of communication. Now you have to realize that this is ... that these are boatmen that are not on duty. They are not ... they are going to be different." So she came along and I don't remember much about her until the last day. Driving out we had four, at least four J-rigs, and probably a dozen row boats. All *cluster fuck*, you know, all tied together, and it was one great big party, you know, we were down to ... we pretty much ran out of booze. We were drinking ... ah ... ah ... essentially chewing on the fruit that was in the daiquiris that we made—a ten gallon thing of daiquiris. We were down to slugging off of that and eating the fruit out of it, and I remember the travel agent. She's having the time of her life. She said, "Nobody will ever believe this." Everybody was naked except for John, because he was trying to keep the company image, but he didn't have much on. I think he had a shirt on and everybody else was *flat-assed* naked going down the lake, and this chick is finally stripped down to her bra and her panties. I mean, for this woman this was ... I don't know ... this was absolutely unbelievable—unbelievable. She put up with all of it. I can only imagine what the night before was like, because I don't remember it. I'm told what I did, but I don't remember a *fucking* thing about it. That was right after I pitched out—right in the middle of a rapid (laughs).

Drove upon shore?

Yeah ... uh-uh ... that too, and roll through the fire [in a whisper]. God. [louder] What a fun time! What a way to spend a life!

Now they don't do those RENDEZVOUS in that same sense any more.

Nooo! Then someone from Telluride started doing it. We only did it one year. The second year everybody was doing something different—you know. It was a great idea, but we were not the kind of people to keep that kind of thing going.

Tradition?

Yeah. Good word. We are not traditional people.

Well everybody works more spontaneously too.

That year, it just seemed like a great idea, and everybody showed up, and it was a great idea. And the next year, it just wasn't, you know, as it wasn't the same thing. It wasn't happening.

It was a better sense of thing than Telluride too?

Hell yeah! It was much better.

We are going to be dealing in this canyon—on the river.

On the fifteenth of October, 1976, at Calf Canyon. And I don't think Telluride even started for several years after that—I don't think it started.

I think it was an 80s thing.

Yeah ... yeah! Because I know I only went to one RENDEZVOUS.

In Telluride?

No, No! I never went ... I hated Telluride people so *fucking* bad. I wouldn't go over there. Um.

Well I went over when Georgie White was there.

Yep. Oh Yeah. It involved ... there must have been a bunch of Grand Canyon boatmen there. I know ... I think MOKI MAC was there. Not Moki himself, but some people from Moki Mac. They've got some great stories. Bob and Claire Quist have some great *fucking* stories.

Roger Murphy has some great stories. He no longer ... I don't think he is a boatman anymore ... he's in Salt Lake. His wife ... Cebella is her real name. What the *fuck* is her name? Anyway, she just got her Ph.D. in geography, and he used to run for MOKI MAC. He's got ... everybody's got stories. I don't remember half the stories I remember. Yeah. I think just sitting down ... meet Verle ... and, you know, the law can't arrest us—we need him. Big Linda and we just need a place where we don't have to go anywhere—after we get drunk [laughs].

That would be great you know. Ah *fuck* ... oh ... so the first DESCENT trip. This the maiden vovage of DESCENT RIVER EXPEDITIONS—right? The *fucker* was downhill all the way.

Why did you even want to start a river company?

Because why not? I mean, why not do it your way? I wanted to start one because I knew I was right, and boy was I wrong [laughs]. A lot of it was ... you see ... Ken and I had the original idea. We were not financially in a position that we could do it all by ourselves, so we had other people involved in it, and in my estimation should have never been involved in it—you know. Anyway, so one of the guys—he was cool—he was going to take care of the kitchen, and *dah dah dah dah dah dah,* we get to the first lunch. We have all the serving bowls, and all the serving spoons, and all the spatulas, and we haven't got a fucking plate one—we don't have *fucking* cup one. And this trip is ... let's just say it is with ... well ... I scored this trip. I put together this trip with Charlie DeLorme from WILD RIVERS and these guys were all pretty ...

Wanna be sophisticated?

No. Not at all. They were all very big privates, you know, so they were used to the best that money could buy, and yet they weren't snobs by any stretch of the imagination.

That's when I first met Ole, you know, Ole the mobile artist. It was all his buddies. And he is also pretty good friends with Charlie—that's how it all got started. So, we ended up ... it became kind of a contest ... who could make the best cup out of a beer can. And we had steaks the first night. We weren't going to have them the first night, but that turned out to be our only plates—the little Styrofoam trays they come on. That was the plates for the next five days—the steak Styrofoam doo-dahs and tin foil. Here we are trying to launch the *God damn* company and our maiden voyage. We forget everything.

Oh, it happens.

That's right. One of Verle's sayings is: "you take these *God damn* trips is to see what you forgot," and there is a lot to that. I remember one of my first trips for TAG-A-LONG ... back a hundred years ago ... I forgot all my iron. I cooked in ammo boxes. That's a ... you want to try something difficult, try a roast in an ammo box. Not so easy.

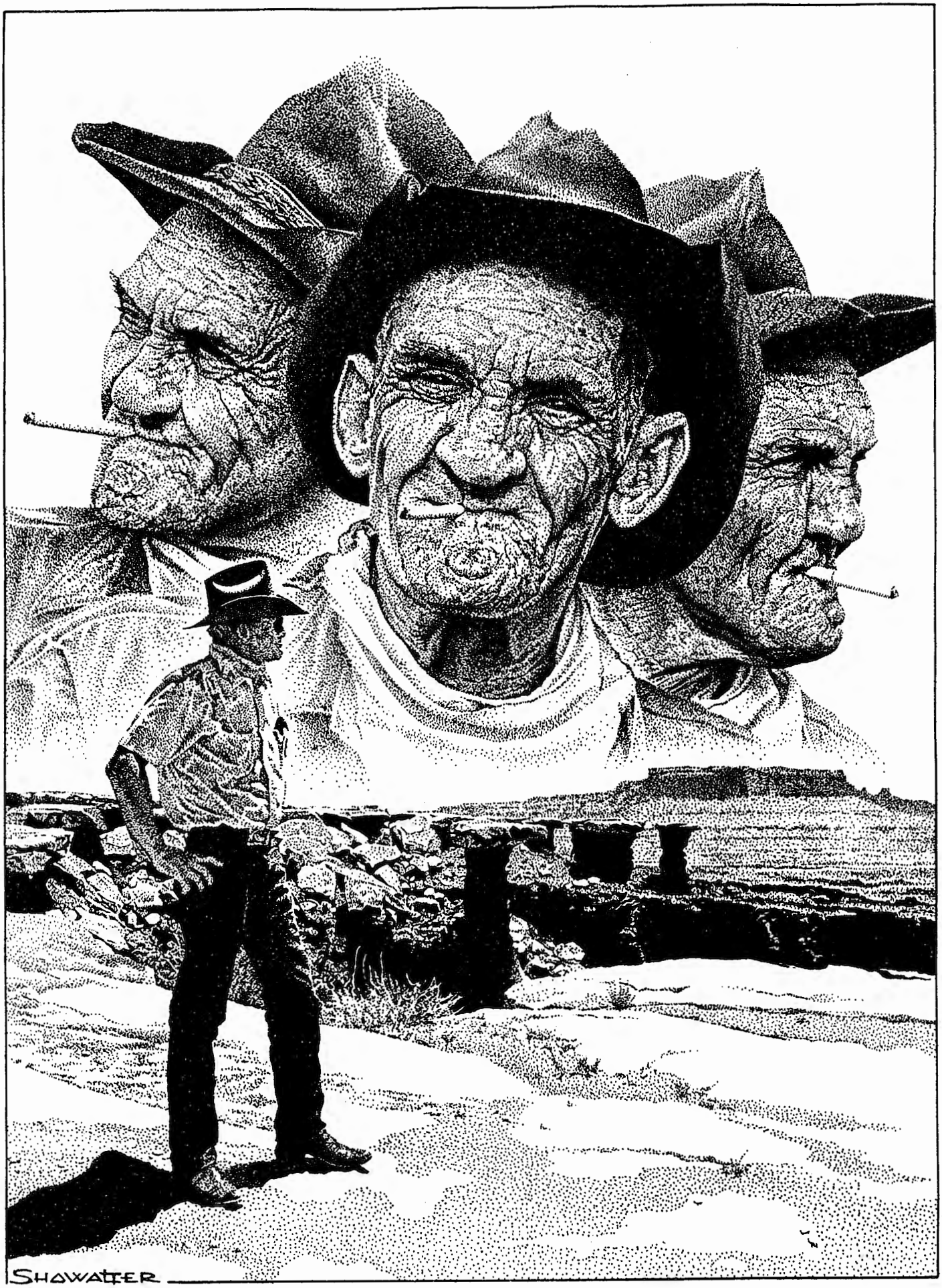
[Giggles]. It's the deep dish roast ...

[Repeat with a chuckle in his voice, covers the rest of Michele's sentence] ... deep dish roast. Had to use the *groover* box for a little spice [laughs]. Yeah get us together.

End of oral history

A fund to remember Robert Degles has been developed with contributions going to a revegetation project in Cataract Canyon. The **Robert Degles River Restoration Fund** is managed by a non-profit called: PLATEAU RESTORATION, INC. (PRI). PRI is asking for guide input on restoration sites, and is also asking for matching pledges of $100. Please write to PRI concerning your restoration site preference, why this site is important to you, and how you can assist in the restoration project. For more information, please contact:

Michael Smith
Plateau Restoration Inc.; P.O. Box 1363; Moab, UT 84532; (801) 259-7733



Drawing of Verle Green near Mussleman Arch by Rick Showalter. Courtesy of Rick Showalter.

Available October 1997

Forthcoming

Woman of the River

Georgie White Clark, White Water Pioneer

Richard E. Westwood
Foreword by Roy Webb



photo courtesy of
Mildred Hooper

Georgie White Clark—adventurer, raconteur, eccentric—first came to know the canyons of the Colorado River by swimming portions of them with a friend. She subsequently hiked and rafted portions of the canyons, increasingly sharing her love of the Colorado River with friends and acquaintances.

At first establishing a part-time guide service as a way to support her own river trips, she went on to become perhaps the canyons' best-known river guide, introducing their spectacular rapids to many others—on the river, with her large-capacity rubber rafts, and across the nation, through magazine articles and movies.

Georgie saw the river and her sport change with the building of Glen Canyon Dam, enormous increases in the popularity of river running, and increased National Park Service regulation of rafting and river guides. Adjusting, though not always easily, to the changes, she helped transform an elite adventure sport into a major tourist activity.

$19.95 paper
appx. 280 pages
6 x 9, 39 photos
Available October

Richard Westwood is a native of the Colorado river region near Moab, Utah, and is the author of *Rough-water Man: Elwyn Blake's Colorado River Expeditions*. He lives in American Fork, Utah.

Order Form

Qty.	Title	Unit Price	Total Price
	Woman of the River	$19.95 p	
		Utah residents add 6% sales tax	
		S & H: Bookrate; $3.50 1st bk, $1.00 ea. add'l; UPS; $4.50 1st bk, $1.00 ea. add'l	
		Total	

name _____

address _____

city/state/zip _____

phone # _____

enclosed is my check or charge to:

☐ VISA ☐ M/C ☐ Discover

☐ send me a free catalog

card # _____

exp. date _____

sign. _____

UTAH STATE
UNIVERSITY PRESS
LOGAN, UTAH 84322-7800

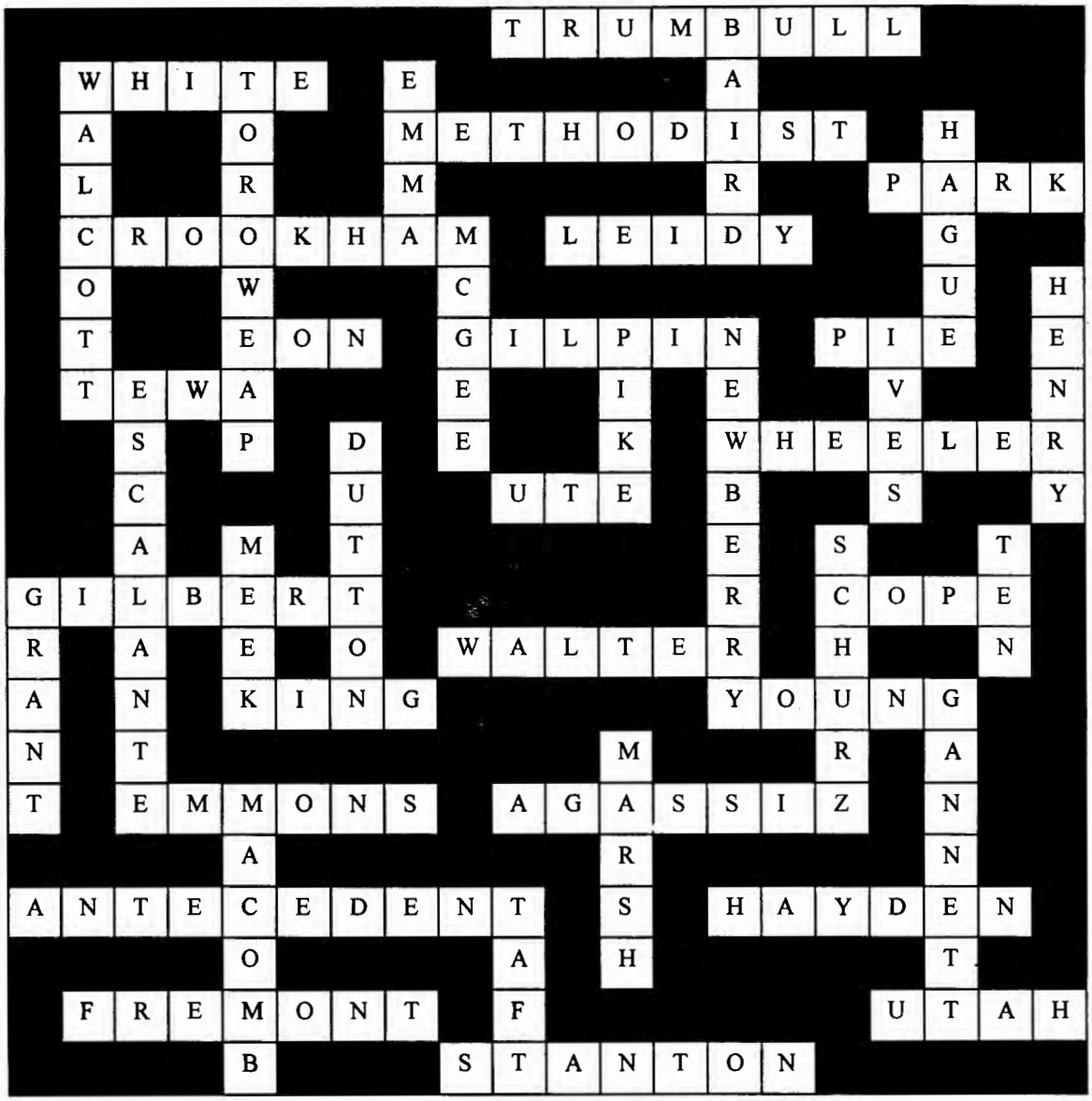
Call your credit card order in toll-free

1-800-239-9974 Mon.-Fri., 8 a.m. to 5 p.m. MST

www.usu.edu/~usupress

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

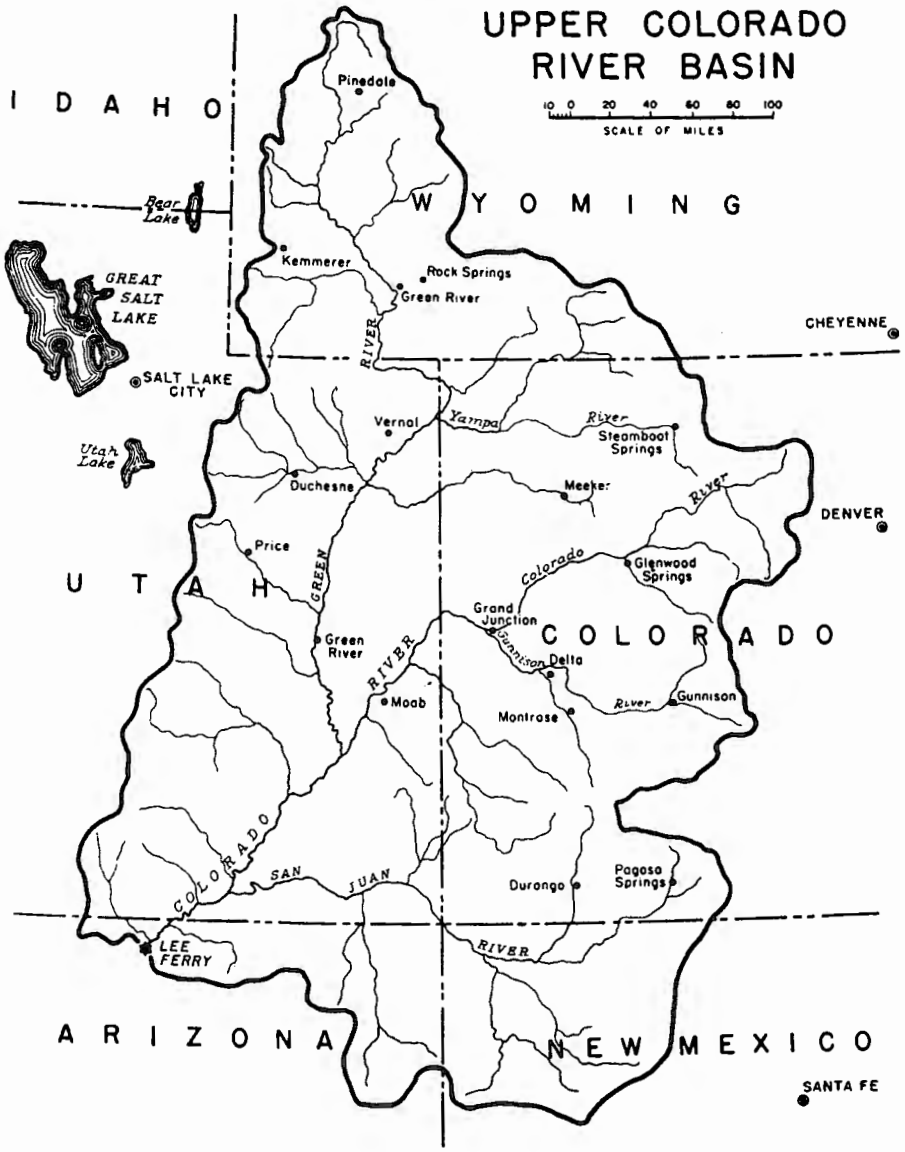
FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED



The Confluence

The Journal of Colorado Plateau River Guides Volume 4, Issue 3, Winter 1997

MULE EAR DIATREME
STEAMER "MAJOR POWELL"
WILLIAM HIRAM EDWARDS
WESTWATER CANYON
GUIDE TRAINING
INTERNATIONAL BOATING
WICKED WINDS
NEVER ASK A GEOLOGIST...
POETRY
CROSSWORD PUZZLE



From the First Annual Report of the Upper Colorado River Commission, March 20, 1950.

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (c) (3) non-profit organization dedicated to:

***Protecting the rivers of the Colorado Plateau**

***Setting the highest standards for the river profession**

***Providing the best possible river experience**

***Celebrating the unique spirit of the river community**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau

General Membership is open to those who love the rivers of the Colorado Plateau

Membership dues
$ 20 per year
$100 for 6 years
$195 for life
$295 Benefactor

General Meetings and Board of Directors Meetings will be announced

Officers

President	Steve Young
Vice President	Michele Reaume
Secretary/Treasurer	John Weisheit

Directors

Bluff	Anne Egger
Grand Junction	Darren Smith
Green River	Shane Edwards & Chris Smith
Moab	Jose Tejada
Vernal	Clark Hatch

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077
Faxes accepted: Please call first.

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Microsoft Word on an IBM PC. If you use a word processor, we can translate most programs. Otherwise, please send your text double-spaced. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

E-mail: cprg@sisna.com

Managing Editor: John Weisheit
Printing: Times-Independent
ISSN # 1078-425X

DISCLAIMER

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing or supporting viewpoint please send your comments to CPRG.

Nathaniel Galloway's Birthdate

Rosalyn Jirge spent more time at the Huntington Library this year to gather biographical information on Otis Marston, which will be compiled by John Weisheit; it will appear in an upcoming issue of *The Confluence*. These files provided a birthdate for Nathaniel Galloway to compliment the article on Galloway that appeared in *The Confluence* this spring (Volume 4, Issue 1). Nathaniel was born on January 11, 1854.

New Editors for *The Confluence*

Steve Young, Michele Reaume and Anne Egger have each volunteered to produce an issue of The Confluence for the calendar year of 1998; John Weisheit will continue to be an editor as well. The editors are asking for manuscripts on all subjects, but two issues will be concentrating on Desolation and San Juan canyons. The clearing house will be the CPRG address, phone or e-mail as listed.

SPECIAL THANKS TO:

Karla VanderZanden for a donation of $500 to be used in developing an oral history program for Colorado Plateau River Guides. The oral histories will appear in *The Confluence* and will be archived at the Marriott Library, University of Utah.

Bill Bishop for a Lifetime Membership
R. J. Johnson for a Lifetime Membership

The Patrons of CPRG

Benefactor Members
Shannon Demuth
Rob Elliott
Dee Holladay
Peter Lawson
Dave Mackay
Richard Quist
Teva Sport Sandals
Karla VanderZanden
George Wendt

Lifetime Members
Bill Bishop
Colorado River Recovery Program
Robert Degles (Memorial)
David Desrosiers
R. J. Johnson
Tom Kleinschnitz
Tom Moody
Dan Murphy
Mary Richards
Michael Smith
Earle Spamer
Jene Vredevoogde
Bruce Winter

Thank you for your support!

THE WORLD OF BOATING

by Darren Smith

After ten years of boating, with experience in running crafts rangeing from 33-foot S-rigs to 12-foot inflatable kayaks, on rivers in Arizona, Colorado, Oregon, Utah, Idaho, and New Mexico, a river runner might start to think he/she is as about as good as they can get. Add being a private boater—with a bunch of variety—and a commercial guide—meaning even a greater amount of time on the water—and you will become even more sure of how great you are. Well, if you have half this much, or ten times this much experience, there is still a whole bunch you can do to grow as a boater.

During the spring of 1996, Joe Keys and I felt like it was time to expand our careers as boaters and to do something unique like: get on the international scale. Joe and I prepared great resumes, did an international search on river companies, and finally decided to quit our winter jobs. Our plan was: head to another country for the winter (their summer) and become international river guides. After sending information to about ninety different companies, spending an unbelievable amount of time on the phone, and saving money, we decided to go to New Zealand.

Going to New Zealand was one of the best decisions I ever made. I learned as much in three months, than I have ever learned in such a short period of time. Food was a major adjustment and the Kiwi food is pretty close to the States, when considering what people eat in some countries around the world. The food, in short, was chicken, pork and beef, are almost too expensive for a guide to afford, but mutton is the food a guide can afford and on most days; it is eaten as a sausage. Mussels are so cheap they are almost free and there is no such thing as a TACO BELL. If you are in the mood for Mexican food, their might be a Mexican food isle in some of the stores. MCDONALDS is the same, right up to the "Value Meals" and the "Kiddy Land". Chinese and Japanese take-aways are everywhere, and "pies" (homemade pot pies) are the fast food to die for. Tipping is unheard of in New Zealand and this has impacts on all forms of the service industry. Sitting around and waiting for service at a pub, or bar, is a waste of time, because there are no waiters or waitresses. After a great day on the river, the only tip is maybe a little advice. The people are super friendly and hitch hiking is considered a safe way to travel and sometimes a ride will lead to a warm home, dinner, and a place to sleep. All Americans behind the wheel of a car will, at some point, drive on the wrong side of the road. Toilets flush in a big splash; not in the opposite direction as ours do here in the northern hemisphere. Beer is dark, strong, expensive, and very good.

Are there some things to learn about white water rafting? Yes, an unbelievable amount. What I learned is different from what others might learn; but, I am sure all would learn something. My skills were solid, but I had limited experience with paddle boats, and I think Kiwis do things a little different than us anyway. On one of these paddle boat trips, the most important thing to teach the passengers are three simple steps: 1) have two hand holds in the right place, 2) get down on the floor of the boat, 3) tuck your chin into your chest and smile. These three steps are triggered by the "hold on—get down" command. The "hold on—get down" command is also the signal that the boat is going over a 21-foot waterfall and is probably going to flip. If the passengers did not "hold on and get down" correctly, they were going to fly out of the boat and be underwater in aerated water for ten to forty seconds. The guides called this little swim: getting "green-roomed".

The guides are the ones who get "green-roomed" the most, because we would make final paddle adjustments to the boat before going over the 21-foot water fall, and sometimes only had one hand hold. My skill at righting a flipped boat is much improved, as I had to do that 27 times while in New Zealand. Two flips in a day is common; four times in a day is my record; I even flipped on Christmas day and New Years day. Running five trips in a day is not uncommon and was quite an adjustment from running multiple day trips. Ironically, all these flips, aerated swims and rescues, became invaluable experience for rowing/flipping in Cataract Canyon during June of 1997.

I learned that I was not really the great adventuring guide I had figured myself to be. Many of the guides I worked with had been working in other countries for years, and were trying to decide what country they were going to guide in next. I did have the advantage of being a guide who ran multiple day trips, motor rigs, and rowed boats. Most of the other guides experience was from running one and half-day paddle boat trips. The rivers sections are generally a bit more technical and I think this is because Kiwis do not sue, therefore the industry can run more risks. New Zealand is definitely an adventure tourism country.

Two flips in a day is common; four times in a day is my record; I even flipped on Christmas day and New Years day.

Sit back for a second and think about what you really do not know about the river industry. Remain confident in the fact that you are really pretty good at what you are doing, but do not limit yourself in thinking you are as good as they get. There are unlimited river running options out there. Imagine doing the next season where you did the last, whether it is multiple day motor or row trips in Cataract, Westwater, Dinosaur, and Desolation, like me, or running the Animas in various different crafts. You can bet at the end of the season—your pretty skilled. Take your season and extend it to September by running one day trips on the Gauly, or to Nepal (September/October) for multiple day trips during the monsoon season (high water, paddle and row boats) and then to New Zealand doing day trips over the Kaituna Falls (21-foot waterfall). A year of boating like this is sure to help any guide improve and make you hungry to learn what else there is out there in boating.

If you are thinking about expanding as a river runner, the U.S. has unlimited options. Coloma, California, is loaded with river industry; Oregon and Idaho have trips of all lengths and styles, as well as a billion other places in the U.S., Japan, Australia, and Costa Rica have great river industries and are all hiring international guides—especially Americans.

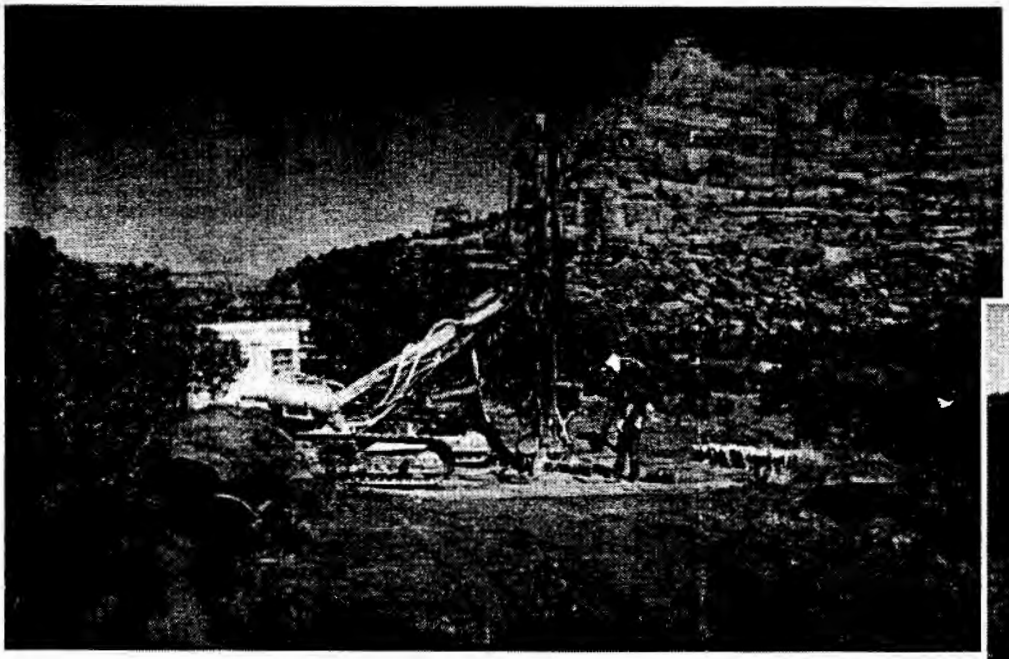
So what do you get out of going on the international scale as a boater? The biggest thing is the people you meet. Guides from all over the world are moving from place-to-place, depending on what is happening with the water and each of them will share an experience to help you grow. New languages and cultures, which will surely help you to grow as a guide. Variety in crafts and the way the different companies are operated will also add to your skills as a boat person. The most important thing is you will have a bunch of FUN.



See photo of the 21-foot waterfall run on page 4.

Stop the drilling in Westwater

Canyon Entrance • Photographed Oct. 18, 1997



This heavy equipment is taking rock samples to determine subsurface mineral values for open pit mining. Three miles of roads have been graded and five large test pits have already been dug.

Fifteen holes between 25 to 100 feet deep are being drilled.



At this rate, the next picture we send you of this site along the Colorado River could be of an open pit mine.

Westwater Canyon needs your voice now.

Be a Friend of Westwater

Here's what can you do:

1. Call or write your Congressional representatives. (U.S. House or Senate in Washington D.C. at U.S. Capitol switchboard: 800-972-3524; or - names, phones and email addresses at: http://www.webslingerz.com/jhoffman/congress-email.html).
Write or call especially if you are from Utah.
Everyone should contact Vice-President Al Gore. (White House, Washington, D.C 20500; email: http://www.whitehouse.gov).
Ask them to put a moratorium on mining activity in the Westwater Wilderness Study Area.
They need to know that their constituency cares about Westwater preservation.

2. Lend your support and financial aid to the volunteer group that ***is*** working for a moratorium - the Friends of Westwater. Absolutely all funds are used to cover expenses, such as postage, printing, long distance telephone charges. *For our efforts to have more clout in public arenas, we need your membership; so, even the simple gesture of being a Supporter is very helpful to us.*

Please complete and mail to:
Friends of Westwater, Inc. • PO Box 2011 • Grand Junction, CO 81502-2011
Visit our web site: http://users.aol.com/pswinn/wwcov.html email: rpuckjr@aol.com

---

Name _____

Address _____

_____

Telephone _____ Email _____

☐ Supporter (Free) Yes, I support the efforts of Friends of Westwater to preserve Westwater Canyon.

The Membership levels below include quarterly updates and all bulletins. We sincerely appreciate your support.

☐ Friend ($20) ☐ Good Friend ($50) ☐ Corporate ($100) ☐ Very Best Friend ($250 - $500)

The Sol Feinstone Environmental Award
West Slope Activist Awarded for 1997

Harry "Skip" Edwards is one of two persons nationally to be awarded the 1997 Sol Feinstone Environmental Award for his volunteer efforts to preserve Westwater Canyon in Eastern Utah as wilderness. Nominated in late 1996, Ship was notified recently of this award at his home in Crawford, Colorado. An award ceremony was held in the Fall.

Westwater is on the Colorado River in Eastern Utah and is a spectacular desert-river canyon known internationally for its whitewater and unique black granite inner gorge crowned by towering red sandstone cliffs. In 1984 Westwater was designated a wilderness study area by Congress. The BLM was given the responsibility to manage the area under a "non-impairment" standard to protect the Canyon until Congress were to designate it as wilderness.

Friends of Westwater President Greg Trainor in responding to the award said that Skip is *the* one key person responsible for galvanizing thousands of persons to the dangers of losing Westwater Canyon to mining. In 1992, while acting as the BLM river ranger at Westwater, Skip discovered mechanized equipment being used by gold mine claimants to constrict roads inside of the Westwater wilderness study area-an activity strictly forbidden by federal law and not authorized by the BLM.

On his report, mine claimants were cited by the BLM and, in 1996, the Interior Board of Land Appeals ruled that claimants reclaim damage created within the WSA.

In 1995, on a chance remark made by a friend, Skip learned that the entrance to Westwater Canyon—an area of 1,800 acres—had been deleted from the 1995 Utah Wilderness Bill by mining interests in Grand County (Moab) Utah., the same interests responsible for the illegal road construction in 1992. These interests included a member of the Grand County Commission who was also one of several mine claimants working in the Westwater the area.

Skip resigned his position with the BLM and, with his own funds, traveled to Washington D. C. to talk to anyone who would listen about <u>why</u> Westwater deserved to be protected. His one-man campaign gained the attention of the nationally-respected <u>High Country News</u> which broke the story of Westwater attracting the attention of others wanting to help. Supported by staff of the Southern Utah Wilderness Alliance, friends of Westwater throughout the United States started their own campaign to remove the "1,800 acre Pene Deletion" from the 1995 Utah Wilderness bill. In early 1996 the wilderness bill was defeated by a coalition of western Democrats and moderate eastern Republicans who felt that the 1995 bill was deficient in the amount of Utah lands proposed for inclusion into wilderness.

At Westwater the threat of mining continues. As of this writing, mechanized equipment, despite a BLM approved plan of operation authorizing only hand tools, continues to be stored and operated within the wilderness study area. Skip, now with the support of the recently-incorporated Friends of Westwater Canyon, is working **full-time** to publicize the BLM's blatant tolerance of the continued presence of this illegal equipment.

The Sol Feinstone Award was endowed in 1976 at the State University of New York, College of Environmental Science and Forestry. Sol Feinstone, in creating the award, felt that volunteerism by ordinary people was the key ingredient to preserving, maintaining and protecting the unique natural resources found in the United States.

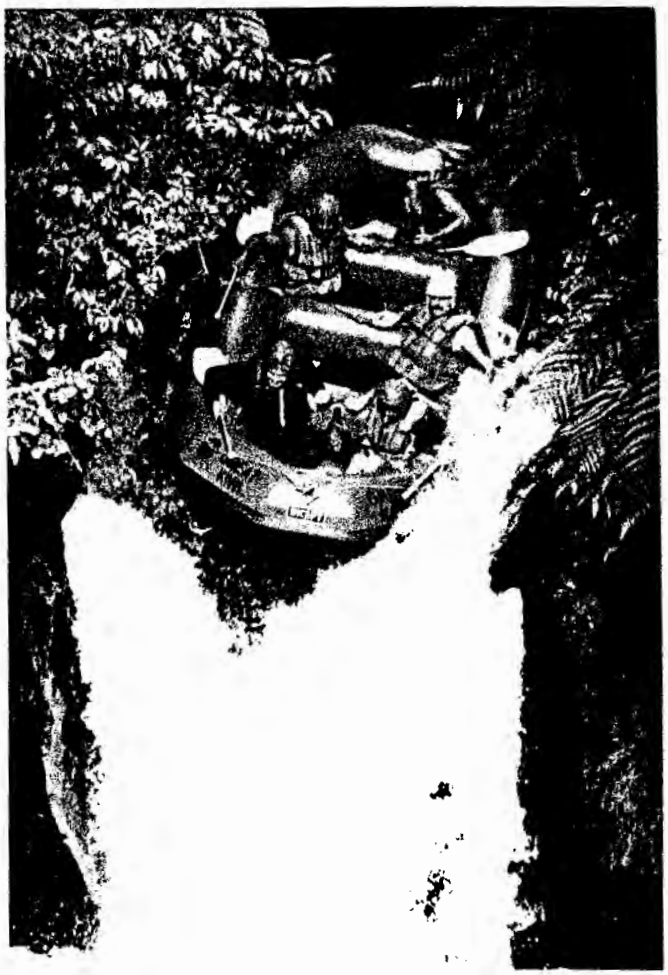
Awards Committee spokesperson, Lucy Popkess, said they were delighted to recognize Skip Edwards for his unpaid work on behalf of Westwater.

FOR MORE INFORMATION:

Contact Friends Of Westwater Canyon
P.O. Box 2011
Grand Junction, Colorado 81502-2011
(970) 245-7613

WESTWATER WEB PAGE:

http://user.aol.com/pswinn/wwcov.html



21-foot waterfall in Kiwi land.
Photo courtesy of Darren Smith. See Darren's article on page 2.

When the Wicked Wind Blows

by L. Lisa Lawrence

As I groggily opened my eyes, the dramatic contrast between the red rock of the Colorado River Canyon and the blue Autumn sky came into view. It was another amazingly beautiful day on the Colorado Plateau. I was lucky enough to be right in the middle of paradise, instead of in some office in the city like so many people trapped in the rat race of the "real world". It was a wonderful day to be on the river, to be a guide, and just to be alive. I yawned, and stretched, when suddenly, my body was racked with pain so severe that I couldn't take a breath. As my eyes began to focus, the "red rock" became a red brick building. I surveyed my surroundings and noticed: the intravenous lines in my arms, the catheter draining urine from my body, the strange devices strapped to my legs alternately inflating to circulate my blood, and flowers, lots of flowers. "Damn!", I quietly muttered to myself as realized that I was not in my beloved canyon. Instead, I was beginning the third of eight days in the orthopedic ward in St. Mary's Hospital in Grand Junction, Colorado. My pelvis was fractured in three places and my spine was fractured through the hip joint. I had been in and out of consciousness for most of the previous two days due to shock, pain, and medication. Images began to flash though my mind: the storm front blowing in, me screaming (more like whimpering) to Clyde, our driver, that I couldn't move because my back was broken as he tried to lift the boat that was crushing my pelvis, the horrible popping and snapping noises my body was making, a woman holding my hand saying "Lisa, hold on, stay with us!!!", a physician talking about surgery and blood transfusions, and a haze of blowing sand and pain.

It was an amazingly beautiful, crisp, autumn day, vivid reds, blues, and glassy water, just like a postcard. I loved these days, and the solo trips, which were a calm and peaceful relief after the summer crowds and stress.

My morning, two days prior, had started out like any other day. I awoke in Castle Valley, Utah, greeted by red rock, a stunning blue sky, and the rather loud sound of Nelson, my friend's dog drinking out of the toilet. I staggered down the stairs in my usual semi-comatose state, to the great amusement of my friends. Their morning routines had come to include teasing me about my inability to function in the morning before I've had my coffee. After the morning ritual of communicating in grunts and crude sign language, being teased, and commenting on Nelson's drinking problem (the toilet), I headed up the river road to Moab, to get coffee and rig the trip. I noticed the clouds building up and a slight chill in the air as I drove. It was an amazingly beautiful, crisp, autumn day, vivid reds, blues, and glassy water, just like a postcard. I loved these days, and the solo trips, which were a calm and peaceful relief after the summer crowds and stress.

The winds were howling when we reached the put in. As I watched two guides from another company rowing with all their might against the wind, getting blown back up the river, I muttered, ."I love my job" under my breath. The winds that came with these storm fronts usually made for a miserable, frustrating day. Clyde and I pulled the boat out of the water and up onto the ramp so we could tie it to the trailer, rather than allowing it to blow into the water and up the river. I took my time rigging, in hopes that the front would blow through quickly as they often do, or that it would get bad enough to call off the trip. And there I was, standing in the boat, which weighed at least 400 pounds empty, strapping gear down, and rethinking the wisdom of attempting to row against this strong of a wind. Suddenly, I was blinded by sand, so thick that I was barely able to breathe. I was launched into the air by a force that I couldn't see. I looked up, in shock and disbelief to see that the raft was also flying through the air. I hit the ground stunned and bruised, and tried to scramble away from the boat, knowing how much it weighed and that it could kill me if it landed on me. I heard a sickening crunch as the metal frame of the boat crushed the right side of my pelvis and lower back. I tried to scream, but the sound that came out of me was some sort of breathless, guttural cry that a wounded animal would make. Clyde came running from the front of the bus. He tried to lift the boat off me, but it was too heavy and the wind was too strong. He asked me if I could crawl away from it, out of fear that he would let go of it and crush me further. My legs would not move, and my back and hip made horrible snapping and popping noises when I tried. "Clyde, I can't move, my back and my pelvis is broken." I was crying, more from the realization that life as I knew it was over than from the pain itself. Help arrived in the form of shocked and horrified customers, who assisted Clyde in lifting the boat off of me, and getting me onto a backboard. I knew things were badly broken, but that nothing was grossly displaced. As a 12-year veteran paramedic, I also knew that one wrong move could kill or paralyze me, and that patients often die from the internal bleeding associated with pelvic fractures.

In one short freak moment, my whole life had been taken away from me, perhaps forever. River guiding was the job that filled in time between my seasons as a park ranger, doing law enforcement, search and rescue and fire fighting, and my winter job as a ski instructor. Everything I did to earn a living and keep my sanity required that my body be intact. I had made too many personal sacrifices: financial security, a stable home, and personal relationships in order to live this adventurous life, to let it end this way. After discovering that I could wiggle the toes on my left foot, I decided that I didn't have time to feel sorry for myself, I had to come up with a plan. I was not going to give in to these injuries, I would fight with everything I had. As it turns out, I had 6 painful hours on that backboard, including trips to two different hospital emergency rooms to make that decision.

The next two days were touch and go. I was bleeding internally, and surgery and blood transfusions were still a possibility. My survival was attributed to "dumb luck", "divine intervention", and to the physical condition I was in at the time of the accident. My back, pelvic, and abdominal muscles, which were extremely strong from all the rowing and lifting, held everything pretty much together. On the second day a physical therapist came in and we worked on moving my legs. Once they decided that I was not going to bleed to death, I was encouraged to see if I could sit up, and even stand up with crutches. Once I was able to make it to the door of my room, I would not let anyone help me with anything, "Don't touch me, I'll do it myself." was my mantra during my eight day incarceration. I refused wheel chair rides to the rehabilitation gym, knowing that every moment spent sedentary would cause my muscles to shorten and atrophy. "Look, it's Super Woman," was what the nurses would say as I hobbled by, with my catheters and IV lines hanging off my crutches. The people who referred to me as "Super Woman" and later, "The Bionic Woman," and constantly commented on my positive attitude, didn't know how bad I was taking it. They did not see me when I awoke in the middle of the night, from terrifying

nightmares of the accident, when I was crying alone in my room at midnight depressed and despondent, or when I would vomit and pass out in physical therapy because I had pushed my body past its limit. It wasn't easy being "The Bionic Woman." Some days, I just wanted to lie in bed and cry.

The weeks following my "incarceration" had their own difficulties. The first physical therapists I saw told me that for the first six weeks, I wouldn't be able to do much in the way of physical therapy, and would just have to take it easy and let my body heal. I did not buy into that, and insisted on a sports therapist and full professional athlete rehabilitation, much to the frustration of my doctor who wanted me to "slow down a bit." I would set nearly impossible goals for myself, so that I would have a reason for deliberately causing my self so much pain every day. Two weeks after the accident, I started swimming, a few days later, riding a stationary bike and doing leg presses. I pushed my workouts to three hours a day, seven days a week. Even my sports therapist said she had never seen anything like it. I became obsessed with getting better, and the "Bionic Woman" jokes started in earnest, "We can make her better, stronger, faster." I used homeopathic and metaphysical remedies to supplement the conventional medical care. After four and a half weeks, I could feel the bones were healing, so I began the painful task of learning how to walk, first in chest deep water in the pool, and later in the kitchen leaning on the counters, so that I wouldn't put too much weight on the fractures, and further injure myself. I was able to walk without crutches into the doctor's office at my six week check up, to be told that my x-rays looked excellent and that I could now start weight bearing exercise. "Go ahead and push yourself," he said, and then laughed. Walking into that office had been one of my seemingly impossible goals, and it was time to set another. I told him that I wanted to ski on Thanksgiving day.

"This is insane! I must be out of my mind," I said, as I stepped into my ski bindings. It was Thanksgiving day in Aspen Colorado, it had only been seven weeks since the accident, and I'd only been walking without crutches for a little over a week. I began to suspect that my doctor didn't really think I would go through with it, and had just been humoring me. I slid out onto the snow towards the ski lift below, knowing that there was no turning back. I was afraid, and in pain, but managed five nervous trips down the bunny hill. It will take time and practice to regain my confidence and coordination, but I had taken a huge first step. As I sat down with friends for dinner that night, I truly knew what it was to be thankful.

I have come a long way, but have farther to go. My life is still about intense pain and recovery, and will be for several more months. With goals met, goals still to be met, and the support of wonderful friends I know I can do it, and come out of this physically and emotionally stronger. The accident has reaffirmed what is important to me, and how important it is to live every day to its fullest, because life can be taken from us in an instant. I am looking forward, and am constantly setting new goals for my recovery. I will progress as a ski instructor, perform technical rescues at the park, and row the Grand Canyon next fall. I feel good about my life, but I still get a cold chill down my spine when the wind blows.



A Word to the Wise:
Never ask a geologist, "What time is it?"

by Dave Focardi

No shit, there I was, a commercial oar boat, four paying guests and my wife of one and a half years swamping, with Cat at 70,000 cfs. In the middle of all this, one of the guests asks, "Dave, you're a geologist, how come the cliffs are so straight up and down?" Well, to answer that, all you have to do is read Powell's account of The Exploration of the Colorado River and Its Canyons, and pay attention to the part about erosional recession. In the event you can't turn to your bookshelf and leaf through your copy of Powell's tome, erosional recession is basically the principle that once erosion starts, the shape of the cliff remains the same as erosion progresses. The steepness is due to the competence of the sandstone beds compared to the underlying shale beds. Competence refers to the hardness and induration of rock layers, induration refers to the lithification of the sediments, or the degree to which they hold together. In other words, the sandstone beds are far more resistant to erosion and hold together, maintaining a solid cliff-like appearance while the softer shale layers underneath are worn away. Clay erodes by a variety of methods, one of the most significant being the adsorption (not aBsorption) of water molecules, thus causing the clay to swell if it's a smectite, or at the very least becoming soft and plastic when wet. In this vulnerable state, clays tend to erode much faster than sandstone. Consequently, an undercut forms under the sand cliff, which being a more competent formation, really wants to hold together. When the sandstone does fall apart, it comes off in large chunks, leaving a steep cliff face behind. The Wingate sandstone with the soft Chinle and Moenkopi underneath it is a textbook classic example of this. I know of Ivy League geology field trips that come out to Moab just to see this in real life. Powell was the first geologist to note that the shape of cliffs, if viewed aerially, maintain the same essential shape once the erosional process has begun, as well as a few other very essential principles of geology. Well, can you believe it!? During that incredibly verbose description, all hazards of Cataract Canyon were miraculously passed.

Now we're hiking up Dark Canyon, and another guest asks, "Dave, what's this red stuff in the gray rock and why is it hollow inside? And hey!, what are these white crystals in the middle of this little red pocket!" The answer to this question explains the geologic history of several layers encountered in the typical hike up Dark once one is past the Lake Foul deltas. The following is paraphrased from an excellent article in the Four Corners Geological Society's 1987 Cataract Canyon guide book, from an article by David B. Loope and Gregory B. Kuntz from the University of Nebraska, Lincoln, NE, entitled: "Evidence of Evaporite Growth Within Marine Limestones of the Upper Member of

Growth Within Marine Limestones of the Upper Member of the Hermosa Formation (Pennsylvanian), Cataract Canyon, Southeastern Utah." This guidebook may be too inaccessible to many of our readers due to technical prolixity, finances, boringness or ennui.

In any case, the nitty gritty 60 second, don't have time to dawdle answer is: the red stuff is chert (a silica dioxide—or quartz in a pretty color) and the white crystals are usually quartz, except they are shaped like gypsum! This means that originally there were gypsum crystals in there that were replaced by quartz at some point. Before I get into how that happened, I'll give you another clue: if you pay attention on your hike, or even in one of the Dark camps on the left, you will see several places where the gray limestone layers have a vertical crack filled with sandstone. These cracks tend to be about 2 to 5 inches wide, and taper down to a point. The cracks start at the bottom of a sandstone layer and cut down through a gray limestone layer, sometimes as deep as 10-12 feet. After the double waterfall, and on the long stretch before the upper big falls where many people JUMP and DIVE into the evacuation pool, one can see a sand filled desiccation crack at least 10-feet deep that can be traced to the other side of the creek.

First, lets look at how the gray limestone layers are formed. Imagine a large mud flat, full of small and microscopic life that makes calcite shells-like seashells, but really small. An environment that results in a calcium carbonate (limestone) producing environment is generally warm and wet, and conducive to life. There are worms or some animal that burrows through the mud, and as this thing goes through the mud it changes the chemistry of the limestone mud. At this point, the article uses the geologists cop-out, which is the often used phrase, "It's a poorly understood phenomenon." In any case, for some reason so complex and detailed that if the real reason worm burrows through limey muds allowed chert/flint/chalcedony to form ever gets out, peace will reign in the Middle East, only young Germans will have bad swims, and boatmun will all have excellent retirement funds set up by their wealthiest guests. In any case, one can see dark gray chert blobs and tubes in the lighter gray limestone, and occasionally in the center of these tubes a little red chert or even a red bubble of chert with white crystals inside that. The worms alter the limey mud and create a chemical preference for the formation of chert in the future.

Here's the theory. Big mudflats, worms burrowing and altering the limey muds, the water goes away and the place dries up. Large and deep cracks form in the mud, and sand blows in and fills the cracks. Now the environment is a dry one and evaporative minerals like gypsum form in the limey muds. As the muds dry up, stuff like gypsum comes out of solution and forms in the altered worm burrows in ball like shapes known as botryoidal (pronounced 'boat-tree-oy-dull') nodules. The place gets buried again by mudflats and the process starts over again. Now at some future time, the evaporites (gypsum) are silicified, meaning they get replaced by chert (the red stuff). Remember, we have 200 million years for groundwater, burial, pressure and heat to change things, although the timescale for these chemical processes to occur is, you guessed it, a poorly understood phenomenon. Presumably, the dark gray chert tubes are formed before this. With the silicification of the evaporites, it happens in such a way that the white quartz crystals are shaped like gypsum crystals. Silica dioxide molecules repalce the calcium sulfate molecules while maintaining the gypsum crystal shape. These are known as chert pseudomorphs after gypsum. Get it? White crystals look like gypsum, but are really quartz. The difference in color, from red on the rind to white in the middle is due to microscopic spheroidal iron oxide blebs. Iron oxide is, of course, rust, and is responsible for a lot of that red color the careful observer will note in the rocks of this area. Congratulations if you got this far, and the usual disclaimer prevails, any errors are due entirely to my interpretation of the data, or if I'm lucky, due to the changing interpretation of new or old evidence by people who spend a lot more time studying this stuff than I do. Geologists are just making all this up anyway. There hasn't been a new "known" thing since continental drift became accepted. For the simplified version, at least.

To learn more about available publications from Four Corners Geological Society please write to:

Four Corners Geological Society
P.O Box 1501
Durango, CO 81302



RIVER MAGIC

Laid back comfortably on my carpet of grass,
Fresh and pungent aromas, reminiscent of spice.
Sweet aura of tranquillity as the night hours pass,
Beneath God's great creation, joy beyond price.

Above as my ceiling is this brilliant heaven,
Aurora Borealis, a seldom in the desert display.
The twinkle and flash of shooting stars and then,
Scorpius and Sagittarius marking my southward way.

I slumber with the whispering of the river running past,
Murmuring it's promise of elation on the morrow:
In distant background rapids rumble, flowing fast,
Bringing dreams of past adventures to banish any sorrow.

Pale light in the eastern sky slowly covers each star,
In this cool desert, a wildlife symphony about to begin.
Sounds near the cook stove makes solitude fly afar,
Camp coffee aroma blending with the quickening din.

One stretch then another, I sit up in my bed,
Glance up the canyon, freshly lit in the morning glow.
Sheep in yon' meadow, full curl ram their proud head,
Grazing peacefully, untroubled, a special morning show.

I eat breakfast, clean camp, load my boat; The river beckons,
Check the area, boatman shotgun; I push out and feel the current.
Blue heron on gray rock, like a pterodactyl of past aeons,
Cliff-side pictographs! An ancient ones message, left when off he went.

There's an eagle; a parson preaching from a pulpit of sticks,
A Black Cormorant like a sentinel, guards my slow descent.
Merganser chicks off in the eddy; piggyback and doing tricks,
My senses overflow, my imagination is nearly spent.

A dazzling sun reaches deep, cool shadows disappear,
Falcons soar among the cliffs, prey beware this predator pure.
Turkey vultures dance their disco; fluttering wings so very near,
Is that thunder in the distance or big rapids? I'm not sure!

Deep rumble and vibration, my boat floats ever nearer,
I tie off in an eddy: I must view this one all around.
Crashing water and white foam declaring nature's furor,
Big holes and high waves, my choices certainly abound.

Heart pumping wildly, I pick quickly and walk back,
Pushing out and pulling hard, I feel the rush and hear the roar!
I spin left and miss a rock, slam a hole and ride it back,
Current talons mauling, I hit my line down the bore!
Plunging through the waves, the water looms ever dimmer,
Darkness is all around me, like inside a violent thundercloud.
Bright sunlight as I break through! Is anyone a swimmer?
With a mouth full of cotton, I look back and I feel proud.

The tumult fades back the silence seems to scream,
My thumping heartbeat recedes, my trembling hands slow.
I relax on the oars, a big smile begins to beam,
Crack a beer, celebrate now! Soon the river will quicken it's flow.

Why are most boatmen so laid back and so very calm?
Why doesn't time matter in the course of these events?
The rivers' sweet magic provides my soul a strong balm,
Nature's potency overwhelms all, mortal worries it prevents.

I choose to focus on what's important in the overall realm?
A cold beer, a fine cigar and good friends from afar.
Knowing the good fortune that lies at the boat's helm,
And in enjoying God's gifts, camping on His sand bar.

Paul Smith - 1997

The *Major Powell* Inscriptions

by Jim Knipmeyer

The above title does not refer to the famous Colorado River explorer Major John Wesley Powell, but rather to the steamboat *Major Powell*, namesake of the intrepid river runner. The *Major Powell* was the first steam-powered craft to navigate the waters of the Green and Colorado rivers in the canyon country of southeastern Utah. It had a brief, but somewhat controversial history during the last decade of the nineteenth century.

The rather small steam launch was open-decked with a canvas canopy, 35-feet long, with an eight-foot beam. Her two six-horsepower steam engines turned twin screws and were reportedly designed to burn either coal, wood, or fuel oil. Purchased in Chicago in 1891, she was shipped by rail to Green River, Utah, and christened the *Major Powell* in August of that year.

The steamboat was the idea of B. S. Ross of Rawlins, Wyoming, who in 1890 had journeyed by rowboat down the Green River to the first rapid on the Colorado, some four miles below The Confluence. Impressed with the canyon scenery, he interested a few friends and formed the *Green, Grand & Colorado River Navigation Company*. Their intent was to run a line of excursion boats down the Green to a hotel they planned to build at Spanish Bottom.

After two rather unsuccessful attempts in 1891 and 1892 to reach the limit of "practical" navigation at the head of Cataract Canyon, the Ross scheme fell through. Early the following year, however, it was taken up anew by William H. Edwards, a veteran of the Stanton and Best expeditions down the canyons of the Green and Colorado in 1889 and 1891. He persuaded friends in Denver to lease the *Major Powell*, and in March and April of 1893 made two trips down to the "first cataract" and back. Two inscriptions still to be seen along the Green and Colorado were left during the first of these two voyages by Edwards.

The first is found on the left bank of the Green, between the mouths of Horseshoe and Hell Roaring canyons, at about Mile-58. It is the remnants of a once-painted inscription reading, "UP APR-2nd 1893." Just to the right and slightly lower are the names "Edwards," "Howard," and "Graham." The names and date are on the side of a large boulder, higher than river level, and about 30 or 40 feet from the bank. The paint is mostly gone, and what can now be seen is actually the paint "scars" on the rock surface.

The names are those of William H. Edwards, H. F. Howard, and G. M. Graham, the "crew" of the *Major Powell* on its first 1893 trip. Howard was said to have been an old Lake Erie



"Major Powell" inscription at Spanish Bottom. Photo by Gregory Crampton. Courtesy Marriott Library, University of Utah.

steamboat engineer, while Graham was reportedly a health-seeker from Montreal. They had set out from the Wheeler Ranch below Green River, Utah, in early March, reached Spanish Bottom about the 24th, and then returned up the Green. The round trip took almost a month. Much of their time was spent cutting and gathering wood for the boiler or towing the boat over shallow sandbars.

The "UP" in the inscription was a mystery until perusal of the Edwards testimony given during the so-called River Bed Case in 1929. At that time Edwards testified that,

> going down on the first trip we tried to mark the channel as near as we could, so when we came back we would have something to work on ....We would mark on the rocks the line of the turn, so we could tell about what direction to go, then mark them back the other way, and vice versa, whichever way we happened to go. We didn't mark it all, but in places where it was bad [sand] bars, where we had lots of trouble, we would try to mark it.

Evidently, then, the "UP" was one of the upstream channel markers, and was reached on the return trip on April 2nd.

In the diary of his 1947 Green-Colorado river trip, boater Harry Aleson recorded the inscription as "Apr 24, 1889," but this was obviously a mis-reading. The three names are all indicative of the Edwards voyage. The second 1893 trip was commenced on April 27 after a "ten-day" layover, so the 24 for the day-date is certainly incorrect. A close examination by the author in the summer of 1993 revealed Aleson's "4" to be a remnant of the letters "nd." The same held true for his "1889" year-date. The second "8" was actually a 9, while his "9", was in reality the lobes of the number 3.

The second *Major Powell* inscription is located at the extreme southwestern tip of Spanish Bottom on the Colorado River. Also painted on the side of a large boulder, it is much fainter, even, than the one up the Green and was, in fact, entirely missed by this author on his first search for it in June of 1991. Only after obtaining a copy of a photograph taken of the inscription by Utah historian C. Gregory Crampton in the early 1960s, was I able to locate the almost invisible markings. It was a case of being able to see it only if you knew exactly where to look!

The inscription reads, "1st Steamer MAJOR POWELL MAR. 24 -'93." Not visible in the photograph, but recorded by Crampton immediately below the date, were the names "- H. Edwards," "H. F. Howard," and "---- Gr----." These are, of course, the same three names of the crew of *the Major Powell's* first 1893 trip. The statement "1st Steamer" is another point of contention in the *Major Powell* story. In a newspaper article written for the Denver Colorado Sun on July 3, 1892, it was claimed that in April of that year, rancher

Arthur Wheeler and three companions, under the auspices of B. S. Ross, took the *Major Powell* down to where Cataract Canyon begins. However, William Edwards in his 1929 testimony claimed credit for taking the first steamer to the head of the cataracts, as the Spanish Bottom inscription attests.

This author would tend to agree with the latter claim. In the 1892 news story several statements and descriptions are given which would lead one who is familiar with the region to question whether that party even made it to below The Confluence. At one point a so-called "Mormon fort" is described as being located at the junction of the Grand, where the Colorado River begins. This sounds much like the "Moqui Fort," some 40 miles up the Green in Labyrinth Canyon. In another place the article states that the Colorado River "is increased materially in volume by the waters of Grand River," but that for "sixteen miles" it is safe for boats until "at the end of that distance the Cataract cañon begins." It is, of course, only four miles from The Confluence to the first rapid in Cataract.

Later in April, 1893, Edwards and a new "crew" made a second round-trip voyage from Wheelers Ranch to Spanish Bottom and back. Once again, though, plans for establishing a steamboat service through the canyons did not materialize. According to Edwards, the *Major Powell* was brought upriver from Wheelers Ranch in 1894, scrapped for the engines and boiler, and the hull left to be swept away with the next high water. Even here, however, there is disagreement.

In an article in the Utah Historical Quarterly in 1960, Colorado River historian Otis R. "Dock" Marston states that the *Major Powell* was taken down the Green River and then up to Moab and back in 1896. He then goes on to say that the "news" tells of a run down the Green to the Colorado and on to the foot of Cataract Canyon! Unfortunately, Mr. Marston does not quote any sources for either of the above two statements.



The steamer *Major Powell*. Courtesy of Utah Historical Society. *For more information on the steamboats of the upper basin in the Colorado River, see the article by Roy Webb in Canyon Legacy #5; the journal of the Dan O'Laurie Canyon Country Museum, Moab.*

William Hiram Edwards

Testimony: River Bed Case
The Steamer "Major Powell"

Compiled by John Weisheit

With special thanks to Jim Knipmeyer, Rosalyn Jirge, Roy Webb and the staff at the Marriott Library at the University of Utah.

He made another trip down the Colorado in the spring of 1893. He was in charge of this expedition. He thought that there were a lot of tourist who would like to see the Colorado River from the upper end, as he recently been down in that country. He thought it would be possible to operate a boat down from Green River [Utah] to the junction of the Green and the Colorado Rivers, and take tourists down there.

Previous to this time some parties from Salt Lake and Rawlings, Wyoming, had shipped a steam launch to [Green River, Utah] from Chicago, which had been launched, run down as far as the Wheeler ranch and abandoned. He leased that boat and made an attempt to see what be could ho with the river.

This boat was known as the *Major Powell*, and he believes was about thirty-five feet long, with an eight foot beam, equipped with an upright boiler with two six horse engines, connected to twin screws, and drew about eighteen inches. This boat had been laying there for a year or more, and when he came over to Green River, he got a small boat and went down to the Wheeler ranch in February, or the first of March. He came part way by water and part way by ice, as the river was still frozen over at that time.

The boat that he had was a little skiff, and he dragged it over the ice, until he got down there. He examined the *Major Powell* to see what would have to be done with it, and then he returned to Denver. He hauled the small boat back to Green River by wagon. In Denver he got a friend of his, an old lake marine engineer, secured the necessary material to repair the boat, and he and the marine engineer and one other man returned to Green River, repaired the boat and started down the river. The boat had been tied up on the shore above the water. They put the boat in the river, got up steam, and everything was in good shape. They started down the Green River from Wheeler 's ranch, located about twenty-five miles below the Green River railroad bridge.

Besides himself, there was H. F. Howard, now dead, and a man named Graham. He doesn't know what became of Graham. The boat had originally been built to burn coal oil; he changed it over to burn wood, and spent a good many hours of hard work, cutting wood for the boat. They would run as far as they could with a load of wood, then cut another load, and do the same thing over and over.

On the first trip down, he tried to mark the channel as near as possible, so that when he returned he would have something to work on. He would leave marks on the rocks at the turns, so he could tell what direction to go.

He didn't mark all of the river; only the places where there were bad bars; where the they had lots of trouble, but

> "the marks didn't do any good. When we came back the channel wasn't where it was when we went down.
> **Question:** On your way down the river did you experience any difficulty with sand bars?
> **Answer:** Plenty of it.

Question: How did you get off these sand bars?
Answer: Sometimes we would pull off with block tackle; sometimes dig it out; various ways we would work it. Sometimes we would reverse the boat; back down and run the propellers backwards and tear out the sand and get through that way.

BY THE SPECIAL MASTER:

Question: What month was this?
Answer: This was in March or April; I think we didn't get started until about April the first trip.

BY MR. BLACKMAR:

Question: Block and tackle, you used that by making it fast to something ashore?
Answer: Yes, by pulling.
Question: Then did you have a capstan to wind it in with?
Answer: No, we had none.
Question: How did you operate that end of it?
Answer: Main strength and awkwardness,
Question: Did this sand bar trouble continue on down to the junction?
Answer: As I remember, all the way down.
Question: And at what point did you turn around?
Answer: At about quarter of a mile above the first rapid in the Colorado River.
Question: Just tell me about the progress of your trip up the stream.
Answer: The trip was not quite as hard, coming up, as it was going down, because we would have the chance to back off the bars and try other places; but it took about ten times as much wood coming up as it did to go down.
Question: You spoke about making the channel going down. Was that some suggestion this lake captain made?
Answer: Yes, he suggested that.
Question: Did you get any results from those markings?
Answer: No.
Question: Why not?
Answer: Because the channel had changed before we got back.
Question: Do you recall whether or not during that intervening time the water had risen or fallen?
Answer: It had risen.
Question: How far up the river did the *Major Powell* go?
Answer: To Wheeler's ranch.
Question: Did you attempt to run it further up the river than Wheeler's ranch?
Answer: I did not.
Question: And why not?
Answer: Because I didn't think it possible to get it up there; too much rock and rough water.

He made a second trip down the Green River, about ten days after the one just described. On this second trip they had a little better help. Besides himself and Mr. Howard there was Mr. McClane, Mr. McDonald, and Lute Johnson. Mr. McDonald was a different man then from the one on the San Rafael expedition.

On the second trip they carried more fuel, except wood, and went down the river to about the same place he went to on the first trip. It took them about three weeks to make the round trip, about evenly divided going down and coming back.

On the second trip the river had begun to rise a little.

Answer: The river was quite a little higher, but it shifted the bars so the information we tried to have on the first trip didn't do us much good on the second; had to go through all preliminaries of finding channel on the second the same as the first.
Question: How long did it take you to make that second trip?
Answer: I think about the same time as the first.
Question: And the same distance?
Answer: Made it the same exactly, the same distance.
Question: Coming up the river did you have about the same trouble as you did on the first trip?
Answer: Well, yes, about the same; we had quite serious trouble getting out of the Colorado. The Grand River had had some flood that had gone down.
Question: Just a little too far, and our boat wasn't strong enough to pull us out of there; the only way we could get out of there was by use of a block and tackle, a lining along the shore.
Question: Did you get the boat up to Green River?
Answer: No, sir.
Question: Whereabouts did you leave it ?
Answer: Wheeler's ranch.
Question: On the second trip?
Answer: On the second trip.
Question: And tied it up at Wheeler's ranch?
Answer: Yes.

In 1894 he was over on the Green River, with a mining company, about seven or eight miles below the bridge on the Green River, and while he was there four fellows brought the boat, *Major Powell*, to his camp and abandoned it.*

This was at a point fifteen miles above the Wheeler's Ranch. They took the engine and boiler off the boat, and took them to Green River. He believes the hulk went down the river. The Rio Grande Western Railroad Company was in a way interested in this boating venture, as it was through the young Mr. Dodge that the trip was undertaken; and while they didn't finance the trip, they furnished transportation and did everything they could to help.

On the second trip, Mr. Lute Johnson accompanied the expedition, as he was a newspaper man, and they hoped to have publicity, when they got the boat going.**

Between the Best Expedition and the first trip of the *MajorPowell*, he went in on the San Juan River, during the placer mining boom of 1892. He left the railroad at Green River, Utah, had a pack train of horses and mules, and went through Hanksville to Hite, across the Colorado River, up White Canyon, and south to the San Juan river, about forty miles below Bluff. He was hired to make this trip by the Rio Grande Western Railroad.

End of article. This was an excerpt of Mr. Edward's testimony, which also included the Stanton Expedition, the Best Expedition and various other enterprises, while he earned a living on the Colorado Plateau in the late 19th Century. Edwards ended up in Compton, CA, as an owner/operator of an ice plant. Harry Aleson mentions, in his diaries, meeting Edwards on Lake Mead at Pearce's Ferry in the late 1940s; Edwards was fishing.

*A picture of this mining operation is featured in the Canyonlands guide by Westwater Books on page 14. This is the mining operation that George Flavell received Edward's hospitality at—in 1896.

**An article by Lute Johnson was published in 1893 for the DENVER REPUBLICAN concerning the Denis Julien inscriptions found in Labyrinth Canyon.

The Mule Ear Diatreme:
Just a Blob of Cookie Dough

by Anne Egger

The San Juan River between Bluff and Clay Hills teaches a remarkably succinct geologic lesson. Even the most oblivious travelers can't fail to notice the abrupt changes in scenery as they pass through Comb Ridge and into the canyon. More intentional observers come specifically to explore, or explain, the geology of the San Juan. Recently, I was lucky enough to be part of a trip whose participants traveled here specifically to explore and explain the Mule Ear diatreme. The diatreme stands just west of a prominent feature on Comb Ridge called the Mule Ear. Just before the river takes a sharp right turn to enter the canyon, this dark, three-pronged hill suspiciously blocks the horizon. Those of you who have been down the San Juan may have camped in its shadow, or even hiked up its flanks. It offers a superb view, a chance to grub for garnets, and something a little different from the omnipresent archaeology.

Though the diatreme was extensively studied by Eugene Shoemaker in 1956[1] and mapped in 1972 by Shoemaker and others[2], many fundamental questions about it remain unanswered. How old is it? Where did it come from? How did it get here? Why is it here? How does it fit into the big picture of the Colorado Plateau? The purpose of our trip was to try to answer a few of these questions (while avoiding the wrath of Hurricane Nora).

Our group was not the first to ask seemingly basic questions about the diatreme. The unusual mixture of metamorphic gneiss, large blocks of distant sandstones and shales, deep-earth minerals, and scattered garnets prompted one geologist[3] in 1912 to suggest a glacial origin, such as a terminal moraine. Considering the total lack of anything that could be described as lava, it was a pretty good guess. But the glaciers never made it to the canyonlands, and that theory didn't last very long. In 1915, another researcher[4] recognized it as an intrusive body, probably with igneous origins. He and other authors saw that the Mule Ear diatreme is part of a larger group of volcanic intrusions, loosely termed the Navajo field, which includes Shiprock, Agathla Peak, Alhambra, Moses Rock, Cane Valley, and Boundary Butte, as well as several smaller intrusions and dike systems (see Fig. 1).

Still, no further explanation for the diatreme was available until 1956, when Shoemaker described them while searching for uranium. His paper remains the definitive study and was the starting point for our journey. In his words, the Mule Ear diatreme consists of "a central zone of pipe-like masses of serpentine tuff with a few fragments of basement rock surrounded by large blocks of country rock derived stratigraphically from above and below the present level." In other words, as you follow the trail from camp up to the top of the diatreme, you go from the layered rocks you are accustomed to seeing (like the DeChelly Sandstone and Halgaito Shale), to big blocks of stuff you might be accustomed to seeing, but not on this stretch of the San Juan (like gneiss and Mancos Shale), to stuff you may have never seen before ("pipe-like masses of serpentine tuff"). Figure 2 is a generalized geology map of the area.

Clearly, this is not what we usually think of as volcanic aftermath—no lava, no cinder cone. No wonder those original explorers were confused. Our group of six, of varying levels of expertise and knowledge, managed to pick their way through many of these still unresolved questions. What follows are some of the partial answers (see glossary at end).

So, what is it?

Shoemaker's description, while accurate, is just a physical description, what you see when you hike on the diatreme. But what is a diatreme? The definition given by the American Geological Institute tells us that a diatreme is "a breccia-filled volcanic vent formed by a gaseous explosion."[5] For now, let's concentrate on the first part of the definition, the "breccia-filled volcanic vent" and relate it to Shoemaker's serpentine tuff.

In addition to the rocks of recognizable origin (such as the Mancos Shale and Dakota Sandstone) that litter the slopes of the diatreme, one can also find something a little different. Near the top of the hill are several blocks of what could be Wingate Sandstone (see Figure 2). Taking a closer look at the blocks, however, you can see the apparently uniform sandstone is actually a matrix containing approximately 10% angular fragments of just about everything, from local sedimentary units to deeper igneous and metamorphic sources. Shoemaker calls this stuff "reconstituted sedimentary material," but it is also a breccia, and its makes up the majority of the central zone of the diatreme in one form or another. This stuff is important because it was created in the diatreme event, unlike most of the other rocks. Its constitution can tell us a lot about what happened.

---

[1] Shoemaker, E.M., 1956, Occurrence of uranium in diatremes on the Navajo and Hopi Reservations, Arizona, New Mexico, and Utah. Page, L.R., Stockton, H.E., and Smith, H.B., compilers, Contributions to the geology of uranium and thorium by the USGS and Atomic Energy Commission for the UN International Conference on peaceful uses of atomic energy, Geneva, Switzerland, 1955: USGS Professional Paper 300, p. 179-185.

[2] Stuart-Alexander, D.E., Shoemaker, E.M., and Moore, H.J., 1972, Geologic Map of the Mule Ear Diatreme, San Juan County, Utah, USGS Miscellaneous Geologic Investigations Map I-674.

[3] This geologist was E.G. Woodruff, who offered his theory of glacial origin in the 1912 publication Geology of the San Juan Oil field, Utah: USGS Bulletin 1103.

[4] Woodruff's theory was refuted by H.E. Gregory in his 1915 publication: The igneous origin of the "glacial deposits" on the Navajo Reservation, Arizona and Utah: American Journal of Science, 4th series, v. 40, p. 7-115.

[5] This and other definitions, based on the Dictionary of Geological Terms, 3rd edition, prepared by the American Geological Institute, Robert L. Bates and Julia A. Jackson, editors.

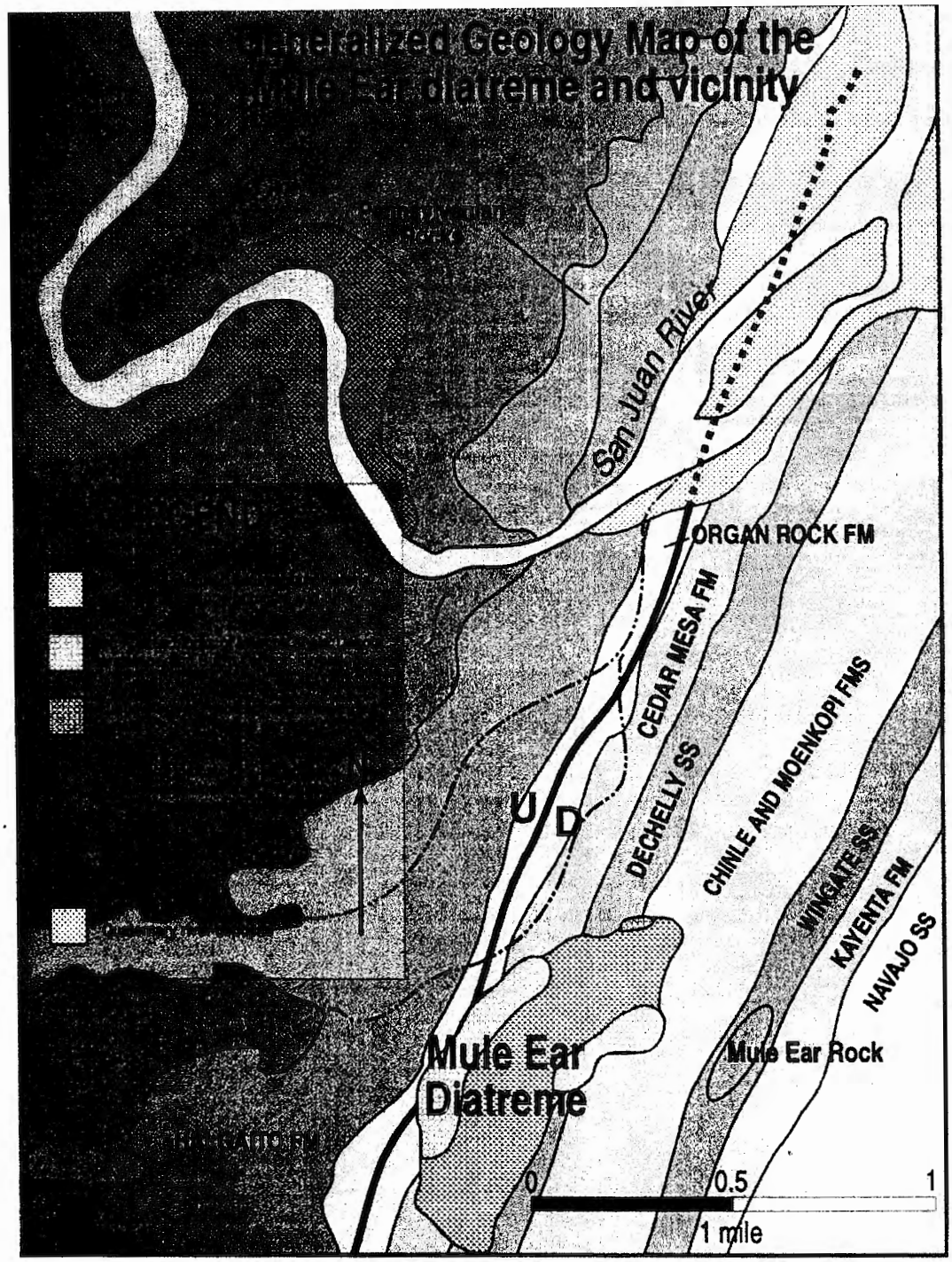


Figure 1

The breccia (or reconstituted sedimentary material) forms walls around small crater-like depressions at the top of the diatreme. The craters are filled with green patches of bare ground—here is our serpentine tuff. Some people call it kimberlite, after Kimberley, South Africa, where it contains diamonds. Many of the minerals present in kimberlite are indicative of fairly great depths in the earth. For example, the green color comes from serpentine, which is a metamorphic product of olivine. Olivine is a fairly common mineral in the upper mantle and oceanic crust, placing it at 30 km or so below the earth's surface. In fact, researchers[6] have concluded that Moses Rock, a diatreme a few miles south of the Mule Ear, is about 200 km deep. This places it well into the upper mantle. Of course, volcanoes originate in the molten rock of the upper mantle, so these great depths should not come as a surprise. However, many of the rocks and mineral assemblages that can be found on the diatreme not only indicate this great depth, but are most commonly found in melting oceanic crust. What is oceanic crust doing popping up to the surface hundreds of miles from where it can be found? We'll get back to this question when we look at the big picture below.

How did it get here?

Let's return to the second part of our definition, "caused by a gaseous eruption." Since molten rock never made it to the surface here, the mechanism of emplacement must be something else, i.e., gas. But where did the gas come from? The eruption of the diatreme itself was likely a phreatic explosion, or the heating of groundwater or volatile CO_2 to the point that it becomes steam and must find an escape route to the surface. The resulting gaseous discharge prompted Don Baars to infamously call it "mega-geo-fart."

There are two basic ideas about how this can happen. In the first, a crustal crack or weakness exists through which ground water can percolate down deep enough to contact hot magma. The molten rock quickly vaporizes the water (or CO_2), sending steam barreling back up through the crack, tearing off rock fragments as it goes. The second is more confusing, but needs to be mentioned. In this scenario, a rising intrusion is stopped by some barrier and crystallizes, releasing CO_2 vapor. The

[6] McGetchin, T. R. The Moses Rock Dike: Geology, Petrology, and mode of emplacement of the kimberlite—leaving breccia dike. Ph. D. thesis, California Institute of Technology, 1968.

gas, trying to escape to the surface, initiates a crack in the crust by which to do so. Both cases presuppose a source of magma, even though it doesn't reach the surface. Something needs to create the vapor. There are several small intrusions and dikes in the area that would suffice, if their eruption times roughly coincide with that of the diatreme (we'll cover that in the next section).

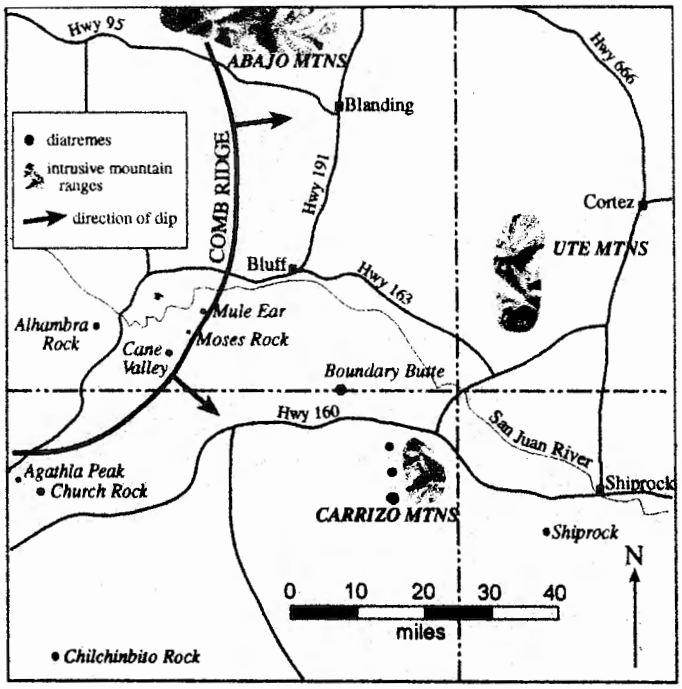


Figure 2. Location of diatremes in the Four Corners Area

In any case, once the vapor is created, a few important things happen. First of all, as the gas rises, tearing off chunks of the country rock, it begins to act somewhat like a debris flow. In the same way that a debris flow can carry enormous boulders down relatively minor drainages[7], the turbulent flow rising through the crust could bring large rock fragments explosively to the surface. Both events involve a process called fluidization, where vapor or water may only compose 10-50% of the actual flow—the solids basically become liquefied under pressure.

Secondly, like a debris flow or a flash flood, these rocks would have reached the surface at extremely high velocities—some estimate at twice the speed of sound. How do we know this? Although we've mentioned the angular rock fragments in the breccia, the large blocks of deeper layers are fairly well rounded. That means that they were hitting each other and the walls of the diatreme as they traveled to the surface, implying turbulent flow. In turn turbulent flow indicates high speed. In profile, diatremes look similar to tornadoes (also an example of high speed and turbulence), grabbing more rock fragments from the walls as they spin, gaining more erosive force and widening the vent.

[7]The classic case of this in river running history is Crystal Rapid in the Grand Canyon, which was a minor riffle until 1965, when a major debris flow filled the river channel with the "debris" that must now be carefully maneuvered.

Thirdly, high speed means that you have a high pressure gradient. This we have, since the eruption is moving from the upper mantle (very high pressure) to the surface of the earth (relatively low pressure). The other thing that accompanies a drop in pressure, of course, is a drop in temperature. (In terms of weather, this is often spoken of a adiabatic cooling. As an air mass rises, it expands under less pressure, which manifests itself as a drop in temperature). Therefore, the eruption would have occurred at "cold" temperatures, somewhere around 300-500° C[8].

Therefore, the diatreme arrived at the surface through (1) fluidization of the rock with a gaseous matrix, causing (2) high velocities and turbulent flow, but the large drop in pressure caused the "magma" to exit at (3) cold temperatures. Rather than hot lava erupting at the surface, you have something more akin to cookie dough, a semi-solid matrix full of chocolate chips, raisins, oats, and other pieces—the rock fragments grabbed from the walls—all mixed together.

How old is it?

When the cookie dough exploded out of the vent, it would have sent up quite a plume. As the dust settled, however, much of the debris would have collapsed back into the vent, forming a shallow crater and allowing rocks of high stratigraphic units to fall back into the vent. Like an avalanche causes snow to compact and cement, the disturbed rocks would compact tightly in the crater; what was once a hole is now a positive topographic feature. This assumption allows an estimation of age; the age of emplacement can't be older than the youngest rocks found in the mixture. In this case, the Mancos Shale is the youngest stuff found, from the late Cretaceous, approximately 5000 feet above the present erosional surface. Given the rate of erosion of that intervening mile of sediments, one researcher[9] estimated emplacement occurred approximately 30 million years ago, in the Oligocene.

Shoemaker cited the use of another method to estimate a date of emplacement.[10] From one of the granitic xenoliths on the diatreme, he produced two apatite fission track dates[11], one of 28±3 and the other of 30±3 million years. One sphene fission track date was much different—690 my. The force of the diatreme eruption was enough to cause fission in apatite, but not sphene; the sphene date reflects the date of its original formation, while the apatite reflects the date of its alteration. In other words, the explosion had to be hot enough to melt one

[8] If 300° C is Cold, what is hot? Generally, the molten rock erupting from a volcano reaches temperatures around 1200° C. That's hot.

[9] McGetchin. See footnot #6.

[10] C.W Naeser apparently performed the apatite fission track and sphene dating.

[11] The force produced by the diatreme was apparently enough to produce fission (the splitting of a heavy nucleus into two parts). The tracks left by the parts as they move away from each other can date the occurrence of the event. I mention the minerals used for completeness, but it isn't important to remember them.

thing but not affect another (a typical day in July on the San Juan is hot enough to melt butter but not boil water).

The temperature necessary to produce fission in apatite is 300° C. The temperature needed to produce fission in sphene is 500° C. Therefore, the eruption had to occur between those two temperatures, corresponding well with the physical evidence we looked at above.

One more date is important. As we saw above, the diatreme needs to have a vapor source that whose age approximates its own. Shoemaker also notes that one of the small dikes located within ten miles of the diatreme was dated to 27 mya, coinciding nicely with the diatreme. He concludes that these magmatic intrusions probably played a role in the formation of all of the diatremes in the area.

A short note about metamorphism.

The eruption of the diatreme, at a cold temperature, did not produce significant metamorphism as many volcanic eruptions can. Typically, high grade metamorphism will not occur until the temperature reaches 550° C. Low grade metamorphism, on the other hand, can occur at the temperatures seen in the diatreme, producing some hardening of the country rock. This may account for the prominence of the Mule Ear itself, which rises hundreds of feet higher than the surrounding ridge.

How does it fit into the big picture?

The volcanism that has occurred in the Colorado Plateau is somewhat unusual. Most volcanic activity, aside from hot spots, occurs on plate margins: the "Ring of Fire" that surrounds the Pacific plate and includes the Cascades, Mount Fuji, and other well known threats is the prime example of this phenomenon. The volcanic fields that rim the plateau, such as the San Francisco Peaks and Mount Taylor, are extremely far inland. They (along with our diatreme) need another explanation.

Most attention has been focused on a rogue plate known as the Farallon plate. This small bit of oceanic crust was subducted under the North American plate beginning 100 mya. Most subducted plates just dive straight down into the mantle, where they begin to melt and form volcanoes near the plate margin (like the Cascades). It appears that the Farallon plate, for some reason, scraped along the bottom of North America for awhile first, wreaking all kinds of havoc, before starting its dive to the mande halfway across the continent[12]. This could account for not only our little diatreme, but much of the inland volcanism and uplift. Hence the appearance of those minerals common to ocean crust, as we mentioned before.

Why here? and other unanswered questions

Why the diatremes of the Navajo field erupted where they did is still a mystery. They seem to follow no pre-existing structural patterns. The Mule Ear diatreme alone, in fact, occurs along a fault. The fault, however, is localized around the diatreme, where the dips of the layers on Comb Ridge and the Lime Ridge anticline are the steepest. So, which came first, the fault or the diatreme? Earlier, we mentioned the possibility of the eruption propagating its own crack—perhaps the pressure of the Mule Ear explosion forced a larger crack to open in an area that was already under compressional stress from folding. Or perhaps, as the growing force rose to the surface, it found the pre-existing fault and followed the path of least resistance.

Baars proposes a possible explanation for the general distribution of the diatremes.[13] First, he notes that the most abundant volcanics occur on the margins of the Colorado Plateau, prior to its uplift. At that time, the plateau was still a basin, receiving sediments being shed from the Rocky Mountains. The weight of these sediments would cause the plateau-to-be to sink, folding the rocks at the edges like a pie crust into a pie pan. At these edges, cracks would open from the tensional stress, allowing magma to escape. Baars notes that many of the diatremes within the plateau similarly form rings around large basins (such as the San Juan and Black Mesa basins), where the rocks begin to "drape" over the basin margins, and could be creating similar results on a smaller scale. However, not all of the diatremes occur on basin margins.

Another problem: there are a few things conspicuously absent from the debris. Once you turn into the upper canyon, you float through 60-odd miles of canyon framed by limestone cliffs, at times reaching 1400-feet thick. And yet there are no limestone fragments found on the diatreme. Where did it all go? In an arid climate like the southwest, limestone is extremely resistant. Where water is plentiful, however, like in the Mexican lowlands, limestone virtually melts. Could the high pressure steam have evaporated fragments of limestone that made it into the cookie dough, actually creating more volatiles? Our group was stumped.

But another important question remains. Like the Navajo field, the Kimberley region in South Africa also contains a high concentration of diatremes. The diatremes there contain a rather high concentration of diamonds. So why do our anthills glitter with garnets and not diamonds? Alas, once again, we must accept that we will never get rich running rivers.

Getting rich was not the purpose of our journey anyway. A lesson in geology, succinct or not, was our purpose, and it was wen fulfilled. The unanswered questions grow fewer and more refined as we gain understanding of the fundamental

[12] Grand, Stephen P., van der Hilst, Rob D., and Sri Widiyantoro, 1997. Global Seismic Tomography: A Snapshot of Convection in the Earth, GSA Today v.7, no. 4, April 1997. This is a relatively recent development in geology. A method called global seismic tomography uses P- and S-waves to generate high resolution pictures of the deep earth, up to about 2800 km. Differences in speed of these seismic waves indicate differences in composition and temperature. A recent publication shows a cold slab descending below the North American continent, which could only be the Farallon plate. "

[13] Baars, Donald L., 1972, The Colorado Plateau

nature of the earth. The Mule Ear diatreme is just a tiny glimpse into the earth's history, but it reflects the larger picture as well.

Glossary

breccia: A coarse-grained clastic rock composed of angular rock fragments supported by a mineral cement or fine-grained matrix.
country rock: The rock enclosing or traversed by a mineral deposit. In this case, the layered sedimentary strata (the Wingate, Chinle, DeChelly, Cedar Mesa, and Halgaito Formations) are the country rock through which the diatreme intrudes.
debris flow: A moving mass of rock fragments, soil, and mud, more than half of the particles being larger than sand size. Rapid debris flows can reach 160 km/hr.
diatreme: A breccia-filled volcanic vent formed by a gaseous explosion.
Farallon plate: A small tectonic plate of oceanic crust that was subducted by the North American plate at the San Andreas fault starting 100 million years ago. This subduction probably has a lot to with the formation of the Colorado Plateau and its inland volcanics.
fluidization: The process by which a solid begins to act like a fluid, producing things like debris flows (see above) and diatremes.
gneiss: A foliated rock formed by regional metamorphism in which bands of light colored minerals alternate with bands of darker minerals.
kimberlite: An alkaline peridotite containing abundant phenocrysts of olivine... From Kimberley, South Africa, where it contains abundant diamonds (unlike at the Mule's Ear, unfortunately).
metamorphism: The mineralogical, chemical, and structural alteration of solid rocks by the physical and chemical conditions found at depth in the earth's crust. Metamorphic rocks have not been completed melted, or they would become igneous rocks; they have simply been subjected to extreme pressure and heat. Through metamorphism, limestone will become marble, sandstone can become quartzite. Other metamorphic products include slate, schist, and gneiss.
moraine: A glacial deposit. A terminal moraine is deposited at the furthest advance of a glacier, where it begins to recede.
phreatic: generally, of ground water. A **phreatic explosion** occurs when ground water is heated and expands due to a local igneous heat source, causing an eruption.
serpentine: A common rock-forming mineral, often green or gray in color. It is always a secondary mineral, derived from the alteration of magnesium-rich silicates like olivine.
tomography: The process by which subsurface images are created, through seismic analysis.
tuff: A general term for all consolidated pyroclastic rocks. In other words, stuff that comes spewing out of a volcano and solidifies, if it's not lava.
turbulence: Basically, confused flow. Flow lines do not follow any pattern, but are heterogeneously mixed.
xenolith: A foreign inclusion in an igneous rock. The Mule's Ear diatreme contains large blocks of Mancos Shale Burro Canyon Conglomerate, and Dakota Sandstone, which would be considered xenoliths in this context.



Professional Guide Training Opportunities for 1998

by Canyonlands Field Institute

BACKCOUNTRY INTERPRETATION COURSES
Open Enrollment

DESERT WATERS '98. April 17 (eve.) to 19, 1998

Calling all river guides to this spring "rendezvous" event and workshop co-sponsored by CFI, CPRG and Headwaters Institute. A keynote address in town Friday night, river films and tales sets the tone for this year's event. The theme **"Rethinking Western Water"** looks at western water politics on the Colorado River system (including river hydrology, affects on flora and fauna, project history, pro/cons of current proposals to "undo" certain water projects). All-day Saturday on the Fisher Towers stretch of the Colorado River (Moab "daily" includes both facts and methods for hands-on interpretation to guests. CPRG hosts Sunday morning leadership development session. Wind up at Big Bend Park for a FUN afternoon cookout, games and gear prizes. Chance to meet and socialize with other guides, outdoor gear and agency reps. 15-hour course certificate.

FEE: $20 ($18 for members of CFI or CPRG). Includes cookout and a Desert Waters T-shirt! **Pay in full to register.**

BACKCOUNTRY INTERPRETATION COURSES (by request)
Suitable for jeep, bike, scenic flight, ski or river guides/outfitters.

COLORADO PLATEAU GEOGRAPHY FOR GUIDES
(Previously: Interpretive Skills I)
For first-year (or new to the area) guides, this course gives you an overview of regional geography, basic geology, cultural history, and lands management. Includes introduction to teaching methods. 10-hour course certificate. (1 eve, 1 day.)

TEACHING OUTDOORS: INTERPRETATION FOR BACKCOUNTRY GUIDES (Previously: Interpretive Skills II)
For managers and experienced guides, this course shows you how to engage and inspire your guests (or train your guides). Communication principles, learning styles, age-group concerns, interpretive planning, "tool kits" and idea exchange. Adapts classic interpretive and outdoor education methodologies for realities of backcountry trips. "Hands-on" techniques emphasized for audience involvement. Practicals/video feedback. 10-hour course certificate. (1 eve, 1 day).

TEACHING ABOUT YOUR PUBLIC, PRIVATE AND TRIBAL LANDS (New course)
As hosts to America's public lands, guides have tremendous opportunity to inform and inspire guests to be active citizens. Thiis course overviews land ownership and management on the Colorado Plateau, characterizing the differences between various state and federal agencies (NPS, BLM, USFW, USFS etc.). Overview of regional Indian tribes and sovereignty, key wildlands legislation such as the Wilderness Act, Antiquities Act, and the Colorado River Compact. Includes hands-on demonstrations, videos. 10-hour course certificate (1 eve, 1 day).

FEES FOR: BY-REQUEST INTERPRETIVE COURSES

I. Fees for Moab-based 10-hour course:
$30 / participant $27 / CFI member

II. Fees for "on-location" courses (within 8-hour drive of Moab):
$60 / participant $54 / CFI member

Fees based on 10 minimum paid spots, at either rate. Maximum 30. One complimentary spot per company. Fees for courses outside Moab include CFI instructor travel costs. Host companies need to arrange for classroom and AV needs. One-two instructors provided, depending on group size.

III. A SPECIALIST FOR YOUR TRAINING TRIP

Inquire about a specialist to accompany your company training trip (Geology, Riparian Ecology and Guide Teaching Methods). Within 8-hour drive of Moab. Company provides all logistics and equipment. CFI covers instructor travel, teaching materials, and certificates of completion.

A. Two-day trip $850 (10-hour certificate)
B. Three-day Trip $1050 (20-hour certificate)
C. Four-day trip $1250 (25-hour certificate)

Deposit/Payment for By-request: $200 group deposit is requested to confirm the program on our calendar. Balance of payment 45 days prior.

SAFETY and EMERGENCY MEDICAL
Open Enrollment

WILDERNESS FIRST RESPONDER

Full course: January 17 to 26 • **Refresher:** January, 23 to 26, 1998

Full course and Refresher options. Instruction by Wilderness Professional Training: Steve Lyons and guests.

WFR emphasizes backcountry care in a prolonged transport context. Includes CPR. Exceeds requirements for Red Cross ER; preferred by National Outdoor Leadership School (NOLS), Outward Bound, some outfitters. Videos, outdoor practicals, written test. Full course is 72-hours and refresher is a 32-hour course. Instructional notebook provided for full course. Provides 3-year WFR and 1-year CPR certification.

FULL COURSE FEE: $400 ($385 / CFI members) **Deposit: $150**
REFRESHER FEE: $225 ($210 / CFI members) **Deposit: $75**

AMERICAN RED CROSS EMERGENCY RESPONSE

Full course: April 13 to 17, 1998.

Instructors: Sheri Griffith, Jim Braggs and guest instructors. This 45+ hour course is designed for any professional who may be called upon to give first aid in the line of duty; includes CPR. Videos, outdoor practicals, written test. Days and one evening. Includes text, and supplies. Provides 3-year ER and 1-year CPR certification.

FEE: $155 ($140 / CFI members) **Deposit:** $75 (Workbook available for additional fee)

RECERTIFICATION for EMERGENCY RESPONSE

February, 24 to 26 • April 3 to 5, 1998

Instructor: Michele Reaume and guest instructors. A 25-hour refresher class for those who hold current American Red Cross Emergency Response certificates set to expire in 1998. Lectures, videos, practicals, supplies, written test. Provides 3-year ER and 1-year CPR certification. Bring your own text and workbook (May be purchased).

FEE: $70 ($63 / CFI members) Deposit: $25

COMMUNITY FIRST AID AND SAFETY

Full Course or Recertification. May 8, 1998.

Note: Precedes River Skills I which starts Friday eve, May 8.
Instructor: Michele Reaume.

An American Red Cross 8-hour course that provides basic knowledge and skills necessary to help sustain life, reduce pain and minimize consequences of injury until more advanced medical help arrives. Replaces "Standard First Aid". Includes CPR. Videos, practicals. written test. Provides 3-year Community First Aid and 1 -year CPR certifications. Includes text and supplies.

FULL COURSE FEE: $35 ($31 / CFI members).
RECERTIFICATION FEE: $20 ($18 / CFI members). Text available for additional fee.

NOTE: Those seeking a Type I Utah Boatman's license need to take either Emergency Response or Wilderness First Responder. Community First Aid is acceptablefor Type III and IV licenses. Please check with your employer on requirements.

SAFETY and RIVER SKILLS
Open Enrollment

RIVER SKILLS - LEVEL I (on the Colorado River)

May 8 (eve) to 10, 1998

Instruction by CFI's River Study Program. For novice river guides and private boaters, this course offers an introduction to river ecology, boat rigging, rowng skills, throw ropes, safety practices, basic boat patching, low impact camp routines. One night at CFI's Field Camp and one night on river. Meals included. Boats/logistics provided. 20-hour course certificate.

FEE: $120 ($108 / CFI members). **Deposit:** $40

WESTWATER RIVER RESCUE (on the Colorado River)

April 24 to 26, 1998

Instructors: Barry Miller and Rachel Schmidt. For experienced boaters (Class III), river researchers and rangers. Course starts with a full-day class session in Moab followed by a river trip in Westwater Canyon. Special considerations for rafting high-volume rivers: instream rescues, rigging, swimming rapids, righting flipped rafts, Z-lines, safety talks, rescue scene management. Meals included; boats/logistics provided. 25-hour course certificate.

FEE: $260 ($245 / CFI members). **Deposit**: $85

ADVANCED WESTWATER RIVER RESCUE (Colorado River)

May, 1 to 3, 1998.

Back by popular demand!! **Instructors:** Barry Miller and Rachel Schmidt. For experienced boaters (Class III+), river researchers and rangers, outdoor adventure course instructors. This intensive hands-on course involves rock and river rescue scenarios designed to hone backcountry rope/ rescue skills. Participants will be actively involved in shore and boat-based rescue scenes, and learn multi-point anchors, mechanical advantage, raising and lowering systems, lining boats around rapids, safety analysis and rescue protocol. Full-day class session in Moab followed by overnight river trip in Westwater Canyon. Meals included. Boats/logistics provided. 25-hour course certificate. **PREREQUISITE**: CFI's WW Rescue or River Skills II or similiar 2-3 day course.

FEE: $260 ($245 / CFI members) Deposit: $85

Note: Plan ahead! River Skills II (Dolores River, technical water) will not be offered again until 1999. We will alternate that course with the Advanced Westwater River Rescue course every other year.

RIVER RESCUE COURSES (by request)

For Your Training Trip. One instructor per course: Barry Miller, Michele Reaume, or other qualified guest instructors.

I. One-day course (10-hour certificate) $65/ person ($58.50 / CFI member). Minimum of 10. Max 30. One complimentary spot.

II. Multi-day (instructor accompanies your training trip) - flat rate percompany/group.

A. Two day trip $950 / group (10 hour certificate)

B. Three day trip $1250 / group (20 hour certificate)

C. Four day course $1550 / group (25 hour certificate)

NOTE: CFI provides course outlines, handouts, rescue practice equipment, skills checklists, certificates of completion as for all other courses. Optional college credit available with notice. Hosting company provides all meals, equipment and trip logistics. Within 8-hour drive of Moab.

DEPOSIT / PAYMENT FOR RESCUE BY-REQUEST COURSES: $200 deposit to confirm on calendar, balance 45 days prior. For one-day course, company billed, following for any walk-ons.

To Register: For open-enrollment courses, send a deposit and request the program outline for the course. For By-Request programs, please contact Karla VanderZanden, CFI's Executive Director to make arrangements.

Balances: Due 45 days prior to start date. payment may be made with cash, check, or Visa / MC card. For courses that don't include camping / meals, there are hostel and camping options available in Moab.

Outfitters: who are, or become, CFI Business Associate members ($100 / year) can offer discounted course fees to employees.

Scholarships available!

Certifications: provided for documentation.

College credit: for additional $10 - 40 filing fee.

Ask about CFI's **Whitewater Academy for Teens,** June 25 to July 1, 1998. For ages 13 to 18. Scolarships available for this program.

Underwriters: National Fish and Wildlife Foundation, The Dumke Foundation, The Maki Foundation, Utah Travel Council, Canyonlands Natural History Association, Bureau of land management, National Park Service, Utah Division of Wildlife Resources, Headwaters Institute and Utah Guides and Outfitters.

For Additional Information:

Canyonlands Field Institute
P.O. Box 68
Moab, UT 84532
435 259-7750
800 860-5262
e-mail: CFIinfo@canyonlandsfieldinst.org
Website: www.canyonlandsfieldinst.org



Wilderness Medicine Seminars

by Wilderness Medicine Institute

WILDERNESS EMERGENCY MEDICAL TECHNICIAN

This course is designed for outdoor leaders, search & rescue team members, backcountry rangers, rural ambulance attendants, and other individuals who provide emergency care in remote settings. While fulfilling the DOT requirements for certification, this 180-hour program significantly can expands the required topics to address the issues involved in extended care and introduces back-country rescue techniques.

Teton Science School; Kelly, Wyoming. $1,835**
November 24 to December 19

Wilderness Medicine Institute; Pitkin, Colorado. $1,685**
December 29, 1997 to January 23, 1998

Yosemite Community Education Center; Oakhurst, CA. $TBA
March 23 to April 17, 1998

Wilderness Medicine Institute; Pitkin; Colorado. $1,685**
May 25 to June 19

WILDERNESS FIRST RESPONDER

This course is designed to provide outdoor leaders, guides, rangers and travelers with the knowledge needed to deal with emergencies in remote settings. It is an 80-hour curriculum that meets all national standards for urban and extended care situations. Emphasis is placed on prevention and decision making.

University of Southern Colorado; Pueblo, Colorado. $300
September through December

Wilderness Medicine Institute; Albuquerque, NM. $425
September through December

Wilderness Medicine Institute; Bend, Oregon. $480*
October 13 to 22

Paragon Guides; Vail, Colorado. $450
October 25 to November 3

Teton Science School; Kelly, Wyoming. $425
December 1 to 11

Front Range Mountain Guides; Boulder, Colorado. $425
January 2 to 11

Whitman College; Walla Walla, Washington. $TBA
January 9 to 18

EDUCO; Loveland, Colorado. $450
March 7 to 16

University of California; Santa Cruz, California. $TBA
March 20 to 29

Summit Adventures; Bass Lake, California. $TBA
April 3 to 11

WILDERNESS FIRST AID. (May be used as a WFR refresher.)

Offered since 1975, this two or three-day course is used by, many organizations to introduce first aid and long-term patient care to trip leaders, camp counselors, guides and rescue team members. In addition it is often used for recertification by those with previous training. We recertify current cards from the following organizations only: SOLO, NOLS, WMA OR WPT.

Charles Wright Academy; Tacoma, Washington. $TBA
August 23 to 24

Ashland Outdoor Store; Ashland, Oregon. $125
October 4 to 5

Oregon State University; Corvallis, Oregon. $TBA
October 11 to 12
University of Puget Sound; Tacoma, Washington. $TBA
October 25 to 26
Paragon Guides; Vail, Colorado. $125
November 15 to 16
Boise State University; Boise, Idaho. $125
November 15 to 16
Wilderness Medicine Institute; Pitkin, Colorado. $110
December 13 to 14
Wilderness Medicine Institute; Albuquerque, NM. $125
January 10 to 11 (recertifications only)
Wilderness Medicine Institute; Albuquerque, NM. $110
February 7 to 8
California Poly-Tech Univ.; San Luis Obispo, CA. $TBA
February 14 to 15
University of California; Santa Cruz, California. $TBA
February 21 to 22
Wilderness Medicine Institute; Pitkin, Colorado. $110
February 21 to 22

EMT-B REFRESHER/TRANSITION COURSE

State of Colorado approved refresher and upgrade to new curriculum. Also qualifies as NREMT.

Wilderness Medicine Institute; Pitkin,Colorado. $185
November 14 to 17
Wilderness Medicine Institute; Pitkin, Colorado. $TBA
March 13 to 16

WILDERNESS/RURAL EMT/FR MODULE

This module upgrades EMT's and/or First Responders to the current standards in Wilderness/rural pre-hospital medicine. The curriculum is based on the NAEMsp Rural Committee's guidelines and the Wilderness Medical Society's WPHEC curriculum. Pre-approved by the Continuing Education Coordinating Board for Emergency Medical Services for 48 hours of CEH.

Yosemite Joint Union High School Dist.; Oakhurst, CA. $TBA
October 3 to 8
Wilderness Medicine Institute; Pitkin, Colorado. $295
November 7 to 12
Wilderness Medicine Institute; Pitkin, Colorado. $TBA
March 6 to 11

WILDERNESS MEDICINE INSTITUTE SPECIAL

Enroll in the EMT-B Refresher/Transition course and the Wilderness/Rural EMT/FR module together and save $55!

Wilderness Medicine Institute Special ; Pitkin, CO. $425
November 7 through 17.

Unless otherwise marked, all prices include tuition only.
*includes lodging and tuition only
**includes meals, lodging and tuition.

For additional information:
Wilderness Medicine Institute
P.O. Box 309; 413 Main Street
Pitkin Colorado 81241-0309
Voice: (970) 641-3572;
Fax: (970) 641-0882
E-mail wildmed@rmi.net
Website: www.fcinet.com/wmi

Boat Repair Clinic

by Clark Hatch

This is a **sample** itinerary for our Boat Repair Clinic which will be conducted for the 1998 season. The date and time will determined after the next meeting of Utah Guides and Outfitters and will probably be held on a date that will be convenient for those attending the Dinosaur National Monument interpretive training trip. Please contact your employer after the UGO meeting for these details around late March or early April. The course will be held in Vernal, Utah, in cooperation with Don and Meg Hatch River Expeditions.

- Introduction of different types of material used by major whitewater boat manufacturers.
- Introduction of different types of glues used, and key ingredients to look for to match glue with materials.
- On-river patching techniques:
  1) Key items to have in your patch kit including the new "trick" tools. 2) Major rip repair. 3) Temporary repair.
- Off-river patching techniques:
  1) Essential tools that should be used in boat repair. 2) D-ring removal and repair. 3) Valve boot replacement. 4) Valve replacement. 5) Seam tape use. 6) Pressure relief valves.
- Red blower maintenance and tricks to make them last longer.
- Vulcanizing your old military boat; what to use and how to do it
- Bring your own beer and tell river stories afterward.

Brands of boats we will cover: Avon, Achilles, Aire, Riken, Sotar, Maravia, Rubber Fabricators, Hyside, Domar. Boats we can't cover at this time would be Wing Inflatables, Colorado Headwaters and possibly a few others. This is due to the fact that they are new to the market, and I have not had enough experience with these to justify spending time on techniques for these particular models.



Notes From the Glen

Nowadays, conversations that mention "Glen Canyon," create irritated statements that color the topics at hand. If you have thoughts, of a chance to run the canyons once named Mound and Monument, or a continuation of the same old, here are some things on the Colorado arm that have come up of notice this summer. Some is information that didn't reach all circles or even the playing ground; feedback and ideas to evolve what is developing would be nice. A lot of things were learned at the Glen Canyon National Recreation Area (GCNRA) meeting in late October. Some of the topics below were discussed, while other points are based on conversations with different people.

•In 1996, Glen Canyon National Recreation Area put into effect: no up-running past Imperial Canyon, except in NPS emergency situations. It was decided that down-stream travelers did not need extra navigational hazards on the river. Theoretically the regulation guarantees campsites to down-stream travelers. When lake users are above Imperial Canyon, generally they are so, due to the lack of knowing about the regulation. To solve the lack of knowledge, a sign is proposed to be set up below the inundated rapid #28 (river left). The buoy near Mille Crag Bend has done a lot for

previous camping problems, so these signs should slow or stop most up-river travel into the rapids. Getting hull numbers of boats that are in violation of this regulation is up to the down-stream users to copy; those numbers can be then turned in to the Hite rangers.

••Camping on the lake did cause some headaches for Kerry Haut and the other rangers at Hite. The Mille Crag buoy has almost erased the problems once had on the up-lake stretch with camping. Unfortunately, there were a couple unique situations this summer. When down-stream users sign in at the register box, above the rapids in Cataract Canyon, it does not guarantee the user to get the camps that they signed for. That register box is voluntarily and helps every one plan itineraries to avoid congestion on down the river and on the lake. So the register box works excellent for us river enthusiast's, only so far as the lake. When we get to the lake other parties are joining our community. These new parties don't have an ability to get to the sign-in box and register into our system. All lake users can camp where they choose in applicable sites on the lake. The buoy at Mille Crag Bend, eludes to lake users that down-stream traffic needs the camps and to avoid camping up-lake. Powellites can camp up-lake if they want to, so if someone is in the camp you signed for, you can not kick them out. You should explain your side of the story and be prepared to squeeze in somewhere else. Please do not get discouraged about the sign-in box, keep using the thing. It really sorts some of the congestion in the canyon and on the lake within our community. "If you don't use it, your just baggin' your friends and fellow boaters".

Please! If you see driftwood collecting on the Mille Crag buoy, stop and clean it off. It took a long time to get that buoy in place and it is suspected that to have it fixed, the time would take even longer.

•••Yes, the boat ramps were a source for more frustration this year. Remember if you have a run-in with someone who is a "little off the handle" don't let it get your dander up. "Two senseless people in an argument are worse than just a single senseless one."

Potash: Some folks enjoy rigging trips on the side of the ramp that allows the only access for the trailers that float boats off. One solution is to paint the deep ramp side one solid color and label it with bright lettering. A post-it board at the rest room would be great, with a description of where to rig on the ramp, ect. CPRG would like to do a clean-up around the launch point, which would be a nice time to put the board up. **The spring clean-up for Potash is planned for this March, call or drop us a line to express your interest.**

Hite: There was some non-positive interaction between the power boaters wanting to use the east side of the Hite ramp and with commercial and private rafters taking out. It sounded as though the rafters were where they needed to be, doing what they should, but maybe a little slower and more spread-out than usual. Unfortunately some power boaters thinking that the rafters were taking up to much room and were blocking there access to the water. I guess the east side of the Hite ramp is the cool side now, and every one thinks its where to launch or retrieve power boats from. Maybe we could switch sides and get the courtesy dock? Or we could paint the Hite ramp as well, then paint a stenciled description for the two sides. Maybe some of the new Fee Recovery money can be used to build a rafters boat ramp (see next topic).

••••The 98' season is going to bring automated fee machines to the Hite area. Yes, GCNRA is a Fee Recovery area. Each boat is $20.00 a year if it has a motor, if you are there for only a week its $10. Compound this with a vehicle entry fee as well, and you can see that the lake will be churning up some revenues to deal with some of the overused and overcrowded areas. 80% of the money generated stays in Glen Canyon for improvements. During the 97' summer the Wahweap area started charging while the rest of the lake did the status quo thing. The extra money paid for extra interpretive lake rangers to go around and educate people on camping etiquette and it also paid for some floating RV pump-out stations.

Starting the system in one place and spreading it out the next year sounds very viable and makes good business sense. Few glitches are expected when the system goes lake wide, except at Hite and the San Juan arm. Both are unique because of the rafters. As you read this, I imagine that you are wondering, how in the world is this going to impact the river traffic that travels into GCNRA. Will Canyonlands National Park and the San Juan BLM charge river users at one time, when they get their permit, or will they have to pay two ser[illegible]irges to two different agencies. If a group has one motor to g[illegible]e lake and they need to drive five cars into Hite or Clay Hills, [illegible]ey have to pay five times the amount for all the vehicles? What about the commercial companies and their system of vehicles and buses that go in and out? Of the money collected how much will the river runners see used for things that help them? A separate boat ramp, a nice sewage place to clean toilets, or some other expensive capital improvement that hinders wilderness experiences for the vacationers in the area? **We are going to need help on this one. We need some thoughts and ideas to bring to the table on this one!**

•••••Some new commercial services are popping up on the lake. Most of the services, I suspect, will happen near Page, AZ. Some might operate on the "river arms," and if they do, I was told that existing impacts would be looked at. The "river arms" seem to be maxed out, i.e., the lack of camping sites and the congestion at hiking places. Any how, here are the new services: boat brokering / guided hunting trips / instruction classes for: water skiing, knee boarding, wake boarding, captain's pilot license and boater services / kayak and canoe tours / mountain bike tours / personal water craft (PWC) tours (concession only, on Lake Powell) / special tours (lakewide) such as: photographic, wildlife viewing, and education (all of which are subject to concessionaire first right of refusal).

••••••Stay tuned to some new legislation that will ban personal water craft from National Parks and Recreation areas, except where the superintendents allow their use. Letter writing is going to be the key on this one. The superintendents will keep areas closed to the use only if they receive enough letters to do so. If you want PWC's to be closed out from Imperial Canyon to the Hite Bridge, write a letter to the Glen Canyon superintendent. The same would be true to the flat water in Canyonlands National Park. At the time of this printing, it is not sure where this regulation stands in Washington D. C., except that it looked very able to succeed in clearing all the bureaucratic hoops needed. We will send out the pertinent information when it's status is done.

•••••••Since CPRG supports the Glen Canyon Institute's mission to drain Lake Powell, I think it should be known that there are organizations developing to save Lake Powell. People should and do have a choice on where they stand on this controversial issue. In numerous communities there are circles of people who have opposing views with their neighbors and / or co-workers, which don't tear their friendships and respect of each other apart. Let's be like that!

If you would like to get more info on "The Friends of Lake Powell" write:

Friends of Lake Powell
P.O. Box 7007; Page, AZ. 86040
email: friends@lakepowell.org
Website: www.lakepowell.org

Stay tuned, lots of questions are going to be answered this winter. Give us your ideas or volunteer to help, we can only go to so many meetings and devote so much of our time. We need some help here!

T-Berry

Crossword Puzzle

Theme: A River No More: The Colorado River and the West by Phillip Fradkin

ACROSS

1. A side canyon. A dam site in Western Grand Canyon that includes the Hualapai Nation. This dam was not built due to a successful campaign by the Sierra Club.

3. A nickname. George was the trip leader on a Grand Canyon river expedition that author Philip Fradkin participated in. A Moabite who wrote an article for The Confluence; a skilled rock climber. Quote: "Sheesh!" Wears sarongs.

6. A place name. A "park" below the confluence of two rivers where the hermit Pat Lynch lived. A dam site the Sierra Club prevented from being built in the state of Colorado.

7. Last name. Herbert became president in 1929; a Quaker; Ph.D. in engineering; a post-WWII humanitarian. He was Secretary of Commerce and chaired the committee that formulated the Colorado River Compact of 1922. The first high dam on the Colorado River is named after him.

8. Name of a dam on the San Juan River which was authorized by the Colorado River Storage Project Act of 1956 (CRSP). It supplies water for a coal-burning, electric generation plant, near Farmington, New Mexico.

10. A river. A dam on a tributary stream of the Colorado River; forms Dillon Reservoir that diverts water by a tunnel under the Great Divide to the Front Range of Colorado.

11. Last name. Floyd was the commissioner of Bureau of Reclamation (BuRec) when the dams of the Colorado River Storage Project were built.

12. Last name. Elwood was the commissioner of BuRec when the dams of the Boulder Canyon Project were built. A reservoir that shares the border of Nevada and Arizona is named after him.

16. A chemical compound that is essential for life as we know it. Los Angeles, Maricopa and Clark counties would not be the population clusters they are today without the technical delivery systems engineered to transport this fluid.

17. Last name. Stewart is a great-grandson of John Doyle Lee. He was an Arizona congressman and Secretary of the Interior when the dams of the CRSP were built. A trustee of a non-profit called the Grand Canyon Trust. A major player in the formation of Canyonlands National Park.

19. Last name. Carl was an Arizona senator—practically forever. When Grand Canyon National Park was formed in 1919 he stipulated that dams could be built in the park. The visitor center at Glen Canyon Dam is named after him.

21. A river. This river is the major tributary of the Green River and does not have a dam on it. Powell called it the Bear River.

24. Last name. Orrin is a senator from Utah and called the Sagebrush Rebellion "the second American Revolution [which is destined to emancipate the West] from economic and political control by the Federal government." Ironically, he fought President Carter's plan to cut many federally funded water projects in the West.

26. A valley. A project, in Utah, was built in 1913 and developed a river that flows into the Green River from the Uinta Mountains.

27. A dam on the Salt River that was completed in 1910, even before Arizona became a state. It is named after the president that signed the Newlands Act of 1902 into law which formed the bureaucracy that is now called the Bureau of Reclamation.

30. Three words. A man-made delivery system that diverts Colorado River water from Imperial Dam. The system parallels the Mexican border to provide irrigation for the farmers of the Imperial Valley in California. Part of the Boulder Canyon Project.

32. The first of two words. A gorge; a dam built in the Red Creek Quartzite. This dam is part of the CRSP and was dedicated by John F. Kennedy. The dam was retro-fitted to discharge warmer water to improve downstream fish habitat. Like Glen Canyon Dam the bedrock structures leak.

33. A Last name. Arthur was the first deputy commissioner of the Reclamation Service and a nephew of John Wesley Powell. A dam that forms Lake Mojave is named after him. A power plant downstream of the dam has its coal delivered by a slurry pipeline from Black Mesa on the Navajo / Hopi Reservations.

35. A last name. Wayne was a powerful Colorado congressman who was fundamental in the development of the upper basin projects. Three dams on the Gunnison River, as a unit, are named after him. (The system is also referred to as the Curecanti Project.)

36. A lower basin state, which like California, has no major watershed to contribute to the Colorado River system. Francis Newlands, a congressman from this state, introduced the bill that started the Reclamation Service. The river right side of Hoover Dam is in this state.

37. Two words. A dam built in Yosemite National Park in 1917, which the Sierra Club was unable to stop. In 1920 the Federal Power Act made it unlawful for a private company to build dams in national parks. This law, however, does not really prevent the Federal government from building dams in national parks. Consequently, Rainbow Bridge National Monument is flooded by Glen Canyon Dam.

DOWN

2. An old name for a river. During the formative period of the Colorado River Compact, the state of Colorado considered it an embarrassment not have a river named after their state. A name change occurred in 1921.

3. A name of a canyon that is now flooded by Lake Mead. It was the name for an Act of Congress that built Hoover and Imperial dams, and laid the groundwork for the Parker-Davis Projects, which were all instrumental to the development of the lower basin aqueducts and irrigation canals.

4. A river. The major tributary of the Colorado River which joins in Canyonlands National Park. Though correctly termed as a tributary, in 1950 and 1951, it did contribute more water to the system, at this point, than did the Colorado River.

5. Three words. The theme of Fradkin's book. The legal document that was decided upon at Santa Fe, New Mexico, in 1922, that allocated water to the seven states of the Colorado River basin. Arizona did not ratify this agreement until 1944.

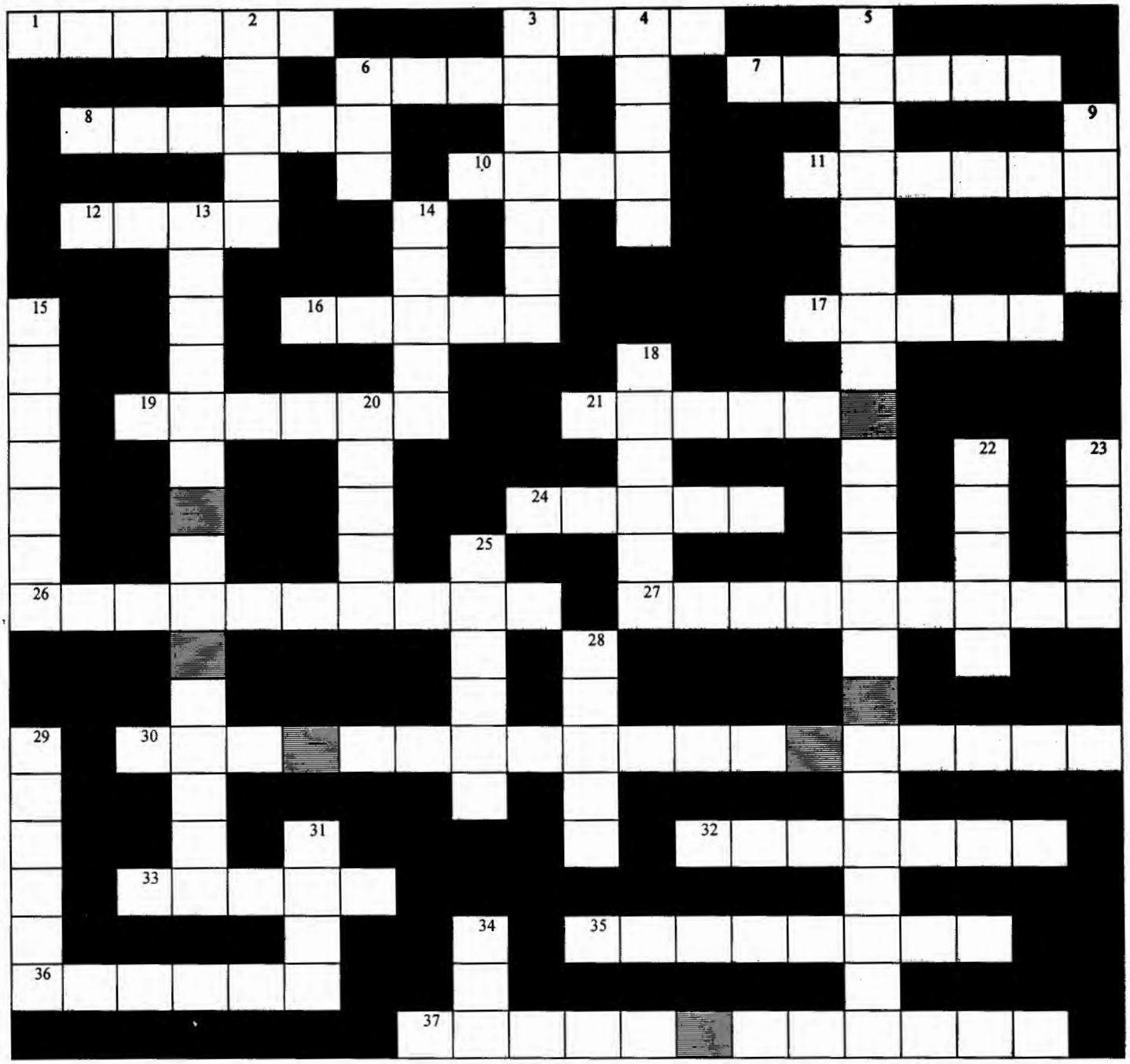
6. A geologic time frame longer than an Era.

9. A last name. Howard was the governor of Arizona when Arizona filed suit against California over Colorado River water issues in 1953; this case took 12 years to decide.

13. Three Spanish words for two rivers. A proposed water project in southwestern Colorado that would pump water from the one river shed into the other. It is very controversial because the expense greatly outweighs the benefits.

14. A dam on the Snake River that failed catastrophically in 1974 and killed 11 people; damages: two billion dollars. Fontenelle Dam, on the Green River, is an earthen dam of similar design and is considered to be the weakest link in the Colorado River basin.

15. A river in west-central Colorado that basically flows north to its confluence with the Colorado River above Moab. The dam on this river is called McPhee. Otis Marston did the first descent down this river in 1948.



18. Last name. Jimmy was president of the United States when he vigorously waged war on Western water projects. He was the best powerful friend a free-flowing river ever had.

20. A river. A major tributary of the Colorado that flows through Vail, Colorado. Also the largest predatory bird in North America, which finds sanctuary in our canyons.

22. A last name. Harold was the most influential Secretary of Interior the United States has ever had because his programs put America back to work during The Depression. His biography is three inches thick. He recommended to Franklin Roosevelt the creation of Escalante National Monument in the late 1930s. Had this monument been established, Glen Canyon Dam might never have been built.

23. A chemical compound of sodium and chloride that poses a great threat to the economic stability of the agriculture industry in the lower basin and Mexico.

25. Last name. David is called the "Archdruid" in a book written by John McPhee. His efforts kept rivers flowing in the national park systems of Dinosaur and Grand Canyon. He is currently active in restoring the Colorado River in Glen Canyon.

28. A major tributary of the Green with it's confluence just below Ouray, Utah. Powell spent some time here before his 1869 river Expedition.

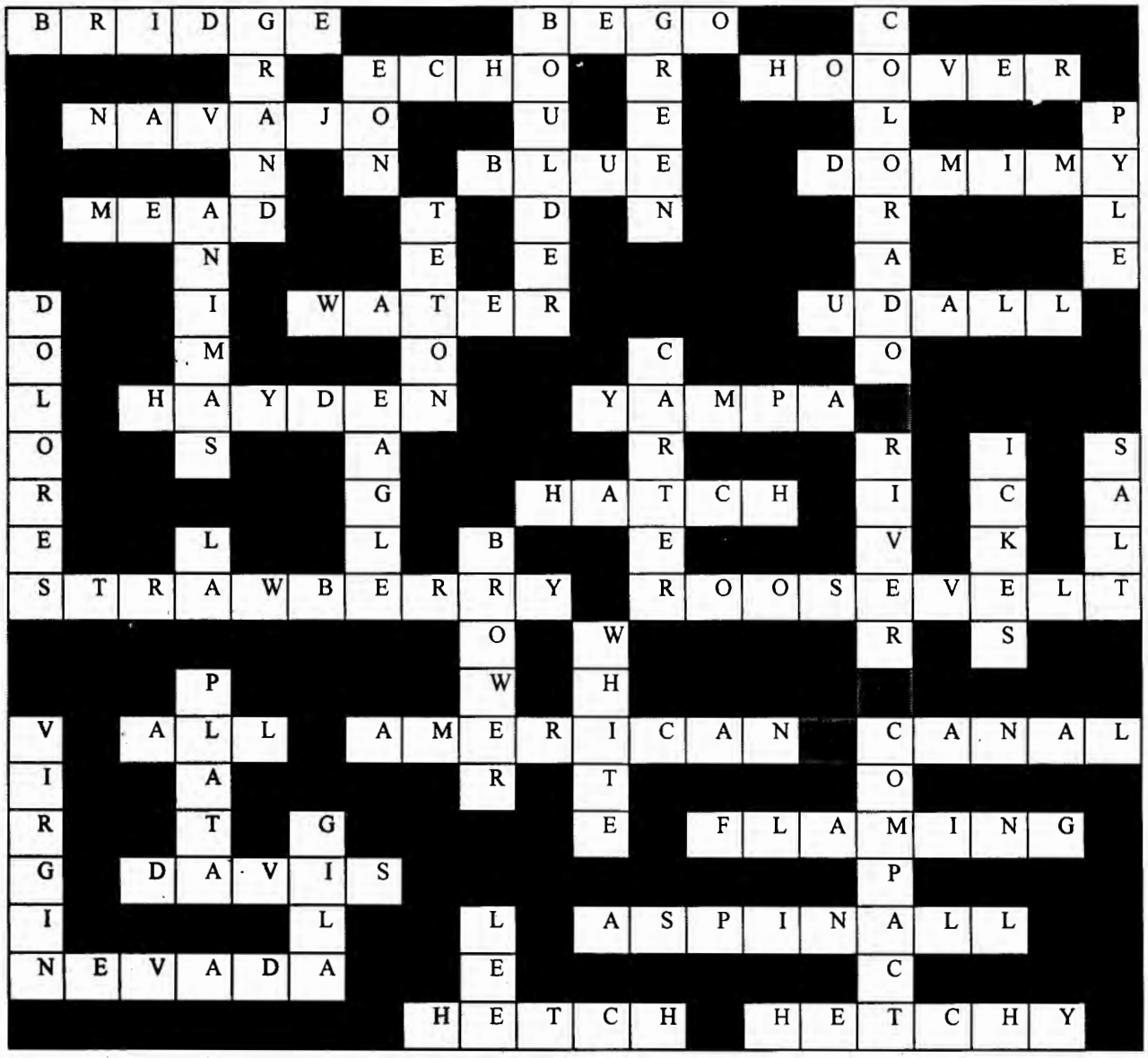
29. A river. This river headwaters in the Colorado Plateau, but it will travel through the Basin and Range before it's confluence with the Colorado River (Lake Mead). Powell ended his first river trip at its mouth. It passes through Zion National Park.

31. A river. It has a dam on it that was completed in 1928 and is named after Calvin Coolidge. The headwaters are in New Mexico and its major tributaries are the Salt and Verde rivers.

34. Last name. John was a Mormon pioneer who developed a crossing of the Colorado River in northern Arizona. The Colorado River Compact decided that the point of dividing the upper basin from the lower basin would be one mile below the mouth of the Paria River, where his home was built.

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

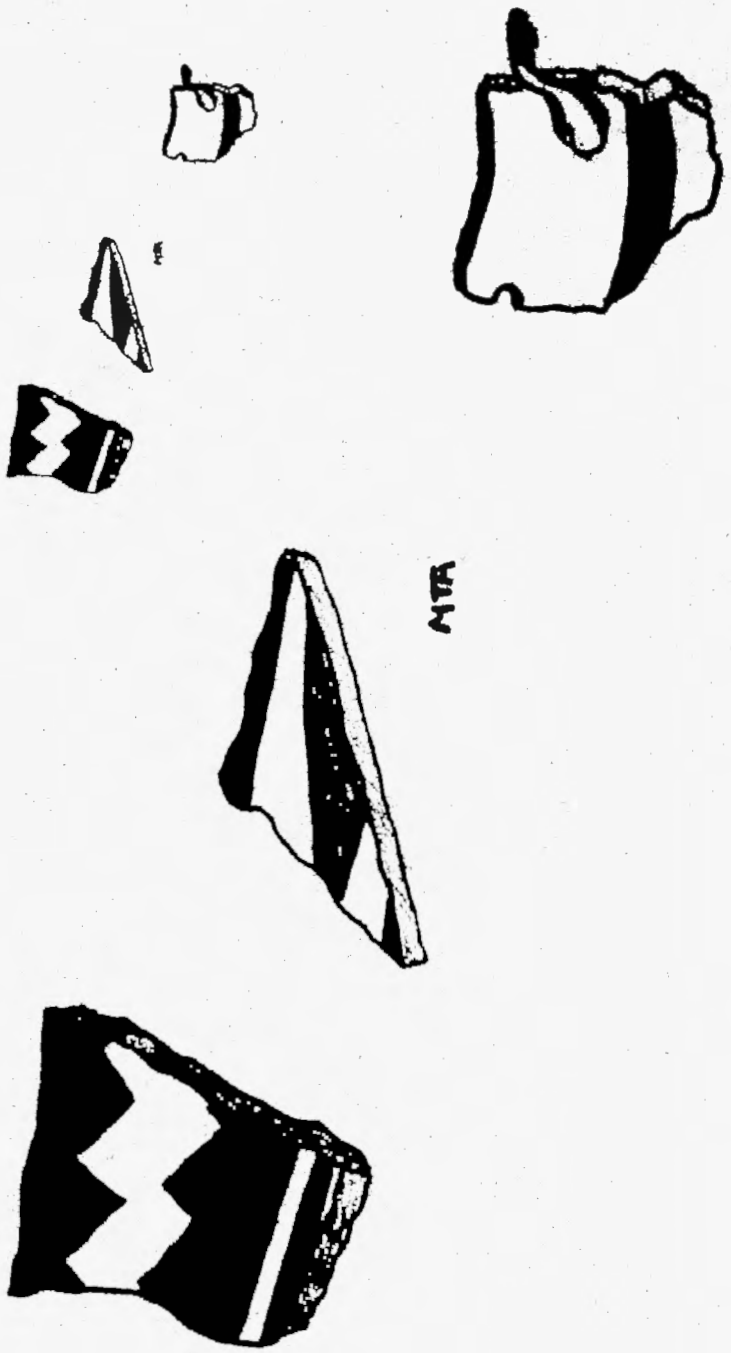


The Confluence

The Journal Of Colorado Plateau River Guides

Volume 5, Issue 1, Spring 1998

Where am I?
The Law of the River
Who's Who? Agencies
Stress
Guidelines for Managing Conflict
Information Plus-A Book Report
Upper Animas River
Animas-La Plata Project
Educational Psychology
Personal Watercraft
Les Jones
U.S. Board on Geographic Names
Anasazi Symposium
Restore Hiking to your Repitoire
Poems
Calling and Conjuring CREATIVITY
Seven Wonders of the World
Origins of the Months



The Confluence

...voice of the (illegible) quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (c) (3) non-profit organization dedicated to:

* Protecting the rivers of the Colorado Plateau;

* Setting the highest standards for the river profession;

* Providing the best possible river experience;

* Celebrating the unique spirit of the river community.

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau.

General Membership is open to those who love the rivers of the Colorado Plateau.

Membership dues:
$ 20 per year
$100 for 5 years
$195 for life
$295 benefactor

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Steve Young
Vice President	Michele Reaume
Secretary/Treasurer	John Weisheit

Directors

Bluff	Ann Egger
Green River	Shane Edwards & Chris Smith
Moab	Jose Tejada
Vernal	Clark Hatch
Grand Junction	Darren Smith

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(435) 259-8077
Faxes accepted: please call first
E-mail: cprg@elsena.com

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Word Perfect 5.1 on an IBM PC. If you use a word processor, we can translate most programs. Otherwise, please send your text double-spaced. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

Editor: Michele Reaume
Printing: Times-Independent
ISBN # 1079-428X

A Disclaimer

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing or supporting viewpoint please send your comments to CPRG.

Special Thanks To:

John Weisheit for enduring my often interruptions.
I'm glad you could get some of the insulation completed.
Susette Weisheit for dinner invitations.
Molly Martin -Taylor and Nancy Allemand for contributions and editing.

Guide Training River Trips

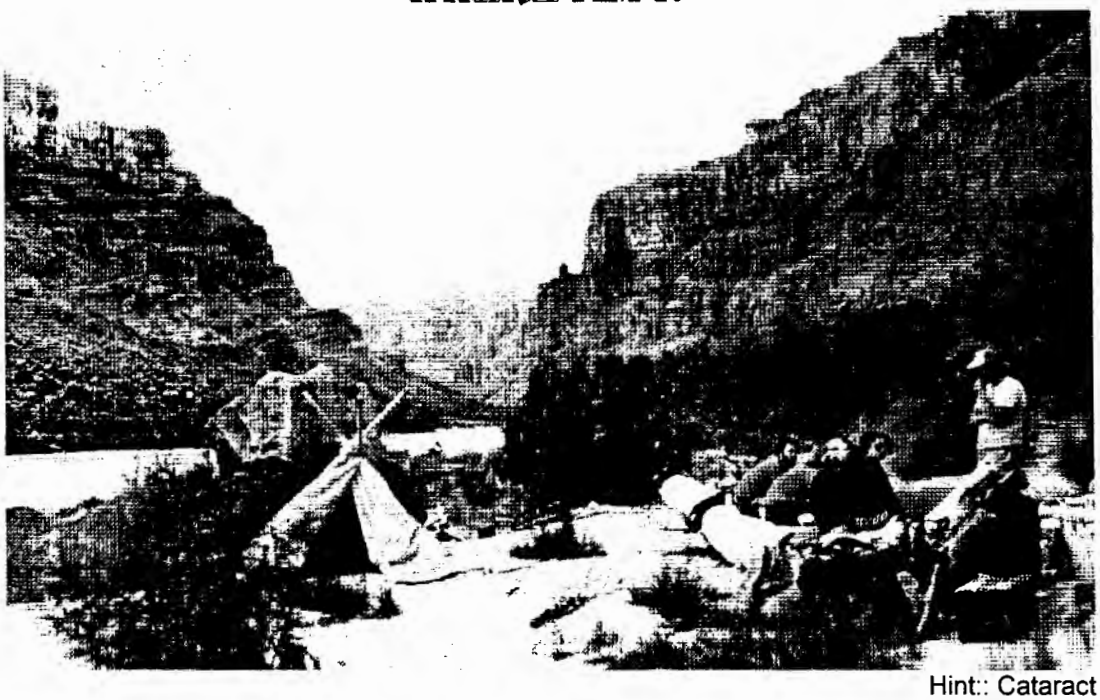
San Juan Interpretive Upper	April 9-12	AZRA
San Juan Interpretive Lower	April 12-16	AZRA
Desert Waters (MOAB)	April 17-19	CFI
West water Interpretive	April 20-22	Holiday
Cataract Interpretive	April 28- May 1	Adventure Bound
Dinosaur Interpretive	May 5-8	Adrift

See your employer about attending the above workshops.
Space will probably be limited.

Other Training Opportunities

Patch Clinic	TBA	CPRG & Hatch River Expeditions
Symposium	March 20-22	Anasazi Heritage Center,CO
Basic First Aid $50 fee due Feb 9	Feb 21	Moab Fire Station Contact: Dale Parriot 435-259-7871

WHERE AM I?



Hint:: Cataract



These two, Westwater.

SOLUTIONS TO BE FOUND WITH ARTICLE: *United States Board on Geographic Names*

THE LAW OF THE RIVER

The following documents compile "The Law of the River". It may behoove guides of the Plateau to assign ourselves to become familiar with these various documents and laws.

1. Dividing rights to the Colorado River to the seven basin states and the Republic of Mexico:
The Colorado River Compact of 1922.
2. Authorizing Hoover Dam, the adjacent power plant and the All-American Canal:
The Boulder Canyon Project Act of 1928.
3. Delivering 1.5 million acre-feet to Mexico from the Colorado River is documented in:
The Mexican Water Treaty of 1944.
4. Dividing upper basin water shares among Colorado, Utah, New Mexico, Wyoming:
The Upper Colorado River Basin Compact of 1948.
5. Authorizing upper basin storage reservoirs:
The Colorado River Storage Project Act of 1956.
6. Dividing lower basin water shares among Arizona, California and Nevada:
The *Arizona v. California* Supreme Court decision (June 3, 1963).
7. Very involved. Authorizing the Central Arizona Project. Limiting diversions to AZ to assure 4.4 million acre-feet to CA yearly. Also establishing future attention to fulfilling the Mexican Water Treaty and directing the Secretary of the Interior to concentrate on long-range operations of the Colorado River's federal reservoirs:
The Colorado River Basin Project Act of 1968.
8. Setting priorities for Lake Powell releases and storage for the Colorado River Storage Project reservoirs: **Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs of 1970.**
9. Authorizing the U.S. Environmental Protection Agency to control national river water quality:
The Federal Water Pollution Control Act Amendments of 1972.
10. Requiring salinity reduction in water slated for Mexico:
Minute 242 of the International Boundary and Water Commission.
11. Establishing desalting projects to improve Colorado River water quality:
The Colorado River Basin Salinity Control Act of 1974 and 1984 Amendments.

Colorado River Dams are operated by the Bureau of Reclamation, an agency of the U.S. Department of the Interior. Distribution of the water in these projects are decided by the Secretary of the Interior. Decisions are to be in accordance with all the documents making up "The Law of the River."

Layperson's Guide to the Colorado River, prepared by the Water Education Foundation, authors: Jeanne Duncan and **Rita Schmidt Sudman, 1991. Paul Baker Printing.**



Who's Who? Agencies

BLM- Administers 270 million acres of public land. Mostly in western United States and Alaska. Established 1946 as part of the Department of the Interior. Took over functions of the General Land Office and US Grazing Service. Responsible for planning the best combination of uses and managing it in the public's interest. Logging, minerals, grazing, recreation, wildlife.

Bureau of Reclamation - agency which manages, protects water resources in the western United States. Plans projects to wring efficient use of water in municipal, hydroelectric, irrigation and recreation applications. Preserves fish habitat. Established in 1902 to develop western states water resources. Constructed dams, reservoirs, water distribution, canals/systems, power plants and maintains projects. In 1987 Reclamation announced it will no longer do large scale construction. It is part of the Department of the Interior.

US Forest Service - of the US Department of Agriculture. Manages 191 million acres. Monitors forests for insects, disease, fire. Supervises grazing, wildlife. Established 1905 as Forest Service although founded as the Bureau of Forestry.

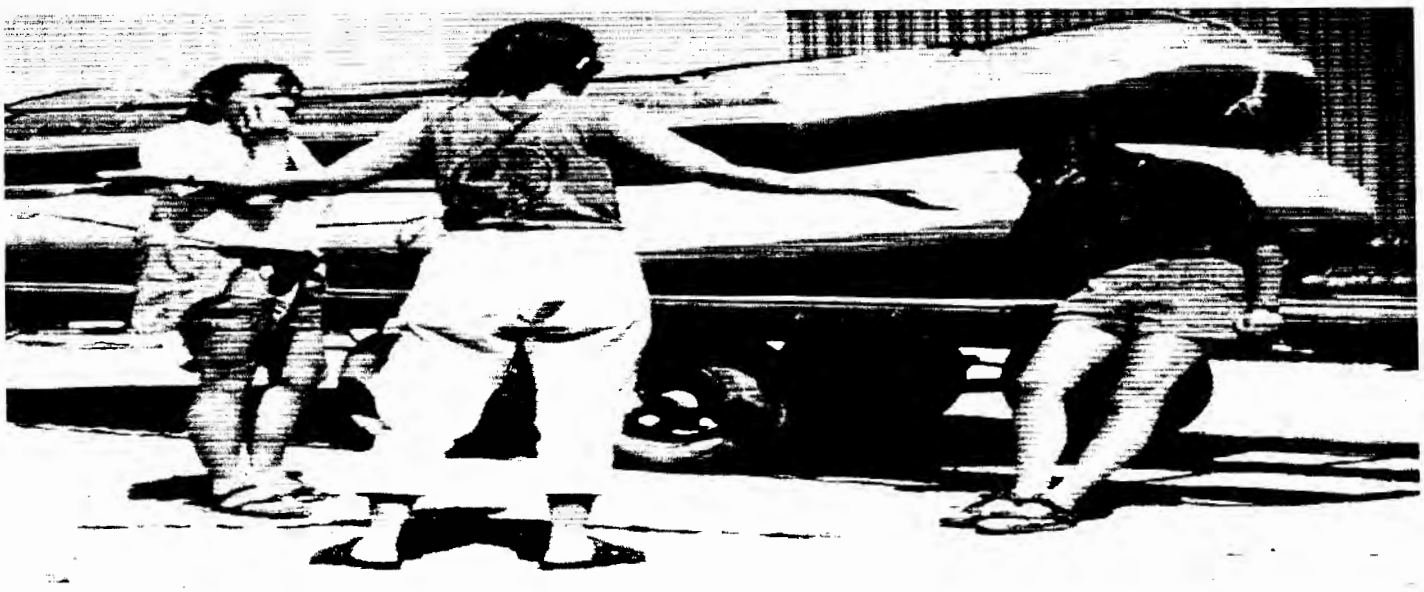
Fish & Wildlife Service - conserves the nations' birds, mammals, fish and other wildlife. Operates 400 refuges, field stations and research laboratories. Regulates hunting/fishing. Restores endangered species. Established 1940, Department of the Interior.

National Park Service - Bureau of the Department of the Interior. 350 million acres in the National Park system. Preserves natural landscapes, historic and archeological sites and structures. Established 1916. Yellowstone was the first park in the world.



STRESS

Diet, exercise, breathing and meditation can result in toppling stress.
Avoid refined sugars. Breath deeply through your nose inflating the lungs and releasing this big breath through your mouth. Sitting quietly with your eyes closed is the simplest form of meditation. Eliminate images, sensory perception, internal dialogue. Focus on breathing. Remember stress is the consequence of extraneous demands for action being programmed into the body by mental preoccupation with emotionally loaded future or past event. (Freedom from Stress, Phil Nuernberger, Ph.D.) Stretching exercises aid in the relief of stress. Pumping exercises energize the muscle. Does not release tension. Focus on time management. Set reasonable goals, attend priorities, protect unstructured leisure time. This is essential for stress management.



Guidelines for Managing Conflict

1. Conflict resolution takes time.
   Slow communication down, avoid interruption so real discussion blooms.
   It may take months to realize a satisfactory outcome. Patience and listening is paramount to weigh issues to settle an agreement.
2. Defensiveness interferes with resolution.
   Consider the merit of other's opinions. Avoid behavior that assassinates another's character or manipulates to force predetermined solutions. You don't know-it-all.
   Avoid stubbornness. Cooperate.
3. Avoid deception.
   Could destroy your credibility. Deal honestly, ethically, directly. Deceit to increase your bargaining power will impede the process.
4. Recognize misstates and admit to misstates.
   Ridicule, gloating or blame is inappropriate if the conflicting party accepts your valid points. Also, be willing to let go of some of your original points.
5. Avoid assumptions.
   Spell out details. Write them down. Ask questions. Rational, explicit communication aims at resolving conflict fairly.

Follow these guidelines for manageable activities to help make conflict rational and constructive for positive outcomes for involved parties.

----------Berryman-Fink, Cynthia (The Manager's Desk Reference), AMACOM,NY, 1989.

InformationPlus; Wylie Texas; 1983,85,87,89,91,93.

Cornelias B. Cessna, B.A., M.A.
Nancy Jacobs, B.A., M.A.
Carol D. Foster, B.A., M.A.

A Book Report

Michele Reaume

Water is vital in the role of humans.

Most common substance on earth. Covers 3/4 of the earth's surface. Yet, earth is the only know place in the universe where liquid H_2O exists.

65% of the adult human body.

90% of the body's blood.

Main ingredient of most fruit, vegetables and meat we eat.

We can survive weeks without food, die in days without water. Quenches thirst, nourishes crops.

Also, water adds pleasure to human lives.

Surf, fish, beaches, honey-mooners at Niagara Falls, cleans our body, boating.

While essential to human existence, water isn't always friendly:

Drownings, rust, roof leak, hailstones destroy crops, icy roads, flood, drought, carries disease (waterborne disease accounts for 3/4 of all disease).

CHEMICAL COMPOSITION

Two hydrogen. One Oxygen. Written H_2O. The atoms of any molecule are joined by a process-chemical bonding. Here atoms share electrons. This bonding is particularly strong in H_2O.

THREE STATES OF WATER

Liquid (most common form), solid (ice) and gas (water vapor). Most liquids contract with freezing, water expands, eventually exerting tremendous force on surrounding objects. Enough to crack or shatter boulders.

Because water expands with air, ice is lighter than water. Why ice floats. Fortunate results of this phenomenon: Rivers and lakes freeze top to bottom. Otherwise, frozen solid water would kill aquatic life. Liquid is the molecules ability to slippy slide around with a loose bond. Vapor, water molecules have little attraction as they move rapidly.

THE EARTH MOVER

Scientists believe Earth formed 4 billion years ago. Earth cooled from molten mass. Water formed in the atmosphere for many years forming oceans.

Ever since the formation of oceans, water has been attempting to wear the Earth into a smooth surface with its flowing and rubbing actions. If other forces weren't counteracting by raising hills/mountains, the planet would be a vast shallow ocean.

FLOW OF WATER: flattens mountains; cuts canyons; hollows caverns. Creates soil by breaking down rock, organics and depositing. Glaciers advanced, receded thousands of years ago. Redesigned face of earth.

WHERE IS WATER?

1.Soil moisture: since vegetation withdraws soil moisture, frequent renewal with rain or irrigation is needed.

2.Atmospheric moisture: rain, snow, sleet, hail are precipitation. Plants give up moisture thru leaves. That process is transpiration. (A large tree may give up 50 gallons per day. That's 40,000 gallons a year). (An acre of corn uses 3,000 to 4,000 gallons every day).

Transpiration usually produces more water vapor than evaporation of lakes, rivers. Although the ocean is tops in warmer climes of the planet for evaporation, vapor.

3.Permafrost: underlies a fifth of Earth's entire surface. Extensively in Northern Hemisphere. Some Antarctica. 2,000 ft thick, Alaska; 5,000 ft thick, Siberia. Despite the enormous amounts of water surrounding us, only 3% is fresh water.

The Hydrolic Cycle is a closed system. The desert receives less than 1/10 of one inch per year compared to 900 inches in the tropics. California's 15 inches requires supplemental irrigation for American crops grown there.

POPULATION PRESSURE ON WATER RESOURCES

Pollution: concern launched environmental movement of the 1970s. 1972 Clean Water Act(PL 92-500), first major environmental legislation enacted by congress.

Intervention: increases or diverts water supplies for household, irrigation and hydroelectric uses.

- pumping ground water; aquifers deplete quicker that can replenish.
- dams not only effects river but entire ecological system.
- deforestation/overgrazing results in excessive erosion. Reduces transpiration which results as less water, less rainfall. Makes deserts.
- global warming (factories and automobiles)cause glacier melting. Raises ocean levels, floods coastal cities, destroys marine habitat.

Don't drink the coffee,
I made it out of river water.
Zane Taylor

WATER USE

Water use in the United States is classified as:

offstream use- either withdrawn from its source or conveyed to the place its used.

1. public supply(water utility companies)
2. domestic (drinking, food prep, washing, flushing, watering)
3. commercial(restraunts,offices, museums, hotels, govt offices)
4. irrigation (surprisingly, highest consumptive use of the eight categories. Only 24% return flow; 56% consumed)
5. livestock (fish, dairy, feed lots, grazing)
6. industrial
   a)cooling water
   b)process water
   c)boiler feedwater
   d)sanitary services

(15%consumed; 85% return flow, yet returned contaminated)

7. mining (washing, milling. 31% consumed; all water self-supplied. Difficult therefore to determine quantity. Saline groundwater is a by-product of petroleum extrication processes.)
8. Thermoelectric power generation (cools condensers and reactors. Greatest consumer after irrigation. 98% of withdrawals is return flow. And return flow is a different temperature, hurting aquatic life.

Instream use

1. Hydroelectric power (drives plants' turbine generators. Water that is used but not consumed is called *return flow*.

FUTURE

Use is approaching or exceeding available supply. Prediction: Year 2000, water will be more expensive than oil.

THE ARID WEST-WATER IS SCARCE

Lower 48 states total renewable water supply is 1,400 billion gallons (U.S.G.S. survey). That's more than 14 times the nations daily consumption. However, this abundance is not spread evenly in the states. Results in conflicts.

Introducing dry basin and deserts from the Continental Divide west to California. Of the 1.9 billion acres in the lower 48 states, nearly half is semiarid and arid. (Receives less than 20 inches of precipitation per year).

This regions precipitation is lost to evaporation. Runoff is the primary renewable water supply. Ground water from the Oglala aquifer (serving eight states: Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas and Wyoming) is rapidly depleting through wells faster than rainfall can replenish it.

California relies on groundwater when drought short supplies surface water. The expense of sinking deeper wells, energy to lift that water for irrigation is passed on to the consumer of crops or water supply.

The West's ecosytem is forbidding. Demanding adaptation to exist.

HISTORY

Large migration of people to the American West: gold/silver in mts.. Was first development. Second was irrigation for crop production. Miners diverted streams into pipes, thus an informal water regulation commenced in mining camps. First to file claim was allowed priority of later claims. This, 100 years ago, was "prior appropriation doctrine."

Later farmers adopted this 'legal practice'. "First in time, First in right" priority system, guaranteed water during the frequent droughts. With West's expansion, laws were written down. Rules were modified. Landowner's rights to water based on 'beneficial use.' Now owner could lose rights over a time period, "use it or lose it."

The Reclamation Act of 1902 (PL57-161) began federal involvement to encourage economic growth and settlement of the west. The Act subsidized water projects for farmers up to 320 acres. Support industries followed. Cities sprang up.

The Southwest in the 1990s. Population drawn to stark beauty. Technology permits telecommunication to faraway offices.

With the increase of population, parallels an increase in water needs and a shift in accepted water rights. 1986 Aurora, Colorado bought for over $50 million water rights from 300 financially-strained farmers in the Arkansas River Valley. Aurora gained 30% supply increase. At one time, sale by farmer was unthinkable-but demands are forcing sales. Federal money for water projects is no longer available. So cities look to farmers. Could be a farmers economical best interest. May prevent further damming of rivers.

The value of water?

Perpetual rights. Costs $200 per acre ft, Salt Lake City. $3,000-$6,000 per acre ft, Colorado front range. (Acre ft= 326,000 gallons =supplies two typical households for a year=irrigates a third of an acre of farmland for a year.)

Advocates for the sale of water rights maintain a free-market will allow efficient distribution of an often subsidized source. It reduces federal govt role in developing new water supplies. More efficient use, lessens need for environmental harmful dams.

Opponents claim sales drain the life from rural communities, waterless land bakes, cracks, dusts. Continuing farmers worry for the increasing barren lands surrounding his own land, for resulting effects, harms.

Water Banks are a derivative of current water demands. Farmers-to-city- transfers distribute water to an area of greatest need. A federal program in California negotiated water transfers during the 1976-77 drought, thus a precedent. Mostly temporary, sometimes permanent.

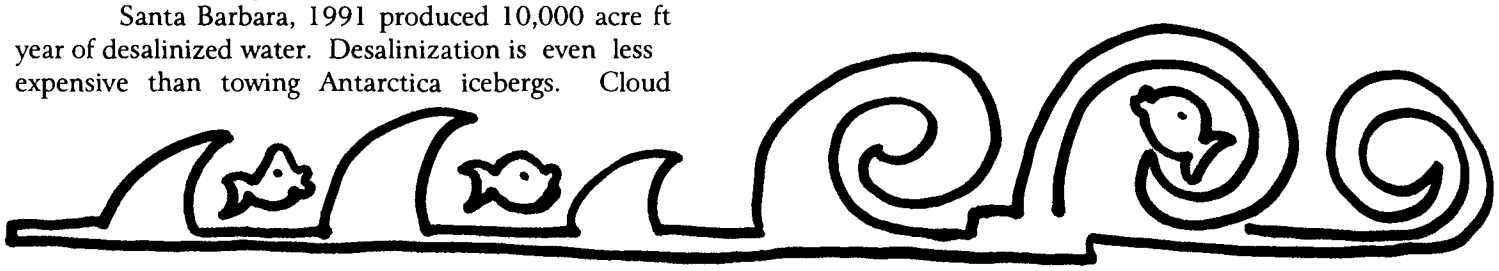
Water Ranching, a more drastic way to obtain water. State law prohibits buying rights to water without also buying the associated land. Tucson and Phoenix bought 515,000 acres of farmland to be used as 'water ranches.' As Tucson expands irrigated agriculture will disappear.

Urban Impact California's 7 year drought of 1986-1993. Methods to save water due to forced rationing: low flow shower heads, ultra-low volume toilets, stop washing cars, filling pools/hot tubs, minimize dishwash use, let lawns

brown. Categories of 'clear'/tap and 'grey'/reused and 'black'/septic water devised.

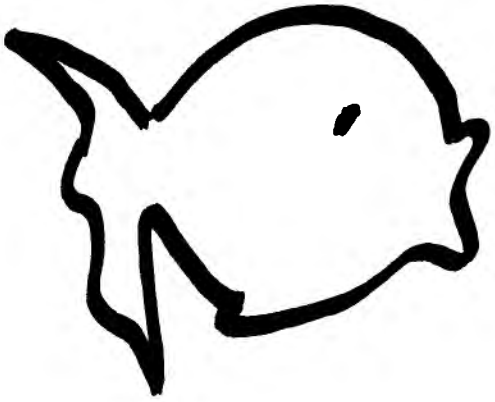
California considered an Alaska pipeline for importing water. Congress decided the plan was not a feasible method for a water source. A less drastic idea is desalinization. The Middle East already practices this method for acquiring water supplies.

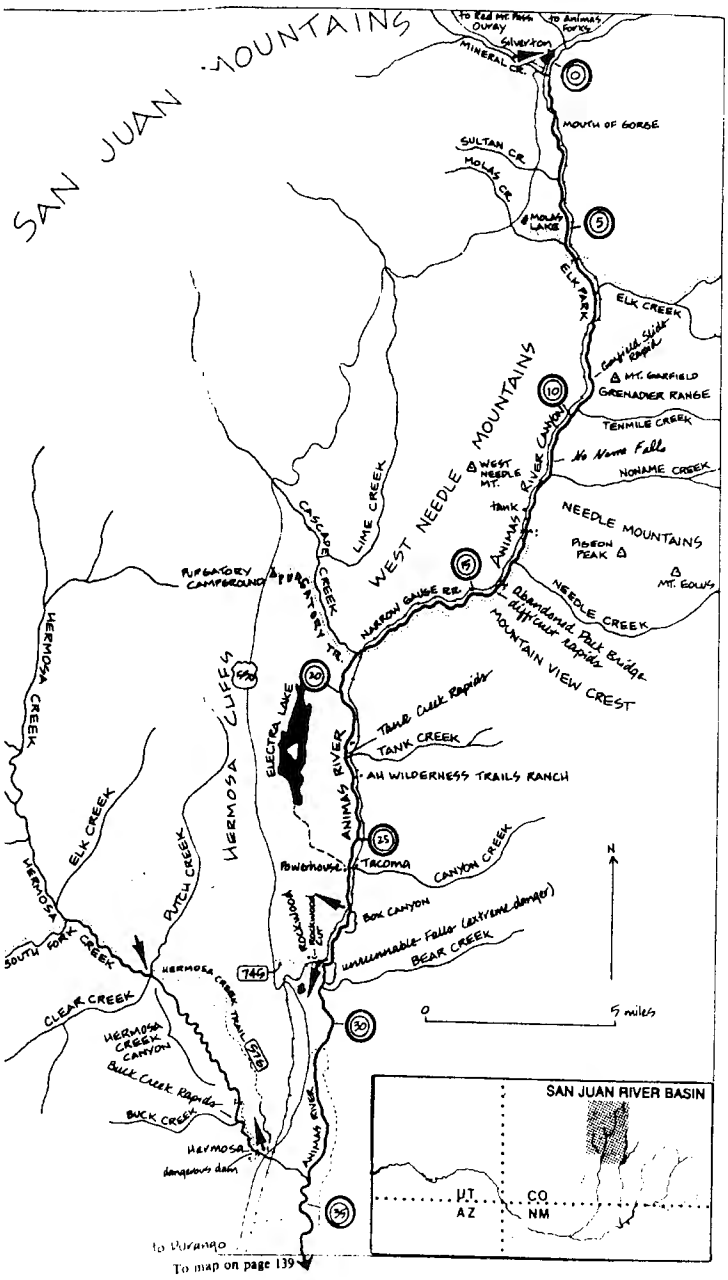
Santa Barbara, 1991 produced 10,000 acre ft year of desalinized water. Desalinization is even less expensive than towing Antarctica icebergs. Cloud seeding is not dependable. Finally, 60-90% of potable water is discharged into sewage systems. After treatment (killing pathogens and removing contaminants) it can be reused for irrigation, industrial use and stream flow. Municipalities may need to inject this wastewater into its aquifer to prevent saltwater intrusion. Water. A little information, plus.



"We sold our ranch to the Del Webb Corporation and they gave us good money, but they are trading it to the BLM. We sold the ranch because there's too much bureaucracy, our costs of production are increasing steadily and the income from the merchandise we are selling is going down. Government pressure has forced us into it. There is no market here because of Harry Reid's legislation and it's an open market for The Nature Conservancy as well as Del Webb and the U.S. Fish & Wildlife Service. Also, the attitude of the Bureau of Reclamation toward farmers is bad. Farming is secondary as far as they are concerned."

Hammy Kent
Rancher and Farmer
Fallon, Nevada
Fall 1996, Range





UPPER ANIMAS

Michele Reaume

The Animas River drains the San Juan Mountains on the east and the La Plata Mountains on the west. It is the largest tributary of the San Juan River. The other three major tributaries are the Piedra, Los Pinos and the Navajo. Flows on the Upper Animas range from 400 c.f.s. in April to over 6,000 c.f.s. in June. The drop from Silverton averages 80 feet per mile. That's extremely fast current. Experts fire synapsis choosing routes through the rocks and anticipating impacts and high side leaps.

Silverton is a mining village and destination of the narrow-gauge spur from Durango. The Denver and Rio Grande Southern Railroad is a steam train that can be flagged down on an afternoon return run from Silverton to complete your river running shuttle. The 28 mile run from Silverton to Rockwood is difficult to do in one day.

On this day Tom Klema of Peregrine River Outfitters hauls JJ Macleod's Maravia. JJ is the regional Maravia representative, taking a break during his circuit to service customers. Joining JJ are two employees from Canyonlands Field Institute, Chris Phelps and Michele Reaume. It's a threesome tagging along with a training raft, support kayak and two commercial guests in a third raft.

The support kayaker largely works for another company out of Durango. He is chatty on our way to Silverton. He points out the side canyon names, describes the migration of the local elk herd, tells tales about previous Animas experiences. His passion to share the region is enjoyed. It's easy to reference him as "a good guide."

Ever finish your first descent to reflect that it was a blur? There was no one on our raft familiar with names of rapids, no hand free to inspect a map. The kayaker comments he'll be close to warn about chief maneuvers, then he begins to cavort and gambol with the river. The three are digging the 'read and run' vintage of this experience and trust the kayaker and Klema will intervene as necessary.

There's a low train bridge early on after the launch that requires portaging. Everyone lends a hand. The rafts are launched with little delay.

On our Maravia R-3, there were scrimmages. The two paddlers chose their path despite the commands of the tiller. Then the paddlers are astute to the commands of the tiller when the pace shrinks the space of' room for misstakes'. The self-bailer raft is a wondrous tool for this kind of water-light, maneuverable.

At one point, the boat strikes an obstacle that upsets Phelps. His toes are tucked beneath a thwart. He's splayed backwards, paddle in hand. I'm thinking, 'use those abdominals and haul yourself upright." JJ is focused on the rapid. There's a significant rock looming ahead. Just as JJ and I decide Chris needs assistance, we simultaneously move to reach Chris and run up on that rock. As momentum has us, as things are, we are each high siding right up the high side and out onto the rock. I've leapt to a gravel bar to fetch a paddle that has been launched aside from our vigors. I land to go about face because JJ has tugged the vertically pinned raft free, set it back on the river's surface and is shoving off. The spare paddles are freed. We eddy-out immediately to retrieve one paddle. We do so again later, however, this paddle belongs to another outfitter. That's our excitement for the first half of the day.

We stop for an involved scout. We are posted with throw bags to assist passage. A private and another commercial group run through at this time also. There's one swimmer who excellently self rescues. Michele chooses to remain on the river bank as support. The guides in-training are amped to paddle in her place. Michele evaluated that the rain began a while ago, she was short on calories, slightly shivering. If she were to swim, it may be a tenuous recovery. Mileage-wise, this trip is already behind schedule . Really don't need to tack on any other delays. Following safe runs lunch is included at this stop.

We stop around Rockwood. Have our gear up the hill. A train has arrived. Is loading. We all pitch in and have our gear ready to toss just as the last of the backpacker equipment is resigned to cargo. Part of the crew hike out to awaiting vehicles dropped earlier this morning. The rest of us enjoy the scenery from the train. A bear is sited on a hillside among all the rest of the spectacular scenery.

We sit on a tailgate at the train yard waiting for the train to unload gear. It's a misty rain. The kayakers discover dents in the hulls of their boats and report the damages. Everything else appears to be in order. We even return the recovered paddle to the other river company, who also wraps up a trip today.

The Upper Animas was exhilarating. It was especially interesting to be on water that eventually feeds the San Juan. It is easier to understand why the Viocito [spelling] Conglomerate is smooth in the Juan. Plenty of energy in the Animas to tumble the rough edges off of everything.

For More info: Wheat, Doug, *The Floater's Guide to Colorado* p.131.

ANIMAS-LA PLATA PROJECT

Congress first approved the Animas-La Plata water project in 1968. It was a good idea then. It was created to satisfy century old tribal water rights for irrigation and development on the reservations. Now the ALP project is alive and kicking.

The project has become a non-Indian project. An article in The Daily Sentinel of October 27, 1996 reports concerns expressed by tribal leaders. The project does not include a delivery line to the reservations. The Southern Utes Grassroots Organization applied for $60, 000 grant to educate tribal membership on repercussions of this project and the financial responsibilities of all involved. The grants come from The Campaign for Human Development (a Catholic based organization that provides low-income people with a bigger voice).

The Daily Sentinel of November 1997 reports Ute tribes efforts to work with non-Indian users to ensure tribal rights without taking water from other users. 58% goes toward tribal use (Southern Ute, Ute Mountain Ute and Navajo) and 10% goes toward irrigation. A $750 million delivery system to La Plata Basin farmers has been scratched through this dialogue.

A resolution of four pages fulfills Colorado's obligation to Ute tribes to settle their claims to water rights from the San Juan, Animas, La Plata, Mancos and other southwestern Colorado rivers. The proposal goes to Congress in January 1998.

Educational Psychology

edited by Michele Reaume

Gleaned from The Psychology of Learning and Instruction, Second Edition, by John C. De Cecco and William R. Crawford.

Restricting freedom of participation early in the program or trip increases dependence and decreases achievement.
Restricting freedom later in the program or trip does not increase dependence. However, will increase achievement.
Expanding freedom of participation early in the program or trip decreases dependence and increases achievement, according to Flanders (1964).
Test how these three interaction models affect your satisfaction of a program or trip and/or effect your tips.

What is the meaning or content you as a guide mean to perpetuate throughout your program or trip? You can express a' theme' in terms of knowledge or understanding, attitudes or appreciation and skills. It may be appropriate to consult your employer to reach the objectives outlined in their brochures, related literature and/or operation plans.

Avoid frustration. If you are not certain (conceptually) where you are going, you may very well end up somewhere else. For instance, you want your participants, passengers, guests, the visitor, to be prepared to hike when your boat lands. Upstream of the point of disembarking you encourage the visitors to fill water bottles, rub on sunscreen, don walking shoes. Explicit statements allow the visitor to best direct his attention and efforts.

Teaching is getting the person from where he is to where we want him to go. (So what are your program and trip objectives?)The safety speech and toilet talks are examples of the explicit directions guides currently utilize to teach the visitor.
The leader has to understand the *entering behavior* and how it leads to or interferse with the new *terminal behavior.* By behavior it is meant performances. The above scenario to be 'hike ready' is the sought after terminal performance. These individuals must enter able to perform putting on shoes, opening the water flask cap, and dealing with sunscreen. The leader may have to clarify how to access the trip water supply, assign ammo cans for the storage of sunscreen, etc. If the people aren't performing the desired terminal behavior, what have you, as teacher and leader, overlooked? Did you misinterpret ability? Had you foregone some basic trip orientation?

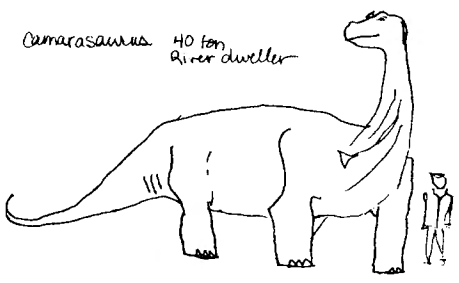
MOTIVATION

There are four motivational functions of the leader: the arousal, expectancy, incentive, and disciplinary functions.

Motivation stems from the behavior of the leader.
It is distinct from learning and relates to *entering behavior.* By motivating another you are increasing the visitor's effort to make the desired responses. This is an increase or decrease in an individual's activity or vigor. The *arousal* function is the leader engaging the visitor in learning. The *expectancy* function requires you describe specifically what the person will ably do at the conclusion of the instruction or demonstration. With the *incentive* function you reward present achievements so as to encourage future achievements. Finally, the *disciplinary* function requires the leader to use restitution and a ripple effect in regulating behavior.

Ten Points of Improvement of Education and Educators

1. Have fun! Be fun.
2. Promote discovery.
3. Be professional. Dress like it. Act like it. Belong to a Professional Organization. Subscribe to and read and contribute to Professional publications.
4. Prepare, prepare.
5. Have a purpose.
6. Develop your own ideas. Be proactive.
7. Demand and validate excellence.
8. Make a safe environment.
9. Be available.
10. Use common sense.



Personal watercraft

by Michele Reaume

Way back in July/Aug of 1996, *National Parks*, published an article reporting use of personal watercraft on the lakes in Glacier National Park.

The Park studied Yellowstone and Waterton Lake National Park in Canada which have current bans on Jet-Ski, Wave Runner and the likes. The Park considered social and environmental impacts, plus Park policies to determine a ban of personal watercraft on Park waters for their general management plan.

Evaluations continue. Although the new use has been halted before it logs in as a 'traditional activity'.

What has the North to do with the Plateau?

Personal watercraft have found the Colorado River.

The Salt Lake Tribune, January 9, 1998 records that Canyonlands National Park's superintendent, Walt Dabney, has banned PWC use on the Green and Colorado Rivers in the park because river users have the expectation of solitude and a primitive experience.

John Donaldson, executive director of the Personal watercraft Industry Association said Dabney based his decision on a rule that is only a federal proposal at this date to ban PWC from all National Parks.

Do you operate rafts, inflatables, kayaks, canoes anywhere from Dewey Bridge to Moab Bridge? Have you encountered Jet-Skis or Wave Runners or other?

What has your opinion been? What comments have you heard from those sharing your raft or flotilla?

Let's begin to research and generally assess personal watercraft use of the Colorado River.

What's going on out of Loma and Grand Junction?

Jot down comments. Have your guests, clients, friends jot a comment. Then pass them along to CPRG, the region director or one of the executive directors or mail them to CPRG.

Fall or winter *Confluence* 1998 will run a followup article.

LES JONES

by Molly Martin-Taylor

"Too much commercialism and too much competition will kill the camraderie,"Les feels. "The friendship should always be the first and foremost. You loose this and you loose the sportsmanship."

Les Jones is a remarkable river runner. Iwas reading an article about Les in the Sports Guide written by Rod Huck, March '95 p. 27. Born in 1922, Les moved to Salt Lake City in 1953 and joined his cousins Bus and Don Hatch in rafting Lodore Canyon of the year. After that trip he decided to develop a self-support single-person craft and took this modified Penman canoe down Cataract Canyon that August. Not only did he run Cataract but he did it in a record 37 hours.

"He has to his credit numerous first descents of North American rivers and the mapping of many of them, as well as several technologically innovative contributions to boat designs. He was instrumental in the formation of major national conservation groups and river guide organizations, yet few in our sport are aware of his accomplishments."

He ran the Grand Canyon three times before '64 I. In 1953, 1955 with the Charlie Eggerts filming expedition from Wyoming to Lake Mead. That same year he did 203 miles to Riggins Idaho on the Middle Fork and the Main Salmon. In 1957 he ran the Frazer River in British Columbia.

Through the seventies he explored a number of southern Utah creeks with Cal Giddings such as the Muddy, Black Box on the San Rafael, Escalante, North Fork Virgin, Main Virgin Rivers.

He looked toward the Uintahs and explored the Yellowstone River, 75 miles of the Prove River, Hayden Fork and Stillwater Fork of the Bear River, Henrys Fork and Blacks Fork.

Les continues to be very active in efforts to preserve the rivers he loves so much through conservation efforts he was an integral part of establishing. He was one of the founders of American Rivers, one of the largest and leading river conservation organizations in the country. He was also instrumental in the creation of Western River Guides Association. (WRGA has now joined with the east and others to become America Outdoors.) Les recommends the best support the boating public can give for river preservation is to "join and be active in a national conservation group such as American Rivers."

COLORADO PLATEAU RIVER GUIDES

est. 1993

United States Board on Geographic Names

The Cataract photo was taken in 1984 in the fall. It is at the mouth of an unnamed canyon. Susette Weisheit calls it Wanna-be Range. John Weisheit places it at mile 205.3. It is river right. The Button Hole marker can be seen in the skyline downstream. He's referred to rapid 12 ½ there beside Battleship Rock upstream of this photo's camp. Susette calls the same rock Steamship Rock. What name have you given this rock, this canyon, this nearby rapid?

The Westwater photo with the tree is downstream of Cougar Bar. I'd put it at mile 121.3. A Catalpa Tree had taken root there. The photo is dated September 1990. Highwater smothered it in 1994. By the way, just downstream of this site there was a rockfall on river right. Perhaps you've notices the red rock line from the Wingate clear to the river. Donnie Kiffmeyer and Michele Reaume were camped at Cougar Bar with an SGRE trip one rainy evening when that rock let go. There was a column of dust covering the Wingate face and debri tumbling visibly from the bottom of the dust column. Then we saw a single rock splash into the Colorado River.

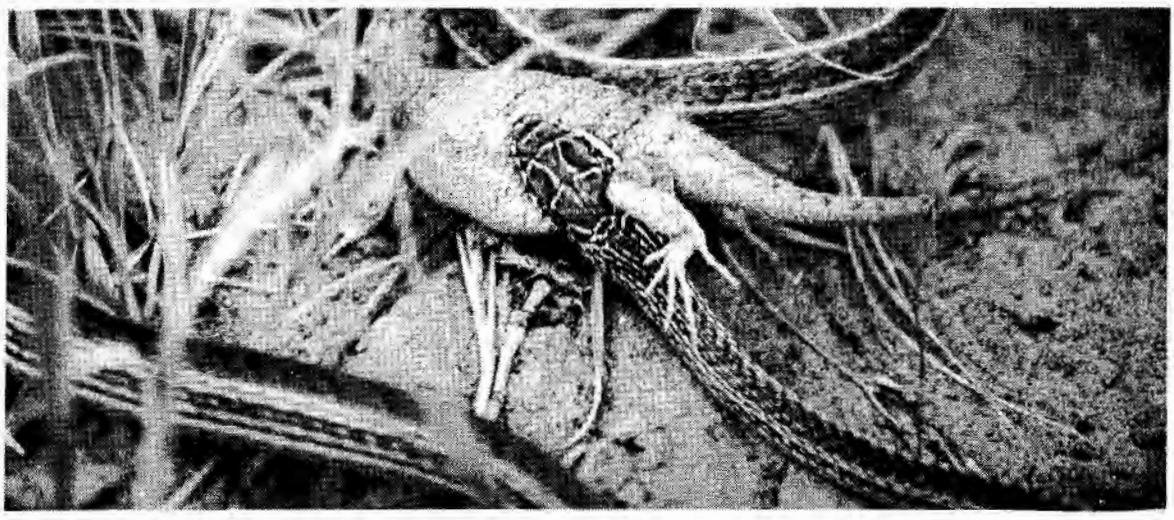
The other West water photo is downstream of the Ranger Station, pass the irrigation pump, go round until the cutbank shows up on river left. In this stretch, mile 125.4. By golly, the third printing, 1981 of *Canyonlands River Guide*, from Belknap portrays these islands. They were significant. The 1983 highwater removed them.

What is required to register a name of a geographical place or feature?

It takes a congressman to sponsor the request. The proposal must be written and include the full form of the geographical name, clear idenitification of location (longitude and latitude is preferred), reason for selection of name, provide meaning of name or name's origin. Proposal of a person's name requires the full name, a short biography, birth and deathdate, as well as, location, reason, etc.

The sumission must include evidence of local support. Federal, state or local administration letters, petitions signed by local residents, news clippings showing public awareness or other endorsements for the proposed name are suggestions.

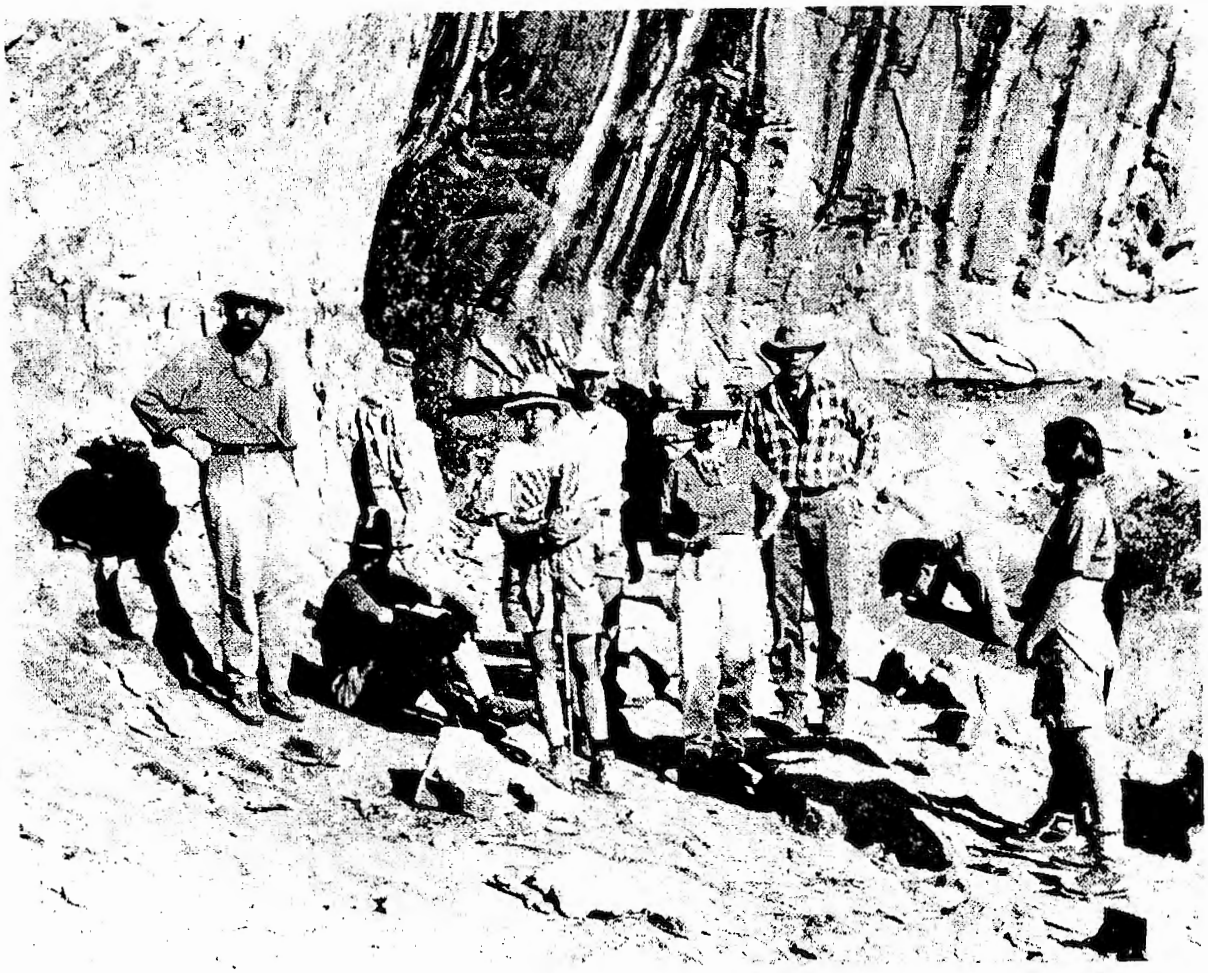
So, does anyone feel strongly about the lack of names? Anyone want to pick up where J.W.P. left off?



ANASAZI ETHICS SYMPOSIUM

sponspored by
Anasazi Heritage Center, Dolores, CO
and Bruce Hucko

A 2-day event for writers, photographers, editors, agencies and publishers on the ethics of publishing written and visual information on the ancestral puebloan (Anasazi) culture.



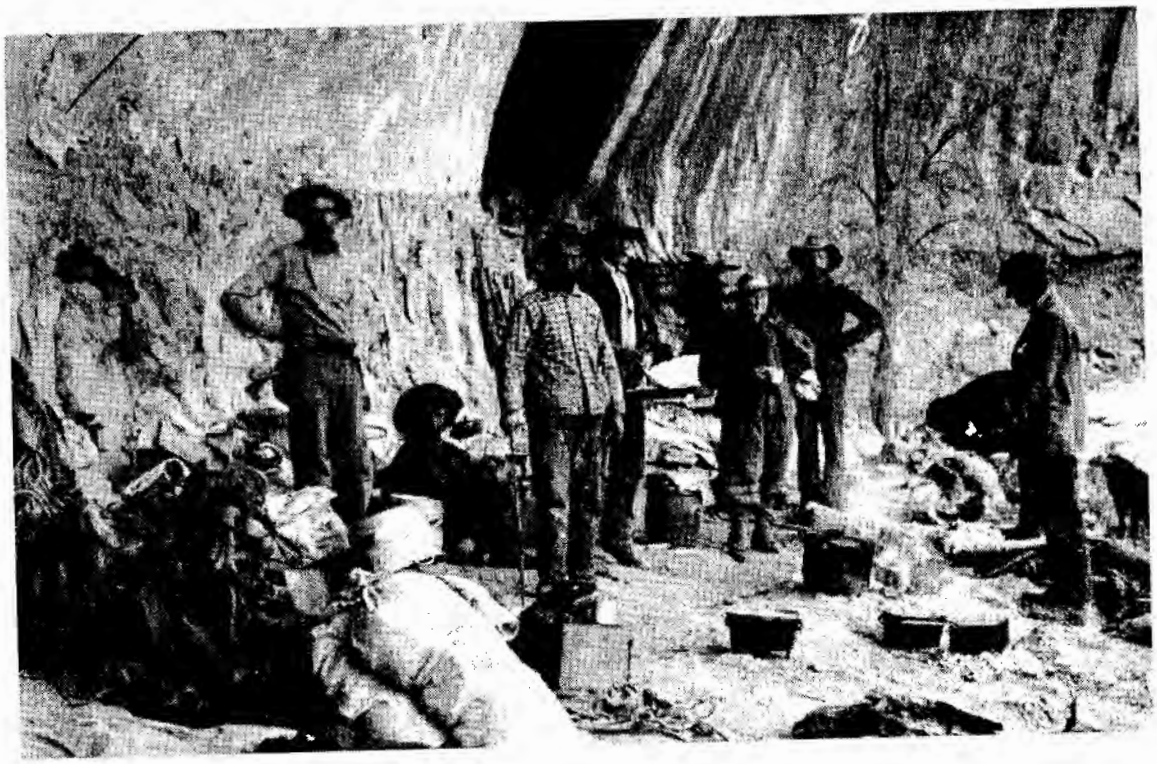
Replica photograph of Camp 4. Taken during a White Mesa Institute trip in spring 1992. Left to right: Terry Tice, Jeffrey Minker, Dottie Sanders, Gary Kelley, Marietta Davenport, Lindsey Brew, Gary Hickock, Jan Wezelman and La Plata. (Photograph by Bruce Hucko)

March 20 -22, 1998
$10

A discussion and adoption of ethical guidelines for the commercial and educational publication of materials related to the southwest's ancient cultures. Once an agreed set of ethics is established, signed by attendees, the final document will be circulated to all known publishers, photographers, writers, land managers and educational institutions in hope that future actions will follow these guidelines and be sensitive to the subject. Contact Bruce Hucko at P.O. Box 201, Moab, UT 84532 (435)259-4176

Symposiums proposed agenda

Friday 5-8PM	Opening social and exhibit, introductions, book display and sale, a reading.
Saturday 8:30AM	Coffee
9-10	Brainstorm guidelines
10:30	2-45 minute presentations
1:30	2 more 45 minute presentations
3:15-4:30	Simplify guidelines
7-8:30	Slide show. Each attendee bring up to ten slides of sites(mark with your name)
Sunday 9-10AM	Refine/finish guidelines
10:30	2-45 minute presentations
12:30-1:30	Signing of guidelines-closing
2-6PM	Optional Field Trip to site



1897 photograph of the Whitmore Exploring Expedition's Camp 4 in Grand Gulch. From left to right: Orian Buck, James Ethridge, George Hairgrove, Levi Carson, Marietta Palmer Wetherill, Teddy Whitmore, Charlie Mason and Hal Heaton. (Neg. No. 338269, Courtesy Department of Library Services, American Museum of Natural History)

Anasazi Basketmaker, Papers from the 1990 Wetherill-Grand Gulch Symposium, **November 1993 would be an excellant resource to read before attending the symposium. The book is a result of an 1986 backpack trip into Grand Gulch and enumerable volunteer hours. The small group wanted to find out what happened to the artifacts collected by the earliest explorers of Grand Gulch. They discovered far more. Research continues to be active in many directions. Exhibits bring artifacts back to the southwest.**

Restore Hiking to Your River Reportoire

Recently, backpacking with Grand Canyon guides in their ditch, the conversation swung onto a review of the previous season. I heard these individuals claim guides just didn't hike during trips like they used to. What keeps us on the rafts? In camp? (See Educational Psychology article.)

The following are photo images to provoke the explorer in you. Ambling about out there just might land you on a site that is worthy of contemplation. Who were the people who left these remnants? What was a typical day for the individual(s)? How long did they dwell here? What was the purpose of their route? Their homestead? What other artifacts might I discover nearby?



Three eras of people have left etchings or paintings in this rock face.



This sunken homestead root cellar has quart *Kerr* jars of cherries and pears.



Dilapidated corrals and shelters are nearby the hometead.





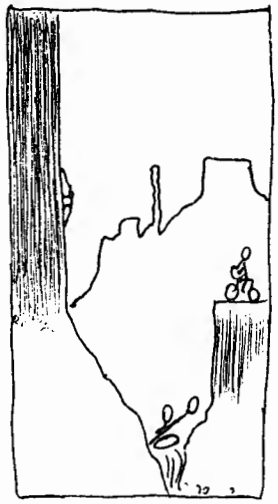


Inspired by Kent Frost "My Canyonlands"

Molly Martin

You can choose directions-
into the routine world of
grocery shopping, laundry,
cable TV

Or you can head the opposite
way into the canyon, the
eerie desert, the loud silence,
the rushing river . . .





The Wind, one brilliant day

Antonio Machado

the wind, one brilliant day, called
to my soul with an odor of jasmine.
"In return for the odor of my
jasmine, I'd like all the odor of
your roses."

"I have no roses; all the flowers
in my garden are dead."

"Well then, I'll take the withered
petals and the yellow leaves and
the waters of the fountain."

The wind left. And I wept. And I said
to myself: "what have you done with
the garden that was entrusted to
you?"



Karla Vander Zanden inspects the blown down house at the homestead.

Calling and Conjuring CREATIVITY

Oral Histories:

The University of Utah is our official depository. Both Susette Weisheit and Michele Reaume have guidelines about how to manage an oral history. They also have begun collections that aren't ready to be handed over to Roy Webb, Curator of Special Collections.

If you want to conduct an interview or draft a transcript, contact one of those two. All this is in it's infancy of organization.

Propose an interviewee!

Elite Motorcycle Tours:

Dale Parriott has been studying this 'guide service' for two years. He has agency permits from Green River to Flat Iron Mesa. His grandfather settled in Castleton, in fact, Parriott Mesa was named after Grand Dad.

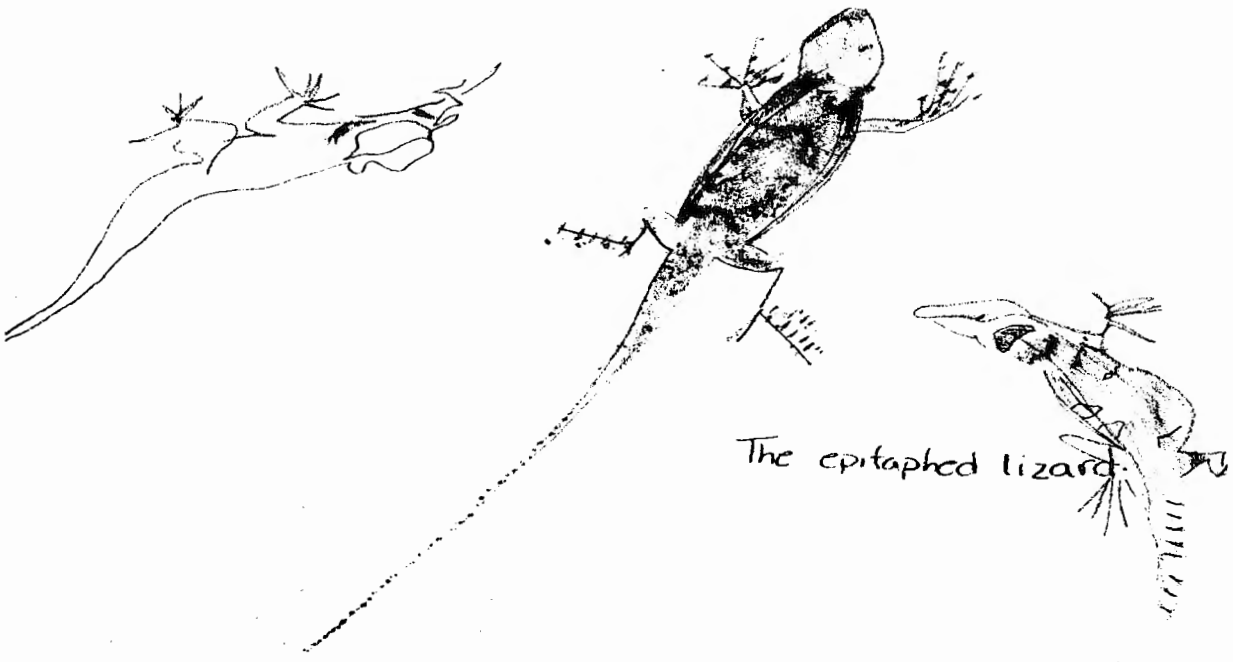
Parriott will provide a safety orientation and trail specifics to minimize land impacts and honor Leave No Trace guidelines. The Conyonlands are his backyard too. He wants to do his part to educate visitors about the care of this region.

Artwork and Photos:

Plan on sending *The Confluence* a memento from your summer. Poems, photos, drawings by you or your passengers will jazz up our pages.

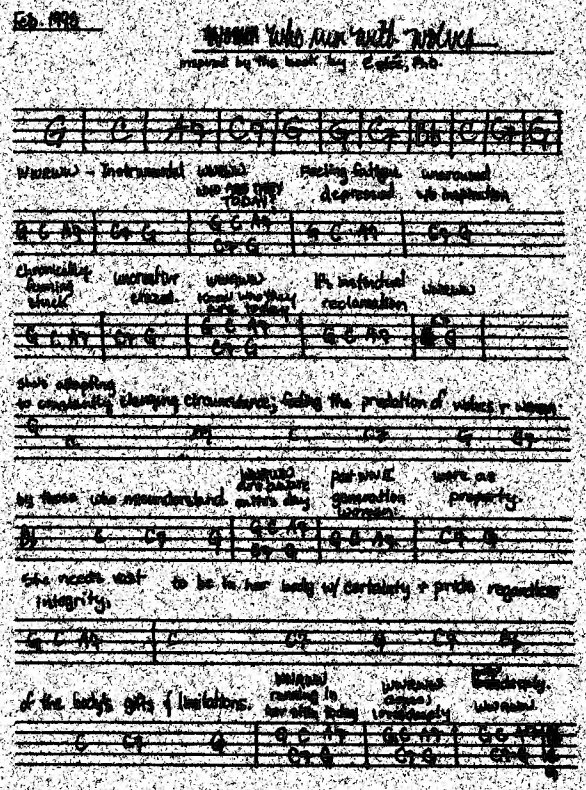
Writing:

A MacIntosh Classic may be available to members. Create on your schedule at your dwelling. Commit your ideas and knowledge to paper.



Seven Wonders of the World

1. The Pyramids of Egypt
2. The Hanging Gardens of Babylon:
   4 acres of terraces upon 75 acres once belonging to King Nebuchadnezzar
3. The Colossus of Rhodes:
   Bronze statue of Helios (Sun God)
4. The Temple of Diana at Ephesus:
   Contained the Goddess's statue fallen from heaven
5. The Statue of Jupiter at Athens:
   Carved of ivory; robe of gold
6. Tomb of Mausolus and
   Root of mausoleum
7. Lighthouse of Alexandria:
   First in 3rd century; soared 400'



Origin of the Months

January: from Janus-2 headed Roman God who guarded doors and gates. One head looked toward the past. The other looked to the future.
February: from Latin Februarius "to purify". Romans held a festival to prepare for the new year when February was tenth month (last month in the old calender) not the second month.
(Tenth until Caesar took one day to add to July, Augustus added one day to August, left February with 28 days).
March: from Mars, Roman God of War. It marked the beginning of a war and farming season. Two important activities during that era.
April: from Latin aperire "to open". Opening of spring.
May: Goddess Maia. Son Hermes. Father Atlas.
June: Goddess Juno. Wife of Jupiter. Ha a chariot drawn by peacocks.
July: Julius Caesar. He rearranged the Roman Calendar. Old calender, this was Quintilis (fifth month).
August: Used to be Sextilis or sixth month. No longer suited with Caesar's adjustments.
September: seventh of old calender became ninth. No one bothered to change it.
October: Another month out of date. Meant eigth in old calendar. Anglo Saxons called it Yellow month.
November: ninth of old
December: tenth of old

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532

FORWARD AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

"The Animas River is not one of the free flowing rivers in the West. The stretch of the Animas River we are discussing here runs directly through the city of Durango, Colorado. An argument that this project will hurt the rafting industry in this area is not viable because the river is not a popular, white water experience, but rather a half-day, take the family sort of a mild river float...."

– Ben Nighthorse Campbell (D) R
Congressional Record
October 3, 1988





1,053 feet of Total Vertical Lift
– consuming over five times the electrical power supplying the population of Durango.





Ute Mtn. Ute Land

202 Feet Vertical Lift

Red Mesa Pumping Plant

Dryside Canal

325 Feet Vertical Lift

Coal Strip mine Level

Animas - La Plata Project
Durango, Colorado

Ridges Basin Pumping Plant

Ridges Basin Reservoir



526 Feet Vertical Lift

Durango Pumping Plant intake from Animas River

"We are buying a Bureau of Reclamation water project. Not just your ordinary, run of the mill water project. We are buying a water project that will make Rube Goldberg look like he did his training at M.I.T. It will make Rocky Kilowatt do cartwheels in celebration of all the electricity this project will consume.

And most importantly, we are buying a water project that will benefit non-Indian alfalfa farmers much more than it will ever benefit the Ute Mountain Utes and the Southern Utes."

– Representative George Miller
Congressional Record
October 3, 1988

The Confluence

The Journal of Colorado Plateau River Guides Volume 5, Issue 2, Summer 1998

THE PREZ SEZS

FROM THE EDDY

CHARLES BUTLER HUNT

LETTERS, A STORY, AND A CROSSWORD PUZZLE

RECIPE FOR A DILEMMA

RUBBER RAFTING REDUX

HETCH HETCHY AND GLEN CANYON

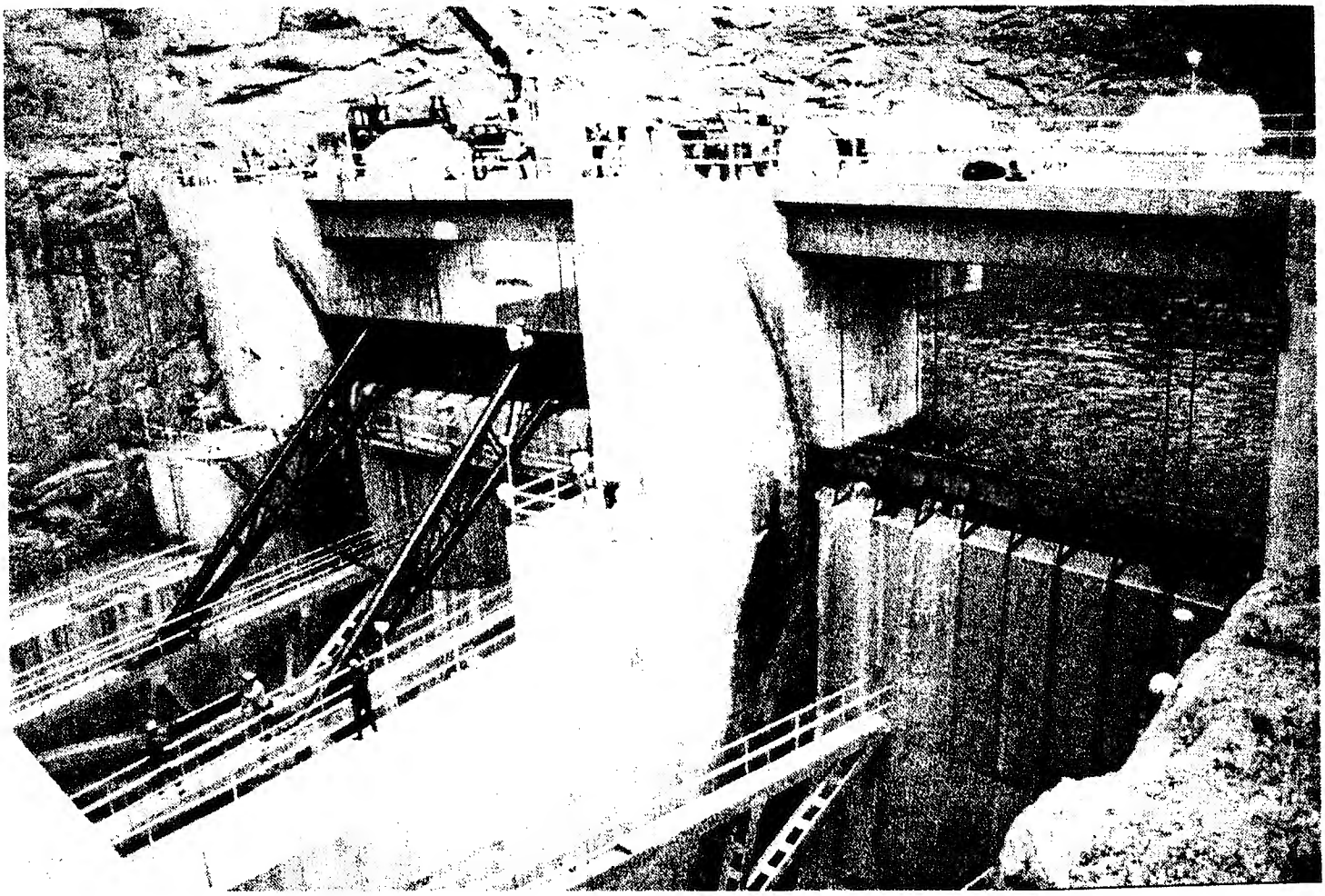
WHY I LEFT OUTFITTING

CONFLUENCE INSCRIPTION

DAVID DEXTER RUST

BUZZ HOLMSTROM

PROBLEMATIC DAMS



Workers installing steel flashboards on top of the right spillway's radial arm gates during the 1983 spillway failure at Glen Canyon Dam. Note that the nearest radial arm gate still has the temporary plywood flashboards. Bureau of Reclamation photo by Tom Fridmann. Courtesy of Steve Hannon, author of *Glen Canyon*, a novel.

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (c) (3) non-profit organization dedicated to:

***Protecting the rivers of the Colorado Plateau**

***Setting the highest standards for the river profession**

***Providing the best possible river experience**

***Celebrating the unique spirit of the river community**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau

General Membership is open to those who love the rivers of the Colorado Plateau

Membership dues
$ 20 per year
$100 for 6 years
$195 for life
$295 Benefactor

General Meetings and Board of Directors Meetings will be announced

Officers

President	Steve Young
Vice President	Michele Reaume
Secretary/Treasurer	John Weisheit

Directors

Bluff	Anne Egger
Grand Junction	Darren Smith
Green River	Shane Edwards & Chris Smith
Moab	Jose Tejada
Vernal	Clark Hatch

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077
Faxes accepted: Please call first.

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Microsoft Word on an IBM PC. If you use a word processor, we can translate most programs. Otherwise, please send your text typed. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

E-mail: weisheit@juno.com

teberry@lasal.net

Editor: John Weisheit

Printing: Times-Independent
ISSN # 1078-425X

DISCLAIMER

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. The forum is open with no restrictions at the present time. If you have an opposing or supporting viewpoint please send your comments to CPRG.

A MEMORIAL

Excerpted from an article that appeared in the Times-Independent

Charles Butler Hunt, a regular visitor to Hanksville since the early 1930s, passed away September 3, 1997, in Salt Lake City after a long illness.

Mr. Hunt was born August 9, 1906, at the U.S. Military Academy at West Point to Col. Ervin Lenard and Annie Butler Hunt. He came to this area with the USGS team to map the Henry Mountains. His Professional Paper is every geologist's "Bible" for the Colorado Plateau.

He hired the late Cornelius Ekker and Charles Hanks (son of the community's founder Ebenezer Hanks), as his packers and guides.

Hunt graduated from Colgate University with a degree in geology and went on to graduate from Yale University and was offered and accepted a career with the USGS. He served with the Military Geology Unit during World War II and later became its director. He was a professor of geology at John Hopkins University, known to bring his students to the Hanksville area every summer to train in the field.

He authored numerous books and professional papers on the area.

Mr. Hunt married his wife of 67 years, Alicia Victoria Parker, in Seboyeta, New Mexico in 1930 and they raised two children: Eugene Parker and Ann Butler Hunt Casimiro, who survive along with eight grandchildren and 28 great-grandchildren.

As per Charles' request, he will be cremated. Memorial services will be held in Utah, and Indiana at later dates.

Editor's note: The death of Charles B. Hunt marks the end of the formative reconnaissance of the Colorado Plateau's geology that started with John S. Newberry in 1857. For me, the light went on when I studied Hunt's USGS Professional Paper 279. It is my desire to honor this man with a good biography in the pages of The Confluence. For those of you who appreciated Charles Hunt, please submit a document for inclusion.

SPECIAL THANKS TO:

Deer Hill Expeditions for a Six-year Membership
Mark Sleight for a Six-year Membership
Katherine Foshee for a Six-year Membership
Paul Smith for a Benefactor Membership
John Williams, Navtec Expeditions, for a Benefactor Membership
Rob Elliott for another Benefactor Membership
(for the San Juan River Guides of AZRA).

From the Prez

Thanks For Making DESERT WATERS 98 A Success

A big thanks goes out to all the outfitters and local sponsors of DESERT WATERS 98. The diverse Colorado Plateau community that supported this year's event was incredible. Local Moab businesses and outfitters, that donated the goods and equipment, made for this success. A special thanks goes out to Colin Fryer for the use of Castle Rock Ranch.

DESERT WATERS 98 And the Direction of CPRG in the Future

This year Canyonlands Field Institute (CFI) shared DESERT WATERS 98 with CPRG. Our portion was more or less the Sunday element of the event. We hired Bob Bond, a program director from Breckenridge Outdoor Education Center who gave an excellent talk/presentation on leadership and management in our profession. The rest of the Sunday afternoon fell apart several days before the event. Contingency plans were developed, but unfortunately the participants were ready to end the long weekend before we could accomplish our desired goals.

The whole weekend event went really well, some things were new to the event (i.e. the Sunday portion), so there was a positive learning curve to the change in format from one day to the next. The logistical problems and the lack of clarity on some of the events, were expressed to me in oral feedback. They will be encompassed and cleared up for next year. Hopefully DESERT WATERS 98 is something that CFI would like to hand off to CPRG for next year. The Friday night and Saturday coordinator for DESERT WATERS 98, Tom Corcoran, did an awesome job. Tom is actually a person who is lined up and willing to take CPRG into the role of guide training as an executive director for CPRG.

Guide Training is back to CPRG. After many years of helping create curriculum for guide training, CPRG is now pondering to move into the direction of organizing training and classes for river guides on the Plateau. Essentially this step would allow for the guiding profession to start directing their own training with the help of the agencies and the outfitters. By helping direct our industry's training, hopefully we can find grant money to help lower our ever increasing certification costs.

This fall CPRG is under way in creating a steering committee to look at guide training and move in this direction. This steering committee would be made up of NPS, BLM, outfitters and the guides on the Plateau. As we move forward with this, our most logical step would be to hire an executive director, who would specifically organize local and outside training to occur on the Plateau at pertinent times. Secondly this director would write for grants, which we need drastically for the purpose of paying someone to keep the whole guide training thing happening. A second goal for grant money would be to start a re-imbursement system for the individuals who go to meetings for CPRG and for the people who edit The Confluence.

CPRG's board will stay doing what we have been trying to do since 1993. The board would oversee the executive director and see that the mission statement, polices and bylaws are adhered to. The board would keep accomplishing what they have been doing since day one, except that maybe there would be some re-imbursement for the documentation of historical information that is found in The Confluence and some extra money to get the board members to more meetings on the Plateau.

Lastly we need input from the membership! Is this the right direction? Should we be focusing elsewhere? Does anyone want to donate time in writing for grants? If so, get in contact with T-Berry.

The 1998 Interpretive Trips

Another thanks goes out to Cam Stavely of AZRA, Robin Tierney of ADRIFT (of Dinosaur), Dusty Simmons, Susette Weisheit, and Bob Jones of TAG-A-LONG, and Tom Kleinschnitz from ADVENTURE BOUND, for creating four really high caliber interpretive training trips on the San Juan, Yampa, Westwater and Cataract canyons.

This year we tried a new format for the Cataract Canyon interpretive trip and it was highly successful. Hopefully we can implement these ideas into other interpretive trips for next year. Ideas for rivers next year will hopefully involve the Dolores River, Desolation and Gray canyons, the Green River through Lodore Canyon and Cataract Canyon. Volunteers to help plan and run these river interpretive trips are needed. DO YOU CARE ABOUT THE CANYONS AND YOUR PROFESSION? Call and volunteer for next years trips, before the Utah Guides and Outfitters meeting this Fall, so I have some names to pass on to the volunteering outfitters.

The Confluence

Last fall the Board of Directors decided that to help John Weisheit out with The Confluence; other board members would do The Confluence to free up John's time. We've heard feedback against this facet of each of us doing an issue as: not giving a "community feel". The feedback was really great and in effort to keep trying to free up John's time we will make an all out effort to get the "community of authors" that you all are use to and want to see.

Do look for up-coming issues that will be more or less focused into certain areas of the Plateau, with different editors.

Filming Documentaries of Powell

This year several Moab and Flagstaff guides were part of two filming projects in Cataract and Grand canyons. The first was an American Experience PBS filming that will air in the fall of 1999. The second was a German show, that was exploring how Powell's first trip was not so smooth and the disasters associated with. Anyhow, three replicas of the 16'

Emma Dean were made and used in the filming projects. The trips were quite exciting in Cataract Canyon with 30,000 c.f.s. plus flows in late April. The following photos are some of the views that happened.

The Red Box in Cataract

A great job has been done so far in Cataract Canyon by the folks using the register box. A couple issues came up so far this season about camps in Cataract. The issues that surfaced were mostly related to groups signing in for a camp and not knowing where it is on the map that is supplied in the box with the register forms. The areas of problems we as guides should look at on that maps, are Cross and Y canyons, and the Ten Cent area.

T-Shirts for CPRG

We now have some really awesome T-shirts. Thanks to Sarah Clinger for the art work on the back of the shirts, and for letting us scan several of her drawings to use in future Confluence's. We have three styles all with CPRG's logo on the front with a downstream view of the San Juan river from Grand Gulch on the back. If anyone is interested in CPRG shirts get in contact with T-Berry. (See also page 27 of this issue.)

Steve T-Berry Young
3270 Rimrock Rd
Moab, Utah 84532
(435) 259-6369



San Juan River near Grand Gulch by Sarah Clinger

From the Eddy

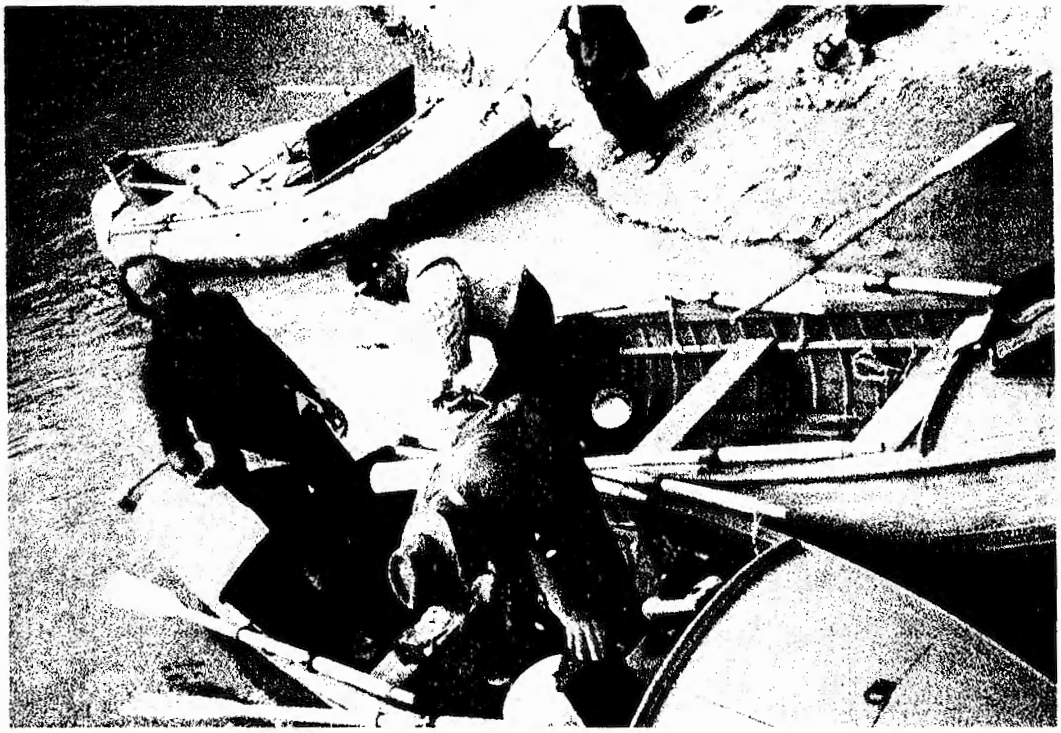
I apologize for a late issue of The Confluence. Besides having a busy guiding season, I have been working very hard on projects concerning the future of CPRG and have allowed the chores of the present to set on back burners. I decided to be more willing to become involved in projects that are laterally connected to the mission statement of CPRG. Though these projects take me from my regular duties as the CPRG editor and secretary/treasurer, I feel that they must be accomplished if CPRG is to grow. There is a tremendous growth potential for CPRG that is now occurring, and more than ever, it is a really good time for willing members to step forward and accept leadership roles. Please contact members of the CPRG board if you are interested. See some of our e-mail addresses on the inside cover.

A few members have verbally expressed their disappointment in the content of some articles and/or editorials that have appeared in The Confluence. I have basically been asked to exercise more control on the content of this journal. I will confess that there have been times when I did exercise control on the format, only to have these exercises turn on me—haunting my conscience later.

This is the way I see it: Part of our mission statement includes celebrating the unique spirit of the river community. It would appear that this spirit is sometimes offensive, or even contradictory to others. I feel that I have no right to decide for the membership what is the spirit of the river community and what is not. However, I do think it is my responsibility to record that spirit. What I would appreciate, as the editor of this journal, are letters explaining why an article is offensive to you, or why an entry does not compliment our mission statement, etc. Please write your letters with the intent that it will be published in the pages of this journal. Unless I am directed by a higher ruling, or by counsel, The Confluence will continue to be a journal that endorses an open forum.

The production of The Confluence is actually doing very well. The Confluence is our biggest financial liability and we are presently solvent and we even have enough money to consider making some improvements. I will soon be presenting to the board the idea of purchasing some software that would provide for better quality images and graphics for The Confluence. There are also a lot of articles in the mail, in the computer, or in the heads of some very talented people. These submissions just need to be polished, assembled and published. Many thanks to all the contributors and many thanks to the members who support CPRG with their dues. This, above all, is what produces The Confluence.

John Weisheit



T-Berry:

"Row these without ballast? Give me a break!"

"The three opinions."

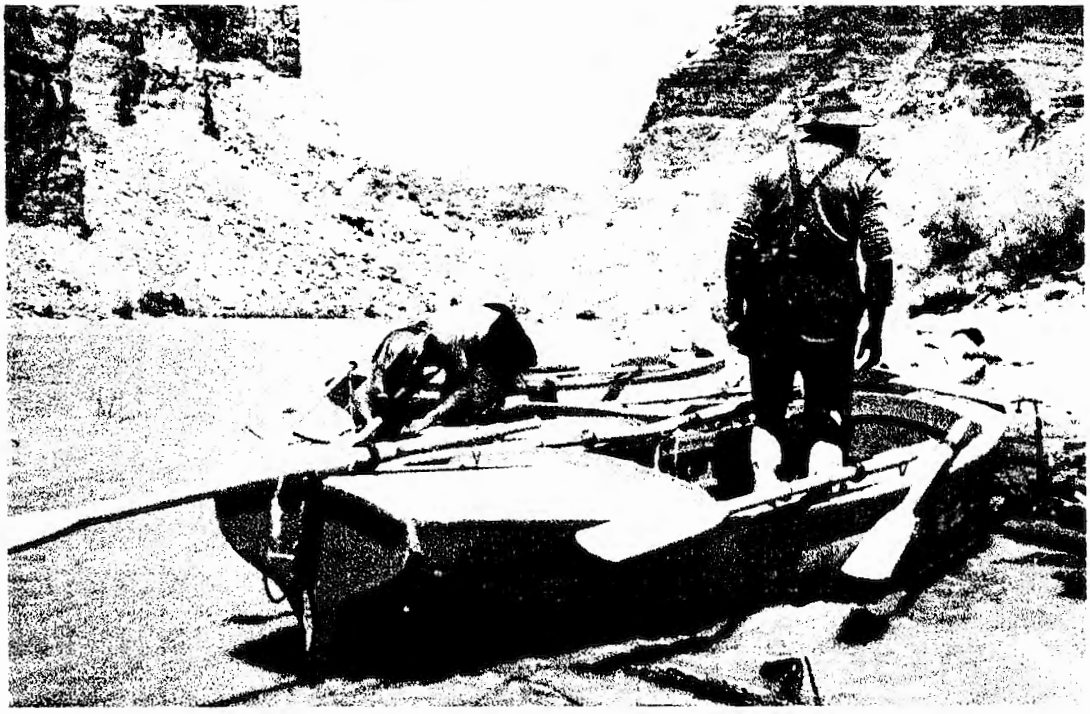


Left to right:

Bego,

David Bodner,

and Steve Swanke.



"Oar lock maintenance."

Note the lack of an oarlock on the stern oar. The boatman used rope and bailing wire for oarlocks. It worked okay.

These photos were taken during the first "Powell" trip for PBS.

All photos by T-Berry.

Membership Correspondence

Stop the "Wilderness" Land Rip-Off

I read with interest the piece by *Friends of Westwater Canyon* in the Winter 1997 issue of The Confluence. The piece was unsigned. Whose opinions are these? How do these extremists equate one small mine at the head of the canyon as "losing Westwater Canyon"?

Look at Meander Canyon with P.C.S. POTASH near it's start. Is this canyon "lost"? I hardly think so.

As a guide member of CPRG who has the unique perspective of being a backcountry four-wheel driver, as well as a river guide, I'm tired of river runners like Harry Edwards advocating vast areas as wilderness, which allows access by river runners, but not land access due to road closures.

People are all too ready to cut-off everyone's freedom but their own, not realizing that the next person to lose their freedom might be themselves.

When I speak of vast proposals for wilderness, I do mean vast. Apparently "Friends of Westwater" supports the 5.7 million acre wilderness proposal as indicated in paragraph #6 of their article in the Winter 1997 issue of THE CONFLUENCE. I invite everyone to look at a map of Canyonlands National Park, 400,000 some odd acres, and you'll realize the enormity of the 5.7 million acre land grab. A land grab unprecedented in scale.

I notice the "environmental" award mentioned in the "Friends of Westwater" piece is out of New York. Also, the 5.7 million acre wilderness bill is being introduced this year by Congressman Hinchey of New York. Funny how the extremists have to go 2,000 miles, where they can exploit the ignorance of well-meaning environmentalists, and easily dupe them into supporting the theft of their own land.

How long would river runners support "wilderness" designation if it outlawed their activity, as it does my backcountry 4X4 expeditions? The hypocrisy of the river runners, especially those who run motorized rigs, is painfully obvious to all but themselves.

By the way, I am a man who has changed. When I first came to canyon country, I supported "wilderness" designation until I found out the severity of the restrictions involved, and became educated by the desert in my years as a backcountry guide. Before I came to canyon country, I had no clue as to the precious freedom we have to travel the countryside. Indeed, this same ignorance, on the part of the many who support "wilderness" designation, means they necessarily cannot realize the depth of the tragedy designating vast areas of "wilderness" means for future generations. They don't realize the freedom they are attempting to steal because they are ignorant of it in the first place.

I hope all who read this realize that the environmental movement has been sold out and betrayed by groups like Friends of Westwater and Southern Utah Wilderness Alliance. It is possible, despite what the extremists say, to be an environmentalist without supporting the radical's agenda of land thievery. Also, I wouldn't dream of being arrogant enough to tell the river runners they can't run the rivers, but apparently they are arrogant enough to want to cut-off land access to wild places.

One final point, the removal of fossils from beneath the surface (except, as I understand it, at pre-existing sites) is forbidden in designated "wilderness" areas. This fact, especially if the 5.7 million acre bill goes through, will be a tremendous blow to the science of paleontology. Especially considering the fantastic wealth of dinosaur and other fossils in southern Utah's public lands.

Of course, this and other information is never mentioned by the extremists as they try to pull their 5.7 million acre con-job over on the American people.

John Holland

Outfitter Hit with Damages

From the Denver Post, April 2, 1998

A Cañon City-based river running outfitter accused of negligence in the death of an Idaho man in a whitewater rafting accident must pay the victim's family $4.3 million in damages, a federal judge ruled.

U.S. District Judge John Kane entered the judgment against Echo Canyon River Expeditions Inc. after an arbitrator's ruling that the company was liable in the June 1994 drowning of Jere C. Whitted, 39, of Hayden, Idaho, during a whitewater rafting trip on the Arkansas River.

Whitted's wife, Sari L. Whitted, filed the lawsuit, claiming Echo Canyon and its guides were grossly negligent when they disregarded unusually high water levels and other conditions on the Arkansas River.

Whitted was thrown from a raft while riding on a stretch called "The Numbers," a narrow and rocky route generally recommended only for passengers with advanced rafting abilities.

Whitted and three other adult passengers had signed a waiver releasing Echo Canyon of any liability in an accident. But the Whitted family's attorneys argued the waiver was not valid be cause the defendant guided the trip in violation of rules and regulations in the Colorado River Outfitters Act.

Witnesses testified in depositions that an Echo Canyon employee, Geoffrey Tattersfield, who guided the trip, had smoked marijuana on company property the night before the accident.



Recipe for a Dilemma

by Paul Smith

First let's define the dilemma! How does one balance a nearly insatiable passion to be on and in the western mountains and rivers, especially on the rivers; with a nearly insatiable passion to pass on an accumulated knowledge of more than thirty years of making fine beers all over the world, especially when it requires traveling every third week or so to Chicago. Even during the wintertime!

Can it be done? Can one deal with the emotions surrounding several days on the river as depicted in the poem "River Magic" that I submitted for the Winter 1997 issue of The Confluence with the scurrying around associated with living and working in a major metropolis: and have a vast amount of fun at both. It can be done with the proper set of life experiences. Thus, this is the recipe.

- Be born in New York city. It must have ingrained the city in my being.
- Spend your youth in rural northern Maine. Experience the glory of canoeing the wild rivers and lakes and the devastation of the lumbering industry, especially prior to present regulations.
- Move cross-country to Golden, Colorado at seventeen years old to study geology and geophysics. Gain an appreciation for the power and sheer relentlessness of nature, as well as the magnificence of the Colorado Plateau and the Rocky Mountains.
- Have incredibly poor timing in selection of a career. Running a drill in the bottom of a mine was all that was available for employment for a mediocre geophysicist, after the uranium boom and before the petroleum boom. Especially one with an ethical concern about the whole mining/dam building thing.
- Choose the military as a possible career and travel the world for three years, all the while yearning for the mountains and desert.
- Marry your life-long love, a comely lass from Golden, Colorado, cementing your resolve to make the west your base of operations for life. Raise three sons, all reveling in the serenity and splendor of the nearby wilderness your decision has provided.
- Work in the small western brewery at the bottom of the hill below the school in Golden and grow with it into a nationally and internationally known professional brewer and beer advocate.
- Develop the intense passion to execute and to teach others how to execute the production of fine beer, the beverage of moderation.

BEER

It is the drink of those who think
and feel no fear or fetter;

Who do not drink to senseless sink,
but drink to think the better!

Anonymous, 1903

- Nearly succumb to the intensity and stress of executive life and thereby learn the value and need to be physically fit and to practice stress management (Discussed in the Spring 1998 issue of The Confluence.) As a result, save your own life and become an even better executive.
- Become so expensive that at the youthful age of 52, your company offers to pay a monthly stipend for you to stay away. Take the "golden parachute" and run.
- Through two of your sons who are river guides, meet a professional and progressive owner (Tom Kleinschnitz) who opens to you, the glory of river guiding on the Colorado Plateau. Voila! The second passion buds, blossoms and flourishes.

These are the essence of the recipe for me. By the time I had enough apprentice hours to get my Utah river guide license, I was a committed river advocate, loving every minute of the time I was able to spend. My background in geophysics served me well in the interpretive trips I was able to attend, both related to the geology of the Colorado Plateau and that momentous uplift, as well as the fossil record so vivid and visible in the area. My inquisitive semi-scientific mind had already delved into astronomy and the culture of the Indians in the southwest from the Paleozoic tribes, to the Anasazi and into the more modern tribes. I was able to grasp and pass on to my river customers all of these wonderful new experiences and I supplemented my background by reading voraciously everything I was able to get my hands on from Edward Abbey; to the river books, like The Big Drops by Roderick Nash; to the various river maps and guides; to the handbooks on flowers, birds, animals, rocks; to the volumes of fireside poems by Vaughn Short. Articles in The Confluence help me with this appetite for information and I thank all who contribute.

Prior to my first trip as an apprentice I had taken the rowing and rigging course, as well as the river rescue course offered by Canyonlands Field Institute that year. As was necessary, I had become First Responder certified and CPR certified, but was looking toward EMT training on the off season. I was intensely building the background to enable me to become the most professional of professional guides.

The dilemma arose when one fall I was offered a position on the faculty of the Siebel Institute of Technology in Chicago teaching the glut of new young brewers from around North America and the world. These young men and women, so very hungry for knowledge, have been spawned by the exponentially growing pub-brewing and micro-brewing industry along with rapid international expansion of the major

players such as Coors, Miller, Anheuser Busch (Budweiser), Heineken, Guinness, Lion-Nathan, Brahma and many others. These young people are prepared to conquer the world through brewing of beer and to my amazement I found I have an intense desire to pass on all I can to them as an experienced brewer. I found this flame still burning hot and bright, even though I had turned my back, right next to the intense flame of my new found love, the river. What in the name of Heaven do you do now?? Although in significant contrast, both endeavors are so fulfilling as to become a lifelong work.

The time spent with brewers is incredibly rewarding and meaningful to me emotionally and I am contributing so much to the art of making beer that I cannot give it up. At the same time, every minute I am not preparing lectures or actually teaching I am talking about the rivers, supporting, even selling in to people around me, the rush from the beauty and grandeur of Lodore, or Yampa, or Cataract, or Desolation, not to mention the excitement of a run through white water.

On the other hand, I never failed to have fun when guiding, even with difficult customers, because I felt I was incredibly lucky and happy to be in the wilderness with them. Also, next week they will be back on the treadmill, that was making them difficult to start with. River guides, don't get angry with the difficult ones, feel sorry for them. They are unhappy people stuck in a vicious circle of events that is incredibly hard to break out of.

I think I have found out how to make the break. Learn to compromise with yourself. Seek the value in what you are able to do well and don't drive yourself too far or you stop having fun at everything. I go to Chicago now every third week and stay semi-involved there as a faculty member. When I get there I am all pumped up and can't help but have fun. I brought other competent brewer friends to that organization to fill in the gaps, so I can be proud of what we do and still be away on the river or elsewhere. I had to learn to give other people room to grow also and not try to do it all myself. I learned to let go.

In between, I now run rivers as a private boater and in 1997 logged nine multi-day trips. "Have boat and groover, will travel" is my byline. Lots of people will invite you, if you commit to groover duty. Also if you value what you are doing, you can have fun with anyone. It's an insult to yourself not to have fun.

Why private boating? If I am trying to be a true river professional and am committed to support river guiding, I cannot expect Tom at Adventure Bound to hire me, when I have to be gone every few weeks. I wouldn't even ask. That's not fair to people who are full time guides and Denver is too far away to do the temporary thing. "Private river scum" can also be professional, believe it or not! Again a couple of compromises I have made with myself, for good reason.

In between these two passions, I spend time camping and fishing and going on cruises and traveling with the love of my life, who after nearly thirty-six years still supports my continuing effort to put off growing up (as she puts it). As a result I find all of the things I am able to do with my life are quality time and I thank God every day for granting me the wisdom to recognize it.

I currently have two fundamental objectives for my life. Like all of the books and seminars suggest, try to put your objectives in the form of people you admire and can emulate. Two people have had a profound impact on me and I will do all I can do to emulate them. One is an octogenarian I have known for many years who leaves Florida for a few weeks each year to come to Chicago to teach. His name is Walter Swistowicz, and I want to be like him when I grow up. The other is a gentleman I met at the Gates of Lodore put-in a few years ago. I only spent part of an evening with him and saw him on the river later on that trip and although he doesn't know me, he had an impact. He is also an octogenarian and was in his fortieth year as a river runner as I recall, still guiding for Hatch. His name is George Henry and I'm also going to be like him when I grow up.

Finally I will continue to support efforts like The Confluence magazine, because it endeavors to improve the professionalism of a group of people very important to me. I have two sons in it, many friends and have dabbled a bit in it myself. Professionalism will help to perpetuate a very meaningful way of life. God grant all of you the wisdom to recognize and revel in what you do.

A little River/Beer poem for those of you who, like I do, love to spend a little private time beside the river with a beer and a smoke, after the customers are fed and entertained.

ODE TO BEER

Here I sit, while golden minutes flit.
Alas! They pass unheeded by;
And, as they fly, I, being dry,
Sit idly sipping here my beer.

O, finer far than fame or riches are,
The graceful smoke wreaths of this cigar.
Why should I weep, wail, or sigh?
What if luck has passed me by?
What if my hopes are dead, my pleasures fled?
Have I not still, my fill of right good cheer, cigars and beer?

Go whining youth! Forsooth!
Go! Weep and wail, sigh and go pale!
Weave melancholy rhymes on the old times,
Whose joys like shadowy ghosts appear -
But leave to me my beer!

Gold is dross. Love is dross.
So if I should choose to gulp my sorrows down,
And see them drown,
In foamy draughts of old nut-brown -
Then! Do I wear the crown, without bearing the cross.

George Arnold 1834 - 1865

I feel like in this article I have really beat my own drum. A lot! For those of you that also feel like I have, "I have meant it in the best of ways." Truly! I hope it has been interesting to you and perhaps some food for thought. Happy guiding!



Rubber Rafting Redux

by C. V. Abyssus

In the Spring 1997 issue of *The Confluence*, John Weisheit mentioned that John Charles Frémont used the first rubber boat for whitewater navigation in 1842 (4:1, p.22). Michele Reaume gave us more details in the Summer 1997 issue, noting that Frémont and six other members negotiated the North Platte River on the 5' by 20' raft (4:2, pp.30-31).

A longer, more detailed account appeared in *American West* (March/April 1984, 21:2, pp.26-35). Entitled "Rubber Rafting Western Rivers--Yesterday and Today," Peter Skafte quoted Frémont and German cartographer Charles Preuss from their accounts of this now historic voyage. "Singing, or rather shouting, we dashed along; and were, I believe, in the midst of the chorus, when the boat struck a concealed rock immediately at the foot of the fall, which whirled her over in an instant" (Frémont, *Memoirs of My Life*, 1877, p.157). "Frémont and his men, some of them half naked, had to walk out of the canyon and down to Goat Island," but not before Basil Lajeunesse "had fearlessly jumped back into the raft after the disaster and continued paddling over these drops alone, looking for lost equipment" (Skafte, "Rubber Rafting," p.33-34).

In 1983, David Nevin wrote a fictionalized biography of Frémont, *Dream West*. A three-part mini-series of the same name, based on the book, aired April 13-15, 1986 on CBS and starred Richard Chamberlain. Luckily, film participant and whitewater enthusiast Richard Bangs' article, "Flipping Out" or "CBS Rafts the Colorado," appeared in *Outside* magazine (April 1986, 11:4, pp.19-20) prior to the TV show, and this author was able to videotape the action sequence.

According to Bangs, the capsize was to close the first episode of the series—instead it opened the second, shortly after the flag-planting on the summit of Frémont Peak. Approximately ten minutes long, this sequence purports to show the first-ever rubber raft in rapids. Frémont Canyon's whitewater, on the North Platte River in southeastern Wyoming, was not dramatic enough for the producers, so they chose the Colorado River through the Grand Canyon in December as a suitable substitute. Veteran river runner and stunt man Breck O'Neill "recruited five middle-aged former river guides to film the scene" (Bangs, 1986, "Flipping Out," p.20). [Please see accompanying photograph.]

Beginning on an alpine stream, the background quickly moves from pines to tamarisk as they run Grand Canyon whitewater. It's fun and a challenge to identify the rapids, spliced and edited into the longest stretch of whitewater in the West. Included, in no particular order, are: Paria, Badger, Soap Creek, Sockdolager, Granite, Hermit, Crystal, and Lave Falls. It was one heck of a ride. As Frémont may have said, "it sure was a daisy-cutter while it lasted!" (Nevin, 1983, *Dream West*, p.144).

Unsuccessful attempts to flip the raft in Granite and Hermit led to two **INTENTIONAL CAPSIZES IN CRYSTAL!** Later, three takes of the Lava Falls float and swim transpired on Friday the 13th of December--water temperature about 40°F, air temperature about 31°F. This even became the cover story, featuring a "freezing" Chamberlain, for a supermarket tabloid, although attempts to rediscover the issue have thus far evaded this author.

Director Al "Giddings, who has filmed in Antarctica, claimed:

> 'This is the coldest sustained period of time I've ever experienced.' Richard Mula, Gidding's camera technician, who helped film the under-the-ice scenes on Gidding's series, 'Ocean Quest,' said, 'We used to say, 'Life's a bitch, then you go to Antarctica, then you die.' But now it's got to be, 'Life's a bitch, then you go to Antarctica, then you raft the Colorado in December, then you die.'"

Photo caption for the next page: "Middle-aged Former River Guides." Left to Right: friend of Breck's, Richard Bangs, Pete Reznick, Breck O'Neill, Ross Garrison, Bart Henderson (playing "air-paddle"). Photograph, and permission to use, by Richard Bangs.



A River Guide Story

by Jim Strong

It was a quick response that got me into trouble. It happened on a one-day trip on the Colorado River between the put-in on the river and the take-out six hours later. One lady passenger paid no attention to the amazing red rock country through which we passed and seemed unaware of the great river on which we floated. Both the day and the water were calm, letting the sunlight shimmer on the peaceful water of the moving river. As we floated silently along it was a bit of Paradise to me, far removed from the rat race of the cities and hurly burly congestion of the working world. I was so impressed that I shipped my oars placing the handles under my knees so I could lean down on them. Cupping my chin in my hands I literally breathed in the view. As I looked at the massive rock wall, the beach, and the water ahead, peaceful and smooth as glass in a place over which my raft would soon pass, I was momentarily mesmerized by what I saw and felt. The thrill and beauty of the moment was overpowering. In honesty and sincerity I said to the lady, "Damn, isn't this river a beautiful sight?" Turning toward me she stiffened as she replied, "I beg your pardon. Don't you know this is a church group?" "Oh,, hell no, I didn't know that," I hastily replied. Her face grew stem as she looked at me, certainly an uncouth oaf, a poor yokel who didn't know any better. She put her nose in the air, jauntily turned away and never spoke to me again.



Hetch Hetchy and Glen Canyon

Can We Evaluate America's Progress of the 20th Century In Time for the 21st?

by Dusty Simmons

The word *progress* has been instilled in the minds of Americans continuously throughout the twentieth century. The men who have sold progress to the American people have succeeded in doing so by telling the public what they want to hear and selling them what they want to buy. Those who have lobbied for and made critical decisions about two major western water projects were extremely talented salesmen intent on filling personal agendas at moral and ethical costs.

Americans desire certain fundamentals in life such as: security for themselves and their families, good physical health, and economic growth. Water developers know this and it is what they sell. When the pubic hears "Progress!, Cheap electricity!, More crops for food!, Cheap water, Economic growth!," like sheep, they follow these promises. These salesmen's words are supported by well-aimed propaganda. Citizens cast their votes supporting public representatives who create environmental monsters in the form of hydroelectric projects without looking back or thinking ahead.

Two examples of modem progress occurred at the cost of things sacred and beautiful: the inundation of Hetch Hetchy Valley in California and Glen Canyon in Utah by reservoirs. After 1913, Hetch Hetchy Valley would be known as Lake Eleanor. After 1963 Glen Canyon would be known as Lake Powell. Both projects held stark contrasts and unprecedented parallels to one another.

High in the Sierra Mountains of California, within one of the nation's most beloved parks, Yosemite, is a symbol of early progress: the man-made reservoir Lake Eleanor. This reservoir represents a great deal to the human spirit and what atrocities towards the environment of which we were capable. How easily we drowned our hopes, dreams, and the very food our hearts and souls need to survive. To some, Lake Eleanor reservoir represented progress—a means to sustain the population of a city in a time of need. To others, the dam represented the death of a valley and its friend and activist John Muir (John Muir Life and Work).

John Muir was a simple man who fought the bureaucratic system and their word *Progress*, for what was ethically right and wrong. He dared to ask questions nobody else did: "Was it for the dollar? Was it for cheap electricity? Was it an impending need for the U. S. to have a strong populated west coast? At what cost would western progress prevail?" (John Muir Life and Work).

Before 1913, one could walk through a piece of heaven, carpeted with lush grasses, cradled by sugar pines, and protected by glacial-polished cliffs. These green meadows were named "Hetch Hetchy" by the Ahwahneechees who collected the valley's grasses to weave their baskets. Hetch Hetchy was fed by the Tuolumne River, which tumbled out of the Sierra's and brought the breath of life to the valley. Perversely, this same river would end up killing its own valley.

By 1901, citizens of San Francisco began to view the river in economic terms. They asked, "What can the river do for us?" They saw an answer to the city's water supply problem that would pay for itself with cheap hydroelectric power. The project to dam the Tuolumne River at Hetch Hetchy set social precedents in environmental decision-making for the century. It had attracted powerful backers such as Gifford Pinchot, head of the U.S. Forest Service; Franklin Lane, Secretary of the Interior and ex-San Francisco city official; California congressmen; and numerous San Francisco City authorities and developers. Left to be the voice of the valley was John Muir, President of the Sierra Club, who led the opposition along with fellow wilderness advocates (Hetch Hetchy Discussion Notes).

By 1913, the U.S. Senate voted in favor of the dam—a decade of struggle for wilderness had ended. The public supported the project on the grounds of economic development, cheap water, and cheap power. Hetch Hetchy would be buried under three hundred feet of water, but would not be forgotten. It set a precedent for water battles to come, namely Glen Canyon in the late 1950s (Hetch Hetchy Hearing). Muir and the Sierra Club were the stereotypical "little guys" who were not wealthy or politically powerful, but were driven by ethics to protect natural things because they are holy and deserve human protection (John Muir Life and Work).

Glen Canyon located in the heart of the southwest desert would face a tragically similar situation to Hetch Hetchy almost fifty years later. This Eden of smooth sandstone walls, brilliant hanging gardens, and moving water would find its fate in the hands of western developers and politicians by mid-1950. The Colorado and San Juan rivers, that gave life to this canyon, would back up and drown that which it had created with time and patience.

In the 1950s, America was experiencing the "good ole' days" which would turn political eyes inward. These same eyes had seen the Colorado River before and had proven to the world that it could be harnessed with concrete and steel. It could happen again. The place for the next project would be between Glen Canyon and the Marble Canyon. Here a concrete wall would back water up 186 miles, drowning a landscape that took millions of years to create. The Colorado and San Juan rivers would bury their own canyons in a grave of silt and water to be called Lake Powell. The dam was authorized by Congress on April 11, 1956 (Cadillac Desert).

This time the canyon was not alone in its fight for freedom. Glen Canyon had thousands of citizens on its side unlike Hetch Hetchy in 1913. Slowly, we as a nation were becoming aware of how progress could effect the environment. Leading the fight was David Brower, who like his Sierra Club predecessor Muir, had no personal agenda to fill. His compassion and acknowledgment of right and wrong made him the canyon's voice. He believed that the freedom of the Colorado River through Glen Canyon was imperative to the primitive fish, the herons, and every other precious being who called the sandstone walls home.

In a ghostly familiar tone, the fight for Glen Canyon was lost. In June 17, 1960 the first bucket of concrete was poured.

The developers again won asking, "What can the river do for us?" Entangled in a system of democracy, another river had lost its freedom and a canyon was inundated. History again repeated itself in a manner that is disturbing to the heart and should raise important questions in the minds of each American. Why did money and big government win ethical struggles with the common person? Our nation will intervene in the name of democracy in other nation's affairs if personal liberties are being oppressed. Yet, this same political system will wring every drop of freedom from free-flowing rivers in the name of progress and greed.

Supporters of Lake Powell should have analyzed their decisions more closely and learned from the mistakes of San Francisco when they dammed Hetch Hetchy. In 1913 and 1956, the nation considered progress in the form of concrete and cheap power. In the later part of the century, however, we would be evaluating that issue to the core. In 1987 Secretary of the Interior, Donald Hodel, suggested Hetch Hetchy be drained and restored to its natural state (Hetch Hetchy Discussion Notes). The idea stirred emotions for a short time, but proved the nation was not quite ready for the concept.

Ten years later on October 8, 1997 the public would be tested again. This time by a non-profit organization the Glen Canyon Institute, whose mission is "To provide leadership in re-establishing the free-flow of the Colorado River through a restored Glen Canyon." The grassroot organization's planned citizen's Environmental Assessment puts forth the idea of draining Lake Powell reservoir (Requirements for Successful Implementation of the Plan for Action).

Ironically, the ghost-like similarities between the circumstances of Hetch Hetchy and Glen Canyon keep surfacing. In 1913, the inundation of a green valley in California was know by many as the act that put wilderness preservation in some American's minds. Now eighty-five years later, as the nation moves toward a new millennium, it is a reservoir and its submerged canyons that is putting wilderness on the public agenda. As the debate continues the public is finding itself assigning tangible values to measure such things as aesthetics.

Draining Lake Powell reservoir may not happen soon, if ever, but the fact that a number of people are contemplating it shows how far we have come in eighty-five years. The values of aesthetics and wilderness are becoming increasingly more important for us to determine. The restoration of a canyon and its river may be the most valued energy the human spirit craves.



John Muir. Library of Congress.

Works Cited

Glen Canyon Institute. Requirements for Successful Implementation of the Plan for Action. October 8, 1997.

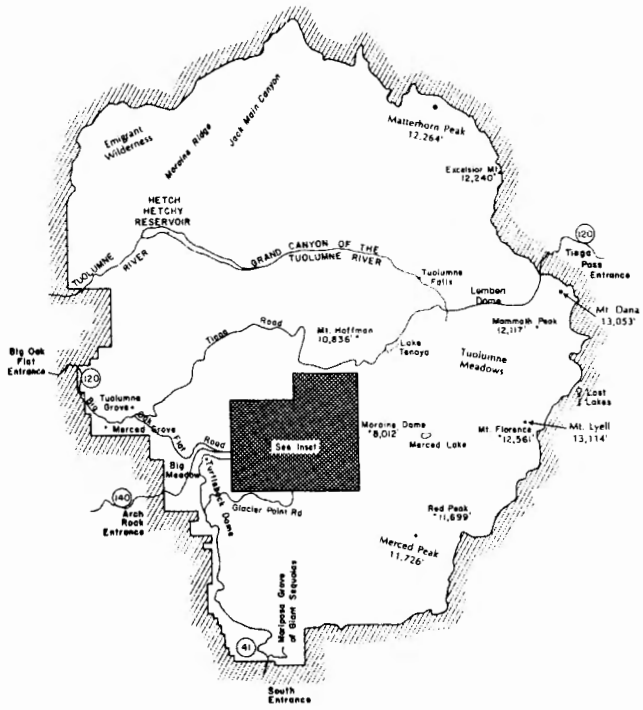
Hood, Robert. Hetch Hetchy Discussion Notes. Bowling Green State University. Environmental Ethic Course. Online. Internet. 1 Feb., 1998. www: http://forest.bgsu.edu.

Inskip, Eleanor. Glen Canyon Before Lake Powell. Moab, Utah. Inskip Ink, 1995.

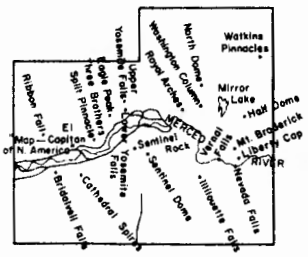
Miller, Sally. John Muir Life and Work. New Mexico University Press, 1993.

Museum of the City of San Francisco. Hetch Hetchy Hearing. A Brief of Robert Underfeed Johnson (16 Dec., 1908) On-line. Interment. 1 Feb., 1998. www:http://best.com/~sfmuseum/hetch/hetchy8.html#muir2.

Reisner, Marc. Cadillac Desert. New York. Penquin Books, 1986.



YOSEMITE VALLEY



From *Geology of National Parks*; Harris, Tuttle and Tuttle. Kendall/Hunt Publishing. Dubuque, Iowa.

Why I Left the Outfitting Business

by "Bob Parker"
As told to Earl Perry

When the wind freshened, the sound of the first rapid carried upstream to our camp. This put me in mind of the Big Drop. I would have to take us through it tomorrow. It was not clear how I would do this; the water was very high, and I was brooding about contingencies. What would happen if the motor quit? Or a big piece of driftwood jammed the prop? If we had to swim? The right center of Big Drop 2 was given over to a hole called Little Niagara. Offset to the left of it was an enormous wave called the Red Wall. These two hydraulics blocked the center 90% of the river. They had been capsizing boats bigger than mine for the last 2 weeks, as the Colorado rose to its crest. Thinking about this, I had no appetite, only a dismal integration of memory and imagination. Bob was watching me over his beer.

"You know, Earl," said Bob reflectively, "I've decided to do it. I'm going to come out as a Lesbian. On this very trip. These women that like women, maybe you've heard of them? I like women myself. QED." He lit a cigarette.

"Hard to fault them for that," I said. "I like them too."

"O for God's sake, Bob," said his brother Richard. "Come out as a Lesbian? What's Vicki going to say?"

Bob thought about this for a moment. "Well, based on what I read, I already do to Vicki a lot of the stuff us Lesbians are supposed to do to each other, an' some of it, she likes it jist fine, an' some of it, hell, she REALLY likes it. I don't suppose there'll be much of a problem there."

"Well, Dad," said his son Shawn, "It's the contents, not the container. I just want you to know that I accept you. The new you. But what are we supposed to call you now you've outed yourself?"

"Bobette?" I suggested. "We could call him Lorrie for short."

"I HATE the name Lorrie," said Bob. "SO tacky and trucklike, and just utterly alien to my new, sylph-like self." He smiled from deep inside his patchy beard. He arched a scarred, calloused rancher's little finger out from his COORS can, as if sipping from a porcelain teacup. There was a sudden, small reality warp, and just for the moment, this big, grizzled rancher looked femme. But when I focussed on him, the illusion dispelled, leaving a residue of more than 6 feet of somewhat drunk male wreathed in cigarette smoke.

"Bob, you're an idiot," said his brother.

"To be more precise," said Bob carefully, "I am The Idiot Formerly Known As Bob. That's my name of choice for my new, throbbingly honest self."

"Well," I said happily, "You'll be needing a symbol that will be the shorthand for 'The Idiot Formerly Known As Bob.' You can't expect us to spell it out all the time in your personals ads. How about a scissors rampant, addressed as to the base of a sausage-like object? Says what needs to be said, connotes what needs to be connoted."

"Earl," said The Idiot Formerly Known As Bob, "I find this kind of coarseness painful. Inexpressibly painful."

"Well, Idiot Formerly Known As Bob," said Richard, "How about a hieroglyphic representation of the Ginshu Penis Mincer? Nobody could possibly find THAT coarse or tasteless. After all, we've seen it ... on National TV."

A gust of wind ruffled upriver. The undertone of sound from the distant rapid swelled to a roar. I pushed some food around my plate. It seemed likely that I could not get the boat down the left side of Big Drop 2. And even if I did, there were two unpleasant possibilities. It would then either be in the worst possible position for Satan's Gut, which lay below at the end of a wilderness of meta-Grand-Canyon waves, or it would go into that eddy over there on the left. One of the young boatmen who had righted his capsized J-rig in that eddy—it took eight people and two 6:1 Z-drags, once he could *find* his people—had tried to motor out of it once he got himself and his motor and his people back together. He told me about it. He was seeing sky up past the bow; a whirlpool had opened up in that eddy behind him that was so big it stood that 22-footer on end. I looked off downstream toward the recollected rapid.

"You know, Earl," said The Idiot Formerly Known As Bob, gathering my attention, "I wasn't always the artfully slim creature you see across the campfire. I wasn't even the small-time gentleman rancher and big-time medical expert witness who came on this trip in the first place, not always." He hacked out a cloud of tobacco smoke. "No, Earl, I used to be an outfitter. Not a guide like you, an outfitter. A distinction as well as a difference. But I quit. Years ago. Couldn't take it."

"Couldn't take it?" I asked dispiritedly. The Boatman's Annals claimed that you had to try for that left-hand run; the right side didn't open up until there was more water in the river. So it was said.

"No, I couldn't. And there was one guy that was responsible for me quitting. Ol' Harve."

"You know, Idiot Formerly Known As Bob, it's a little hard for me to think that this Harve guy could drive you out of the business. Did he sue you?" I asked.

I wasn't really interested in Ol' Harve. I was still thinking. The Boatman's Annals held only one story about a rig that had centered Little Niagara at this level and made it. One of Sheri Griffith's boatmen had had the motor flung right off the transom in Big Drop 1, just upstream. It was on an 8-foot chain. That motor went as down as it could, and in its new career as a sea anchor it spun that J-rig around and hauled that boat backwards through the raging center—right over the top of Little Niagara. Upright and through. However, the other boatman in the pair, seeing his buddy's motor lost and the general commotion in the lead rig, had gone after him and dumped his chase boat end for end. Pitchpoled it. Much loss. Much damage. Much work. Good story. I called to mind another Big Drop 2 story: that time one of John Cross's boys hit the center in a 33-footer with outrigger tubes, and it ruptured 19 of the 20 tubes in the rig. Hell of a good story: 15 or 16 people clinging to the one remaining inflated chamber amidst all the flapping rags of neoprene and bent metal,

booming down through rapid after rapid clear to Lake Powell. My own stories were not quite so impressive, but they were good enough, as boatman stories went. I didn't want another, not even a great one, to go into the Annals tomorrow. Thinking about it, my chest tightened, and I felt like I couldn't draw a breath. By that curious link between memory and sensation, I was suddenly again in a very bad swim in the Upper Box Canyon of the Rio Grande 20 years ago, being held under, being held under longer and longer, same locked throat, same panicked desperation near the apex of the high arch of the diaphragm. I used some pranic breathing to settle myself down.

"Sue me?" Bob was saying. He was looking sharply at me. "Oh hell no. Not old Harve. About the nicest dude I ever had. Sue me? Harve woulda never thought of that in a million years. No, he done his best to be the best hunter he could."

"Yeah," continued The Idiot Formerly Known As Bob. "I got him through the Division of Wildlife. They had all our names on their lists, and he picked me at random. Or maybe not so random. Kind of a fateful quality to it, now I come to think of it. But he wanted to hunt elk. Nothing would do but what he comes out from upstate New York, an' hunts elk."

"So I told him, 'Well, Harve, I usually take about 6 or 8 guys in and set 'em out in spike camps,' an' he said he'd cover it all, he wanted his own hunt. So I prayed the DOW'd never find out what I was charging him, an' I took him onto ol' Kelly's ranch."

"Not ol' John Kelly's ranch?" inquired his son. "Where you stopped the charge of that herd of elk with a Browning 9mm?"

"Well, Shawn, it wasn't quite exactly like that." He turned to me and explained. "I was takin' this kid out hunting elk. Fatherless kid, you know? Anyway, the rut was on, an' I figured 'What the hell,' so I give him a piece of rotten garden hose to bugle with."

"Well, by god if the kid wasn't a natural. Could be that his voice was cracking. But he'd squeak an' holler down that tube, and the bulls was jist maddened by it. So anyway, I found us a herd, an' that kid bugled 'em up, and we slipped up this sage arroyo til I figured we was right in 'em. I could hear that bull ripping around. So I whispered to him, 'Kid, give him another one, a quiet one,' an' he squeaked that man-boy voice into that rotten hose, an' that was it!"

"Well, I'd poked my head up as he give that last call, an' there was the bull, not 30 yards away. He was furious. Pawing the ground, eyes bulging, horning a bush, slathered in mud and bullpiss, throat swollen and thrust out and curving up, big bull hardon jutting forward, absolutely crazy with rage that some upstart 3- or 4-point was right smack in the middle of his herd bugling with his puny insolent adolescent squeak-whistle, an' he couldn't even find the little bastard and thrash him." Bob stands up on the other side of the campfire, wobbling a bit from all the beer, and peers furiously around, neck thrust forward. I can't believe it. For a moment the Cedar Mesa Sandstone, the Elephant Canyon Formation, the Honaker Trail Formation and the Paradox Halites vanish, the whole of that vast desert canyon is gone and there, where a moment before we had been at the head of Cataract Canyon, is an infuriated bull elk.

Very quietly I muttered to myself, "What in the hell is going on here?" and looked at the others to see if they'd seen it too. Everyone was looking at Bob, a little strangely, but I couldn't tell what they'd seen and what they hadn't. Suddenly I remembered that in hunting societies, visions are normal; it's only after agriculture sets in that we get priestcraft, kings, cops, and mental wards for the seers.

"Right then," continued Bob, "Is when the kid says to me, with his voice cracking up and down and carrying like a megaphone, he says, 'Mr. Parker? Was that last call OK?'"

"That herd unseamed itself. There was elk going every which way, including about 10 cows coming straight for me an' the kid. I pulled my Browning Hi-Power and started sluicin' shells through it, trying to turn 'em, but all it did was make 'em even more upset. Them female elk was hysterical; no other word for it. The kid is trying to get off a shot at the bull, actually a whole bunch of shots, but those cows kept coming. Finally I pulled the kid down into the bottom of the arroyo, threw myself down on top of him, an' tried to sink right down into the earth. Them cow elk jist lifted right over us. Floated over. Kicked a bunch a dirt all over us, too. So anyway, when it all settled down, I told the kid that last call had been jist fine, an' we looked for blood and didn't find any. Got him one the next day. But anyway, that's the truth, an' I don't see that you can say from that, that I stopped the charge of a herd of elk with a Browning 9mm. They didn't stop worth a shit an' they sure didn't turn."

"Well, anyway," said Shawn, "I remember Kelly's place from when I was really little. He had the mules? The giant mules? I remember when I heard about elephants, thinking they'd have to be as big as those mules."

"Yeah," said The Idiot Formerly Known As Bob. "Ol' Kelly, he had him four molly mules. Not less than 2200 pounds apiece, which you know a regular saddle horse, it's about 1200 pounds. An' them mules, they hated me. Purely hated me. They'd see me walk up, an' the row of 'em would lay back their ears, and real slow they'd all turn their heads, an' they'd all bare their teeth at me."

"An' if I took one step closer, *one step*, each one of them molly mules, she'd cock her left leg up an' ready." Suddenly and somehow The Idiot Formerly Known As Bob leaned forward, peered venomously back over his left shoulder at us, and cocked his left leg up. Reality warp again. For an instant there was a moment of the purest weird. There stood a massive row of malevolent molly mules, huge as Clydesdales, ears back, left legs cocked, rictus of great peg-like muleteeth bared. I shook my head to clear my sight, wondering if that crap about flashbacks they gave us 30 years ago wasn't mythic after all. There stood Bob again.

"Maybe if you'd come out sooner," muttered his brother, "Them molly mules might have accepted you as one of their own."

"Well, Ol' Kelly's place was crawling with elk, jist crawling with them. An' I soon found out there was not

gonna be any leavin' Ol' Harve in a spike camp. There was no way I could jist outfit him in an' leave him. Like it or not, I was gonna guide him. Now don't git me wrong, he'd done his best. Whatever you kin git from books, he'd got. He'd even learned the names a the birds—I mean, you know me, there's buzzard, redtail, magpie, an' camp robber, an' that's my life list. Ol' Harve, he knew 'em all."

"An' the trees, too. You take a rancher like me, there's black timber, quakies, and willers. As in, 'Keep them cows outta the goddam willers, boy!'" He pointed across the Colorado, to a riparian stand of hackberry, boxelder, Fremont cottonwood, tamarisk, coyote willow, and sandbar willow. "See 'em over there? Willers. Well, Ol' Harve, he'd studied up on 'em til he knew blue spruce and douglas-fir and Englemann spruce and prostrate juniper and Rocky Mountain juniper and what the hell not. You could tell he purely loved to learn 'em, an' he loved to see 'em in their native habitat. Trees! Bunch a damned trees!"

"Well, I took one look at Ol' Harve, an' got out my mildest horse, and shortened up the stirrups. About 5'4" or 5'5", about 280. He was about the age you and I are now, late 40s, crowding 50. And a rider! O my god. I got to regretting later I didn't put some thigh straps on the saddle skirts to try to hold him on."

"I got him up to camp an' off that horse, which he was not bad at getting off of, having fallen off it at least 5 times on the way in. The first herd we saw, we were walking through a stand of quakies, and I seen the antlers of the herd bull standing up behind a bush. Well, this hunting off your own feet; I stand foursquare with Elmer Keith."

"Elmer Keith didn't think much of his own feet?" I asked.

"O hell no. Not Elmer, an' not me. He was the one said a good horse could add 30 years to a man's hunting life. But anyway," continued Bob, "I pointed out that bull, and there stood Ol' Harve, aimin' right at that bull not over 50 yards away, pulling on that trigger til I thought he'd bend it. An' that old Mauser not going off and not going off. So I leaned over and whispered, 'Harve. Safety.' But by then that bull cleared out."

"So a day or two later, there we are in another herd. I'd give him a talk about buck fever, how it could happen to anybody, how you breathed your way through it, all that, an' he'd decided that was it for safeties. Never trust 'em again. From now on, he was hunting open bolt. So there he stood, looking at a bull elk near as big as good quarterhorse stock, hauling away on that trigger til I thought he'd bust it off. So I leaned over an' I hissed, 'Harve. Close the bolt.'"

"He looks over at me an' gives me a big grateful smile, nods hard, very serious, closes the bolt on that Mauser, an' the elk are gone. And that's it for that year. I give him the buck fever talk again an' took him back to Stapleton airport, feeling pretty bad that I hadn't been able to get him one, but he tells me it was the time of his life, he'd always wanted to hunt elk in Colorado, an' he sure as hell had. Just seein' em was one of the most wonderful things that ever happened in his life. He hadn't killed, but he sure as hell had hunted, an' he was happy."

"Hard not to like a guy like that," I said.

"Like him? Why, I'm tellin' you he was about the best dude I ever had," said Bob fervently.

"So he calls me up that winter, an' wants to come back, an' I give him the choice of hunting Kelly's again, or packin' him up into the Rawahs, and of course he chooses the wilderness. Same deal. I pick him up at Stapleton, Mauser and all, and the next morning I got him on the new FJ saddle, an'...."

"Idiot Formerly Known As Bob, you're gonna have to lighten up with the technical terms. What is an FJ saddle?"

"Why, Earl, it's a Fat Jew saddle. Got it special made up special for him when I knew he was comin' back."

I was startled.

"Well, anyway," continues The Idiot Formerly Known As Bob, "We was riding through a stand of quakies up near Shipman Park, an' by god if we didn't find ourselves in the middle of another herd bedded down in the aspen. There was the antlers of the herd bull, polished tips gleaming, sticking up high as a sapling. I motioned Harve to get down."

"He swung his foot back and whacked it right into a quakie. Even Old Plugly got startled by that. I'm not saying Ol' Plugly bucked him, or even jumped. That was not Ol' Plugly's way. It was more like the horse just walked out from under him. Anyway, he landed on his back, 'Whump,' an' lay there bright blue."

"Bright blue? What in hell are you talking about, Bob?"

"At first I thought it was some kind of a ceremonial religious thing with him, like with the ancient Picts, but later I figured it was jist ordinary hypoxia. But how that man would try, Earl, how he would try. Some nights I'd hear him in his tent, gasping for breath, but he never said a word. Nope, there was no way Ol' Harve was gonna holler 'nuff,' not when he was hunting elk."

"Anyway, I reached down and pulled him up to his feet. I'd learned my lesson, maybe, an' I'd been carrying his Mauser for him, so I pulled it out of the scabbard. Somehow them elk were still milling around, and that bull with them."

"You can be sure I closed that bolt, and made double sure the safety was off. I handed it to him and whispered, 'Harve. She's all ready. Bolt closed, safety off.'"

"He grabbed that rifle, an' swung it jist like this." Bob stood up swaying, drunk, and swung an imaginary rifle just past my face. Damned reality distortion again; suddenly the long barrel and the crown of the muzzle were traversing my face. There was eternity in that gun muzzle. I started to duck to one side.

"Yeah," said Bob, "Jist what I done myself, and a damned good thing, too. It went off when it was right about here." He indicated a gunbarrel a few inches in front of his face, offset slightly to one side.

"So there I was, deaf, couldn't see outta one eye, face burning from an implant of fresh gunpowder, an' he says, '_____.'" Bob mouths something which even in the gathering dusk I can lipread as "Sorry."

"An' poor Ol' Harve, he gives me that nervous little smile. I carry some of that powder of his in my cheek to this day. Anyway, that was the end of his hunt, an' when I could ride

an' drive I run him back down to Stapleton, him apologizing all the way."

"Well, sure enough, he calls the next year, an' hell, I really liked the guy, so I offered him Kelly's or the Rawahs, an' of course he chose the high country, despite not being in any better shape, or having a shape, really, other than a butterball. He shows up with his brand new rifle, this Sako .300 Weatherby Magnum, which if we was in Norway they'd pronounce it Sako. I figure it had to be the only one in upstate New York; that's shotgun country there. When they let you have a gun at all. An' he's as proud of that new iron as a man can be. Hell, he's as proud of it as a *kid* can be."

"So up we went, him on the FJ saddle an' up closer to 300 pounds this year an' starting to blue up at about 9000 feet, an' us with a camp at 11000, an' me worrying about how I'm going to pack him out if he gets anoxic."

"Well, feet or no feet, I'd given up hunting with Ol' Harve from horseback, an' by now I wasn't an outfitter an' I wasn't a guide, I was a gunbearer, so I was toting that beautiful new Sako for him, an' sure enough, we walked right smack into the middle of them, all bedded in a stand of quakies. Whole herd. Just beautiful. An' there was the herd bull, not 40 yards away, and somehow confused enough not to spook." Bob lights up another, pops a can of beer. I can see the herd in the flicker of quavery gold chiaroscuro in the quakies. There is that shimmering undersea quality of an aspen grove in a breeze at the peak of color. The elk musk is rich, almost overwhelming. For the moment I am IN the herd. Apparently Bob has powers.

"I handed him that Sako, all ready, and he throws down on that bull. I was all set to unlimber my kill pack with the rope an' the saws and the knives an' the stuff. Why hell, Earl, I was even figuring how to persuade Ol' John Kelly to handle them savage lady mules for the packout, so's I wouldn't have to come within 10 yards of them vicious bitches."

"Ol' Harve hauls back on that trigger like in a tug-of-war. Really snatches at it. So hard he pulls the point of impact up about 30 inches at 40 yards. That magnum blaster goes off like the crack of doom, and burns that bull right across the top of the shoulders. Well, that elk is STILL confused; now he's looking around for the wasp that stung him. An' Ol Harve remembers to work the bolt, an' doesn't even short-cycle it on that damned 5-inch cartridge."

"Now, Ol' Harve was something of a klutz. Or did I tell you that before? Anyway, maybe he was still embarrassed about nearly blowing my head off the year before, or maybe who knows why, buck fever or something. Anyway, he had a clear second shot, but nothing will do but that he takes a step forward partway in front of me. And trips, flat on his face. Whump. And plunges the barrel of that brand-new Sako right into the bog, 18 inches deep."

"He stands up, looks back at me, and gives me that great big smile of his. There's big breast prints of bog mud on his shirt, and his face is dripping rich black peat. But this is it. He's been hunting 3 years to reach this moment. Somehow that bull is still standing there, looking for what stung his withers. And Ol' Harve's a lot quicker than I give him credit for, or maybe I'm a bit paralyzed. Time kind of congeals when there's a disaster coming, you know?"

We nodded. It sure does.

"He gets that rifle back to his shoulder and fires that second shot before I even move. And he blows the whole front end of that magnificent new Sako right off. Shrapnel everywhere. An Ol' Harve standing there looking a little apologetic, still smiling back at me, still dripping, looking a little stunned, with what's left of his barrel looking a little like a blue-black flower."

"And I'm standing there asking myself, 'Why aren't I dead? Why aren't I dead?'"

"Well, he called me back the next winter and told me he'd had an m.i...."

"M.I.?"

"Myocardial infarction. What they always call a massive heart attack. Anyway, he wasn't coming back. Matter of fact, he was under doctor's orders to stay in town. But he wanted me to know the trips with me had been the high point of his life. Even though he could never come back and his days as a Colorado elk hunter were done forever, he was going to send his friends to me. He knew I'd do right by them."

"Well, it took me a second or so to get myself together so's I could say it, but I told him, 'Harve, I'm sorry, but I've got out of the business. I'm a rancher now. Got a little cow-calf business going.' An' I gave him a name or two for his friends, and that was the last I ever heard of him. Now as a practical matter, they'll usually hang on through the winter, and go on a nice spring day, so I don't really suppose he made it through the summer. But I like to think he lasted til September, when the rut's on and the aspen have turned, when the light slants and the air is edged with the early frosts. Whatever else he might have been, he was an elk hunter."

We sat for a while. The breeze turned downstream, carrying off most of the noise of the rapid. In the rustle of the boxelder leaves in camp the rest of the sound of the rapid was absorbed. I went off to my bag, thinking, "Hell, there's a run on the right, and if there's anyone that can find it, I can. I'm not El Viejo del Rio for nothing. A few more of these trips, and I'll be El Brujo. Because it's for me, too. Whatever else *I* might be, I'm a boatman. I can put a 10-ft boat through a 10-ft slot at 20 knots in one of the nastiest rapids on the continent. Those young boatmen in the upper camp who've already swum that set of rapids a couple times this year. And made their people swim 'em. They're the ones that are queasy tonight. And they've got every right to be." Soon I heard Bob shuffle off to his tent. He made night noises for a while, and I saw him light another cigarette. Then he started to cough. Soon the cough changed and deepened, and he was gagging, retching, harder and harder. Gasping for air. Racking spasms, the kind that turn you inside out. At last he subsided, and I heard him get into the tent and go to bed.

Copyright © 1997 by Earl Perry



The Confluence's "Lost" Stanton Inscription.

Or Is It?

by Jim Knipmeyer

On May 25, 1889, six boats and sixteen men embarked from Green River Station, Utah, to make a preliminary survey and examination for a railroad route from Grand Junction, Colorado, to the Gulf of California and San Diego by way of the Colorado River. The plan was to float down the Green River to its mouth and there tie in with the railroad survey which had already been brought down the Grand (now the Colorado) River to the junction of the two streams by Frank C. Kendrick from March 28 to May 4 of that same year.

Among the sixteen members of the expedition were Frank M. Brown, president of the envisioned Denver, Colorado Canon and Pacific Railroad, and Robert B. Stanton, the chief engineer. The survey trip is commonly associated with Stanton, however, since he was in charge of the day-to-day operations, while Brown was merely a passenger, albeit a very interested one, no doubt.

The story of the "Stanton" inscription at The Confluence seems to have had its beginning with the Kolb brothers' Green and Colorado River boat trip of 1911-12. In Ellsworth's journal entry for October 26, he states, "...I crossed to East side of Green and painted our name on a rock and took a photo of Stanton's record etc. also our boats at the Junction." That was all. In his book Through the Grand Canyon from Wyoming to Mexico, published later in 1914, he adds, "... we found a record of Stanton's survey on a fallen boulder, an inscription reading 'A81+50, Sta. D.C.C. & P.R.R ..." No date was included.

Colorado River historian Otis R. "Dock" Marston took up the story in an article that he did about the Stanton expedition for The Colorado Magazine in the fall of 1969. He pointed out that during Haldane "Buzz" Holmstrom's solo voyage from Green River, Wyoming, to Hoover Dam in 1937 and his retracing of the trip with Amos Burg in 1938, he made extensive notes on his Geological Survey maps of the region. An arrow pointing to the northeast side of the Green River, and in the forks between the Green and Colorado, is accompanied by the caption "Stanton Survey mark." But the Holmstrom journals make no mention of this detail and no reference appears in Burg's record. Holmstrom had undoubtedly heard of the inscription from the Kolb's journals and book, which he used extensively for guidance on his own first trip.

Still later searches by other river runners and interested parties, also found no trace of this "lost" Stanton inscription. Marston surmised that it had probably been put on with keel, which is surveyor's crayon, or paint on the boulder, and that weathering had since removed it.

To seemingly complicate matters, a "second" inscription was later found at The Confluence. Eugene C. LaRue of the U.S. Bureau of Reclamation left Moab, Utah, in the late summer of 1914 to inspect the drilling operations for a proposed dam on the Colorado River directly below the mouth of the Green River. The next day LaRue noted an inscription cut into a boulder on the right bank of the Colorado River and a short distance below the mouth of the Green. In his notebook he gave the markings as:

Sta. 8489+5
D.C.C. & P.R.R.
May 4, 1889

and also made a small sketch showing the location. Near the base of the boulder he, or a member of his party, painted the following:

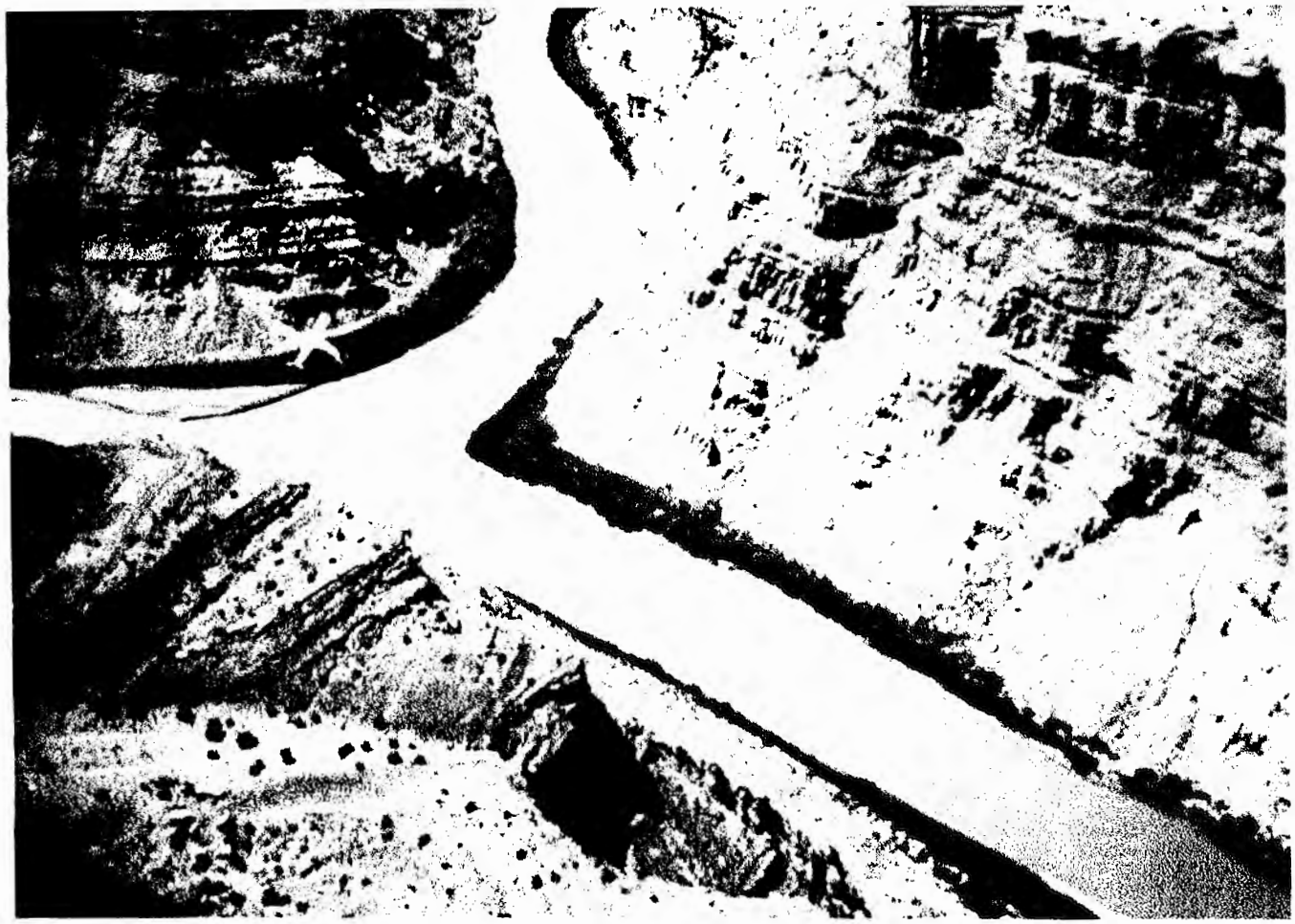
U.S.R.S. B.M.
Elev. 3916.62'
Aug. 1914.

Marston concluded in his article that this inscription was probably cut by a member of the Brown-Stanton party about the end of May, 1889, to mark the resumption of the railroad survey approximately at the location where Kendrick had terminated it on May 4th.

All of this seems to be supported by Kendrick's own entry in his field notebook. It reads, "Saturday May 4th 1889 .... At mouth of Green we mark a large Red Sand Stone (lying in the forks of the Green & Colorado) Sta 8489+50 DCC & PRR May 4th 1889".

Marston explained the rendering of the inscription in 1911 in the Kolb book by saying that evidently weathering had caused difficulty in accurate reading even then. Accounts by members of the Brown-Stanton expedition are not of much assistance. Robert B. Stanton's field notebook entry for May 30, 1889, simply states, ".... started real railway survey on left bank of Colorado opposite Kendrick's Station 8489+50." Survey photographer Franklin A. Nims makes no mention of it at all in his diary. Later accounts left by others after the expedition was over, also make no reference to any inscription. The "forks of the Green & Colorado" is just where Ellsworth Kolb's journal entry places the inscription, and there the matter has since rested.

However, two important points have seemingly been overlooked by Colorado River historians and other "interested parties." First of all, Kendrick's account is exactly correct for the incised inscription on the boulder on the right (west) bank of the Colorado. He accurately states that it is "lying in the forks of the Green & Colorado." River-runner John Weisheit of Moab, Utah, first pointed out this fact to me in a conversation several years ago. Until 1921 the Colorado above the mouth of the Green was known as the Grand River. If the inscription boulder had been located in the present "Y" between the Green and Colorado, Kendrick in 1889 would



Aerial photo of The Confluence by James H. Knipmeyer. White "X" marks the location of the "Kendrick" inscription, with the Colorado (formerly the Grand) River coming up from the lower right, the Green River entering down from the top, and the continuation of the Colorado below the junction going off to the left.

have used the names "Green & Grand." The location he did use, however, is perfectly true!

Secondly, what of Ellsworth Kolb's journal entry? He said that he took a photo of the "Stanton" record. Evidently, no one has ever bothered to examine this photograph to see just WHAT inscription it was that he saw. A copy of the Kolb photograph in the Kolb Collection at the library of Northern Arizona University in Flagstaff, was kindly provided to me by Richard Quartaroli, and clearly shows that it was the still visible inscription on the west side, and not a "lost" one between the present-day Green and Colorado rivers. Ellsworth's succinct entry, which does seem to imply that it was on the east bank, was evidently not in the exact chronological order of just what he did the morning of October 26. Since he did not give a wording of the inscription in his journal, the inaccurate representation in his later book was probably taken from his photo which is, in fact, difficult to make out exactly.

So, I believe on the basis of the above facts that there is no "lost" Stanton inscription in the "Y" between the present Green and Colorado rivers. That it was not found by Buzz Holmstrom and later searchers because it was not there to be found. That the carved inscription on the west bank immediately below The Confluence is, in fact, the inscription described. And, finally, that this inscription was made by Frank C. Kendrick and/or members of his party May 4, 1889, and not by Robert Stanton and/or members of his expedition May 30, 1889.

The Colorado River Case
The Testimony of David D. Rust

Compiled by John Weisheit

With thanks to the Special Collections staff at the Marriott Library, University of Utah.

David Dexter Rust was one of the founders of the Grand Canyon Transportation Company (1903) which improved the Bright Angel Trail, installed the first cable crossing of the Colorado River at the mouth of Bright Angel Creek, and establish Phantom Ranch, then known as Rust's Camp. He also guided foldboat excursions with paying customers in the early 1920s. These experiences are what qualified Rust to provide the following testimony before a Special Master of the Supreme Court of the United States in 1929. The testimoney indicates that Rust was outfitting pleasure trips on the Colorado River well before Bus Hatch or Norman Nevills.

He resides in Provo, Utah; is 55-years of age, has followed various occupations including the cattle business, school teaching, editor, and so forth. He has also done some prospecting and mining.

He first became acquainted with the Green River when he crossed it with a band of horses in 1891 on his way from the valleys south of Provo, Utah, east. There were three hundred horses in the band and he crossed the Green River, at the Gunnison Crossing, which is at Green River, Utah. Half the horses were crossed over on the ferry boat and the rest of them by swimming.

At that time Green River was a small town. There is no town on the east side of the river, except perhaps a house or two.

After crossing the Green River the horses were taken into Colorado, but he did not accompany them further than Green river.

The crossing was above the present bridge across the river.

His next experience with the rivers was in the fall of 1897 when he and his brother fitted up a boat at Hanksville, Utah, and took some horses overland from that point into the river at the mouth of Last Chance Creek, his brother taking the boat down to the river and meeting him at the mouth of the creek.

The boat was put on the river at Hite, to which point it had been hauled overland on a wagon by his brother and about three months was spent in that vicinity attempting to operate placer claims. Sufficient food for that time was taken down to the river with the boat, in wagons. They were supplied by the cargo which had come down on the boat.

While they were camped there the Stanton boats passed the camp and it was understood by him that Stanton was doing assessment work. This was in the winter of 1897 and 1898. Stanton at the time had no other equipment than shovels, picks, and other mining tools.

There was another party of prospectors who came to the camp in January 1898, coming down the river in a small boat and he took the party out from that point to Escalante, with saddle horse and pack animals.

Another person by the name of Nathan Galloway visited the camp on his way up the river in small boat.

Question: Did you see him go up river?
Answer: Yes sir.
Question: How did he do it?
Answer: He was rowing and towing."

While towing, Galloway was close to the river on the bars and he was walking right near the water. He saw no other boats in there until later in the year, in the spring, when he went up to Hall's Crossing. The work he was doing there was near Last Chance, which is a short distance above Elvado, or the Crossing of the Fathers. He saw two or three small row boats on the river.

He went up the river from Last Chance to Hall's Crossing, a distance of about sixty miles, in his boat, rowing and towing; it was hard work. He stayed at Hall's Crossing one night and then went out to Hanksville and further north overland.

His next trip on the Colorado River was in June 1898, when he went to Hite from Hanksville with a pack train and down to Good Hope bar on horseback, where he was employed by the Good Hope Mining Company for about three months.

The mining company at Good Hope were operating a sluice box arrangement about two hundred yards long and used a forty foot water wheel to hoist the water from the flume and carry it back into a small reservoir where the water was stored to use in sluicing gravel bars.

During the three months he was at Good Hope there were an average of twenty men working there and supplies were brought to the camp from Hanksville and Hite, being brought down the river from Hite in a sturdily built twenty- foot row boat intended to carry about a ton.

Question: Did you participate in the operation of these boats?
Answer: I did.
Question: How were they gotten upstream?
Answer: By rowing and towing, the usual method.

At this time he again met Mr. Stanton and his party of about ten men doing assessment work on the river for the purpose of holding a right of way for the railroad. They were working in the vicinity of Good Hope and Hite. This was during the summer of 1898.

By the Special Master:

Question: You are sure that work was for the railroad?
Answer: That is what I understood.
Question: You don't know one way or the other, then?
Answer: That was my understanding.

Mr. Stanton's party was using boats up and down the river in connection with this assessment work and they were operated in the same manner as he explained before.

Besides these boats there were several small row boats at Hite. These boats would draw about a foot of water loaded.

While there, he had the opportunity to observe the channel of the river and sand bars.

> During that summer, July and August, the river was at a medium stage, and we didn't encounter much difficulty between Good Hope and Hite, that was the stretch of river that I was boating on at that time.

He found a great deal of difference in the channel and sand bars when the river was at high, low, and medium stages. Places that were clear in low water may be filled with silt during medium water and channel will be changed.

> **Question:** How frequently would you say the channels changed?
> **Answer:** I have noticed that a channel will change within a week.

He found the river easy to go up and down during a medium stage of water. As between high and low water he preferred the low stage of water and didn't attempt to navigate in high water, meaning by that, ordinary high water which came usually during June. Most of his boating was done in July and August. He has been on the river in every month of the year except June.

When he got through mining at Good Hope he left the river, leaving on horseback and going to Hanksville.

His next acquaintance with the river was in the Grand Canyon in 1907 when he did some little boating up and down the river for about fifteen miles, at the mouth of Bright Angel Creek.

His next experience on the Colorado River above Lees Ferry was about twelve years ago and he has made an average of about one trip each year since then through Glen Canyon, the purpose of the trips being to conduct travelers who wish to take an unusual trip in that wild country in connection with horseback and automobile trips into the scenic lands of Utah.

During these trips the boats have been taken through Crescent Creek or North Wash to the river and launched there, "and we ran down to Lees Ferry." The tourists are usually met at Richfield or Green River, Utah, and taken to the mouth of Crescent Creek, which is the same as North Wash, by automobile, wagon, and horseback.

> **Question:** What type of boat do you use on those trips?
> **Answer:** I have been using a small canvas boat called the KING, canvas, folding boats made of twenty-two ounce, double-filled, duck, waterproof; steel ribbing, crossways and longitudinally; I have used the fourteen and the sixteen-foot type.

These boats are about five feet wide, have a draft of about six inches when loaded. They are not of a canoe type—they are a rowboat operated by oars. Each boat is capable of carrying two persons, that is, one passenger and one boatman, luggage and supplies. He accompanied the boats on these trips himself. Sometimes he has made more than one trip a year.

Sometimes only two boats are taken on a trip, other times three or four are taken.

During these trips in the past twelve years, he has had a very good opportunity to observe the conditions of the river with respect to the channel, the bars and the reefs on the Colorado River.

> **Question:** I wish you would just tell me about a typical trip down there, and what difficulties, if any, you encountered.
> **Answer:** In the first place, I have a responsibility to make the trip safe; one reason why I have selected a small boat which is easily managed, quickly managed, to avoid the sand bars and the shoals and the whirlpools, the wind waves and the sand waves which we sometimes encounter, --we have encountered them, -- I have been driven ashore by the wind a number of times, occasionally have to wait over three or four hours for the wind to go down so that we can go on safely.

He has encountered sand waves on that stretch of the river during his trips but he has endeavored to keep out of them with the boats.

> **Question:** How do you do that?
> **Answer:** Usually there is some quiet water on one side or the other, and by crossing and re-crossing we are able to keep out of most of the sand waves.

Those sand waves that they were not able to keep out of are necessarily ridden, the same as some of the rapids.

He has discovered that less water is shipped if the boat is put length lengthwise of the trough and floated down sideways in that manner.

He has a always gone through the sand waves safely.

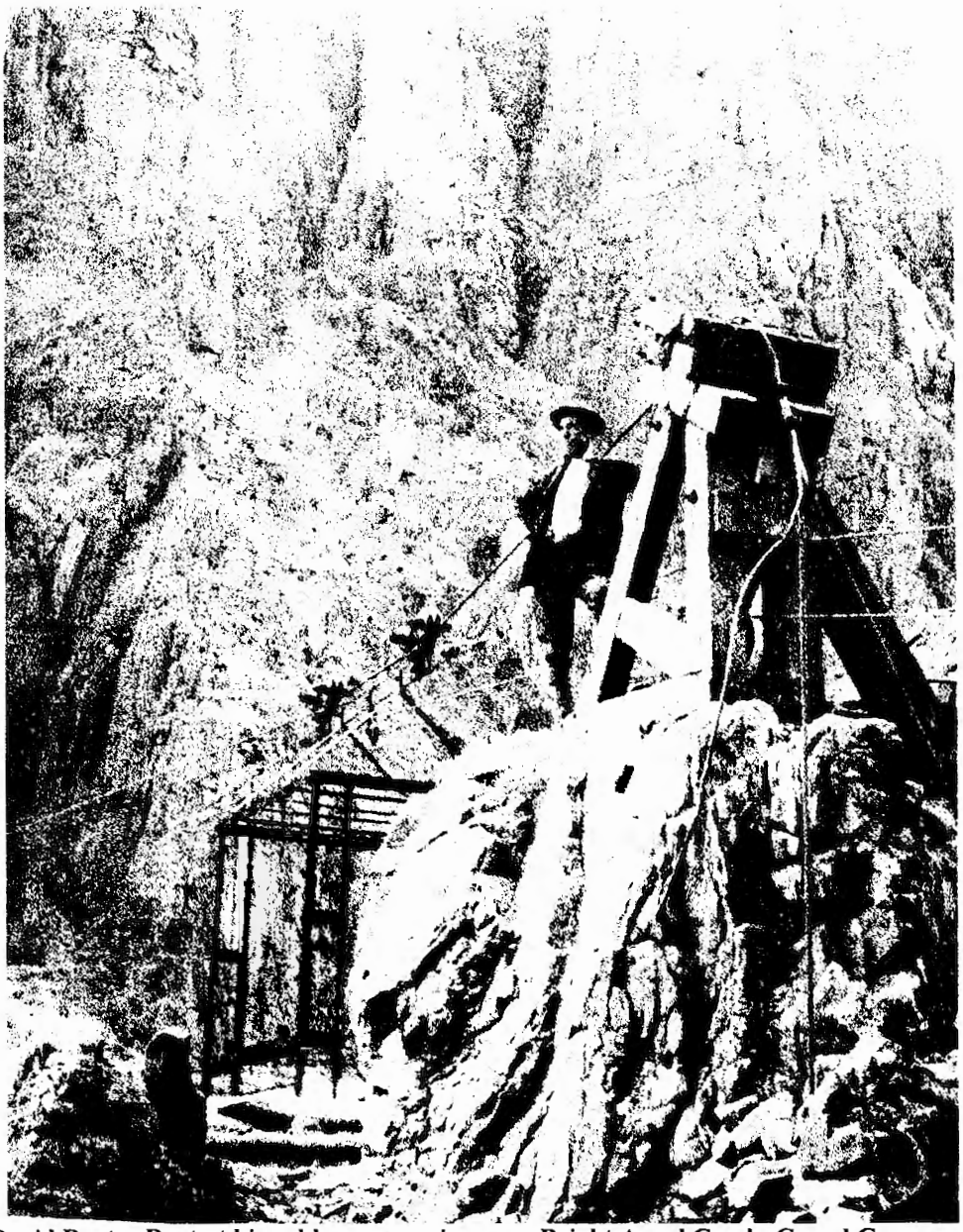
Between Crescent Creek and North Wash there were some small rapids: the Trachyte, Tickaboo, Bull Frog and Rainbow, but he does not know the actual fall of these rapids.

He encountered no real difficulty sand bars on the trip but the small boats would occasionally touch the bars and were easily pulled off, "they draw so little water."

He is not familiar with the term "crossing bar" and makes no distinction between what is termed a crossing bar and any other or kind of bar.

When sand bars are encountered the boat is released either by backing up a little or by working it across, according to the situation. He has found it necessary with the craft he has described to get out of the boat in order to get off the bars.

From Warm Creek to Lees Ferry the water is usually pretty swift and rapid progress is made. He has never been troubled with sand bars in that stretch of the river but has encountered a good many sand waves in the lower stretch.



David Dexter Rust at his cable car crossing near Bright Angel Creek, Grand Canyon. Photo courtesy of the LDS Archives.

The last trip he made was the 1st of September, 1928. On the 7th of September, 1929, he went to the river for the purpose of making a trip but was at flood stage from recent rains and he decided not to go on so returned back overland via Hanksville.

He prefers a low stage of water to make these trips.

He does not have any system of advertising the trips and no regular month of each year in which to conduct them but generally makes them in April and September, which are usually good months. He has however made trips in July, August, and October.

During one of the trips he lost a boat. He had three boats of the type described, fourteen-foot canvas boats,

> the water was considerably above normal, and was more or less turbulent: just before we reached Lees Ferry two of the members of our party who were in one of the boats became careless and ran into the sand waves and capsized.

They hit into the sand waves and turned over backwards, "Looped the loop backwards." They came down bottom side up.

Upon reaching Lees Ferry the parties were met by automobiles and taken overland sometimes to Kanab and sometimes to Flagstaff, Arizona.

> It is an unusual tour which I take with sportsmen who desire that sort of thing.
>
> **Question:** When you have more than one boat do you ascertain the qualifications of the people who are with you as to whether or not they are boatmen before you start down?
> **Answer:** That is always understood, and if the men or women who join me in these trips are not qualified, then, of course, I supply the necessary men. He looks into that before he starts down with them.

Besides crossing the Green River at Green River, Utah, with a band of horses, the only other times he has been on the Green River was when he crossed the Green River in Brown's Park with a small row boat, and again this year (1929) while on an overland expedition in the region of Green River when he had occasion to boat about fifteen miles in Labyrinth Canyon.

They came from Torrey, Utah, with pack outfit, into Barrier Canyon, and then went right to the river at that point, which is the mouth of Barrier Canyon, towards the lower end Labyrinth.

A man by the name of Tidwell at Green River, owned a small row boat, sixteen feet long, which was at the mouth of Barrier Canyon on the Green River at that time and he took the party down the river about fifteen miles to Fort Bottom. Tidwell had been using the boat on the river from Green River down to that point.

The boat carried two men and went down the river to Fort Bottom without any trouble. He did not ride in the boat but went along the trail on shore with the pack outfit.

By the Special Master:

Question: Was this trail along the river edge or on the high land?
Answer: Right along; we were within sight of the boat nearly all the way.

Fort Bottom is a flat, and there is an Aztec fort there and a cliff ruin, a few hundred feet above the river.

After leaving Fort Bottom, he came back up the river a short distance with a pack outfit and back overland to the head of Barrier Canyon.

Question: What did you do with the boat?
Answer: Left it there.

While he was as on the river this trip he didn't It meet any other people using boats.

Torrey, Utah, the town from which he started, is about one hundred fifty miles from the Green River. The country through there generally is a canyon country, or is of a canyon formation, and is principally used for a sheep range, "not many people living there." Outside of Hanksville and Green River,

> we saw a few men who were drilling oil, some half dozen cattle men, and that is all.

Cross Examination

The boats used by him were not flat bottom but lake bottom type and he did not wish to express an opinion as to what the draft was loaded or unloaded.

Question: I assume that the dates of your trips through the lower canyon largely depend on the date when the demand comes, when the party presents himself or gets in contact with you that wants to take the trip, isn't that true?
Answer: We always advise about that and select the date we think best. Sometimes a man can go in August, September or October, and we will try to accommodate him. The parties are conducted down the river for compensation.

The occasion upon which he lost a boat was while taking Governor Dern through the canyon. The loss was due to a foolhardy act on the part of those handling the boat. They did not follow the boat in which he was riding and got into sand waves and capsized. In his experience on the river he has never had an upset and the loss of the boat referred to is the only experience of its type he had on the river. The accident happened in April 1926.

Ladies have made the trip with him, including his daughter, Mrs. Dr. Ostler of New York, and Mrs. Dr. Proctor of Boston. These women made the trip in July and August, about five years ago. His daughter does not swim and the parties that accompanied them down the river did not wear life preservers.

Redirect Examination

It usually takes about five days actual running time to make the trip from Crescent Creek down to Lees Ferry, with two, three or four days off for side trips, especially the one at Rainbow Arch.

He has had trouble in boating on the river where a reef or strata of rock cross stream. This rock crossing is ten or fifteen miles below Hall's Crossing and "we call it a reef rapid, or a shock rapid." At this place there is a little narrow channel possible forty or fifty feet wide, to the right of the island going down, and in that channel the water is not less than a foot deep at any place. He usually took that channel through without difficulty.

Recross Examination

At other places in the little narrow channel to the right of the island the water is more than a foot deep at any stage of the water, some places being at least two or three feet deep.

Redirect Examination

He did not take soundings at this rock crossing but judged the depth of water from the way the oars performed,

> When the water is too shallow we can easily find it by the way the oars hit.

The channel referred to, just before the rapid is reached, cuts right under the wall of the canyon along the right side of the slim island about a half mile long, and by running this channel he usually goes down without difficulty. That is the place where the water is a foot deep. The place where the water is three feet deep is in the middle of the channel. The channel is about half a mile long, and avoids the ledge rapids entirely, and is deep enough to carry his boats.

The ledge does not extend across the channel.

He can not definitely locate the rock crossing in the channel from Photograph 219, Complainants Exhibit No. 10.

> "As far as I am able to judge this map, [Complainants Exhibit No. 10] here is the channel to which I refer. Right here (indicating) is the rapid known as the ledge rapid.

By Mr. Blackmar:

Question: That is between Mile 110 and 111?
Mr. Farnsworth: The rapid he indicates is on the inside of the bend.
The Witness: We run this channel to avoid the ledge rapid.

By Mr. Blackmar:

Question: You run your boats down through the channel that on the map shows 'ledge water'?

Answer: Yes Sir.

There was plenty of water for his life boats.

He is not certain that there were three feet of water in this place but is certain that there was at least a foot.

He has taken his boats through the charnel on the opposite side of the island but doesn't know how much water there is there, although he did not strike bottom,

"couldn't afford to do it."

Question: I don't know whether I understand that or not.

Answer: With those light boats, only drawing six inches of water, I was able to go over the rapid without striking bottom.

Question: In which one of those channels is the water the deeper?

Answer: Depends upon the place in the channel you sound it; there is one place on the ledge rapid where it is pretty shallow.

Question: Why do you select the smaller channel to go through?

Answer: Because the ledge rapid, though there may be plenty of water, is rough, the waves are too rough for our purpose.

The width of the narrow channel on the right of the island is not less than thirty feet at any place. This rapid with reference to Lake Canyon, is down the river two or three miles.

Recross Examination

He has never been on the Colorado River from Moab down to its confluence with the Green.

Redirect Examination

He saw no other boats on the pleasure trips he made in the past twelve years other than government boats, except, at Lees Ferry and one little boat in the vicinity of Tickaboo. There were several boats at Lees Ferry including gasoline launches, row boats, and a ferry boat.

One of the gasoline launches, belonging to Buck Lowry at Lees Ferry, was about twenty-five, feet long, and when seen by him, was used in hauling lumber across the river.

He saw one or two of the smaller row boats cross the river and observed the boats that the government had in preparation to make the big run down the canyon in 1923.

The boat he saw a saw at Tickaboo was a small row boat owned by a man named Carpenter, an old hermit who lived there.

These are all the boats that he saw on the river.

Recross Examination

He never saw the government boats up the river above Lees Ferry.

End of Testimony

Buzz Holmstrom

and the Evolution of Rowing Style

The Utah Roots of Modern Rowing Technique

by Brad Dimock

With the 1914 publication of Ellsworth Kolb's *Through the Grand Canyon from Wyoming to Mexico*, Nathaniel Galloway's rowing technique gained wide circulation and acceptance. After Powell and Stanton's calamitous tales of backing down the rapids in narrow, keeled boats, it had been Galloway who first spread the word about looking downstream, rowing upstream, facing your danger and ferrying to safety. Galloway taught Stone, Stone instructed the Kolbs, and the Kolbs told the world. Twenty years later, Julius Stone himself elaborated on the rowing style in his *Canyon Country, The Romance of a Drop of Water and a Grain of Sand.*

The concept is a simple one. To keep the terminology correct, we must assume the boatman sits in the traditional sense, facing the stern, with the bow to his or her back. In rapid water, the boatman faces downstream, pulls upstream, and the pivots the boat no more than 45 degrees off of the flow of current, easing to one side or the other.

Although this strict form of the technique has fallen out of favor today among deep-water boaters, who push and pull every which way, it does not take long for a boatman in a wood boat and shallow water to see the brilliance of Galloway's theory. Maneuvering is slow and easy, and when you finally do hit the rocks, you ease up on them with the flat, upturned stern, with little damage.

In the small coastal logging town of Coquille, Oregon, young Buzz Holmstrom studied every river running book he could find at the local library. Kolb and Stone were among them. He took his first stab at whitewater on the Rogue River, just a few miles from home. It was definately a learning experience, with flips, temporary loss of boat, and permanent loss of gear, but Holmstrom finished the trip with a working knowledge of the Galloway style.

In 1936, he soloed the Salmon River. Although the local boaters advised him to convert to sweeps instead of oars, Holmstrom preferred to stick with what he knew. Facing his danger, slowing his momentum, Holmstrom navigated every rapid from Salmon City to Lewiston. A year later, he soloed the Green and Colorado. Although he lined or portaged five times, his technique was sound, and he ran the rest of the rapids without serious incident.

It was only after the 1937 trip that Holmstrom met Bus Hatch and Frank Swain, of Vernal, Utah. And it was to his great surprise that they tried to convince him he had it all wrong. Hatch and Swain had an entirely different approach to rapids.

Back around 1930, Parley Galloway, son of Nathaniel, had promised to teach them to row on their first river trip. Instead, he jumped bail, fled Vernal, and left the boys to invent their own style. They did.

More like Powell himself, they pulled hard down the tongue, backs to the oncoming waves, and busted on through. Some said it was simply because Bus was always in a hurry. Although Swain, Hatch, Frazier and friends had more than their share of flips, wrecks, and swims, they were convinced their method was best.

Buzz remained dubious. But in 1938, as he and Amos Burg retraced Buzz's '37 solo run, Holmstrom kept wondering about the Hatch technique. "Bow-first," he called it. He tried to figure out what the Hatch boys saw in it, and where it might be appropriate. At Red Creek Rapid, at the tail end of Red Canyon, he decided to see if he could incorporate a little bow-first into his run. For the first time, his journal describes spinning the boat around to where the bow slightly preceded the stern into the rapid—this in an effort to bust through a wave. Instead, he smacked his bow into a rock and spun back around, down into another nest of rocks.

He thought about it some, then tried it again in Cataract Canyon. This time it worked, and he was able to sneak off to the side of a rapid. The next day he tried it at Dark Canyon. Half way through the rapid, he needed to break out of the current: *"near foot—turn crossways & cut across bend OK hitting waves head on in turn- swing round stern 1st & thru waves at foot which are clear—no water in cockpit."* Something interesting had happened there—after successfully punching out of the tailwaves, his boat had spun into a stern-first position. Perfect.

He began to incorporate the move into his repertoire. In Marble Canyon, at 21-Mile he gave it another shot: *"I go bow 1st & cut out to right of big waves & works fine_"* And again: *"Ran 36-Mi Rapid on left—bow 1st works pretty good."* At Hance Rapid he didn't use the technique, and wished he had: *"Now, I could have gone to the right between two buried rocks, or turned & went thru sideways wave bow 1st & missed rock I hit_ but anyhow I didn't & the buried ones are awfully hard to see from above_ Oh—well—must patch boat at Bright Angel as a little water in front hold_"*

At 83-Mile Rapid he was back at it: *"I run bow 1st & nose into quiet water at right missing big waves—there are sure times when a little bow 1st is O.K."* And again at Horn Creek: *"start right, bow 1st, shoot into quieter water there & go stern 1st down rest OK just missing big waves on right & hole on left at foot_"*

The technique he devised is one that today's boatmen call "Downstream Ferrying" (an oxymoron) or "Powelling" (a misnomer). It is, in fact, a hybrid. Using the downstream momentum of Powell or Hatch but a touch more angle, the boatman blasts perpendicularly through the diagonal waves of the entry. Then, as the bow hits the slower water off to the side, the boat automatically spins into Galloway position. It works for kayaks, rowboats, motor-rigs, even swimmers. Once mastered, it becomes indispensable. At Sapphire, Holmstrom actually used it twice: *"I start on left, bow 1st cut to right below buried rocks- pull more to right- then Bow 1st again to right of very big wide hole at foot—which fills 1/2 channel—dry—but very fast going."*

The trick is to find that perfect angle for the initial blast through the waves. If your bow is turned too far toward shore, the boat spins too soon, often surfing on the diagonal waves right out the very place you wanted to avoid. But turn the bow too far *downstream*, and the boat, instead of busting through the wave, merely bounces off, rocketing the boat to that very same undesirable place, as Holmstrom discovered at 104-Mile Rapid: *"I try to go bow 1st to right of big waves but don't get over & we go thru big ones bow 1st- half fill cockpit but O.K.—only I left my map on deck & sweater & both go overboard."*

Another lesson learned, and learned well. At Serpentine, he added precision to his move, picking out the second rock down as the precise spot to punch in behind. Onward.*"Specter_ I run bow 1st cutting to left& miss big waves_ this bow 1st stuff is a lifesaver in some places."*

Buzz Holmstrom was likely not the first boatman to figure out the move, nor the last. But he was a gifted boatman with an open mind; a keen reader of water, and a quick study. What he devised on his own over the course of one long trip, many of us modern-day boatman fail to grasp after a season of instruction.

When Buzz arrived at Lava Falls on November 1, 1938, he had run every rapid from Wyoming to where he stood. He was unaware that George Flavell or Jack Harbin had run Lava years before. As far as he knew, it was a virgin, a tough one, and the only one he had not yet run. It bore only a vague resemblance to the Lava Falls we know today—a terrific debris flow would wreak profound changes the following year. Nevertheless, it would not be easy. After a long scout the night before, and even longer one in the morning, Buzz picked his route—one that would take several quick changes of direction and a few precise bow-first stabs into deadwater. Then he got in his boat and ran it.

"This a.m. rapid looks worse than last nite & I think I will go crazy waiting—it just doesn't look possible this a.m. Ready at last tho & go down to head & pull in below big rock on right bank to get in position. Miss first time & make a circle in eddy & then try again- go just rite—bow straight across to left & go into lower end of hole—just rite—any closer & would go into hole & any further down would carry into waves on right.—boat hangs there a second & suction pulls over to left & into proper place—turn bow down & cut into edge of hole below on left of waves—just rite place & bow stops almost in dead water & current carries stern down turning boat crossways of

river headed to left. Pull straight across & into clear & go thru easy waves in lower end dry—& happy—I scarcely know just what happened myself—didn't take long—It was just like a giant hand took hold of the boat at the upper end & set it over & steered it thru—I would hesitate before running it again—it's the worst one I ever tackled—the boat works just perfect—"

- **Special 10% off pre-publication deal for CPRG Members.**

The Doing of the Thing; the Brief, Brilliant Whitewater Career of Buzz Holmstrom by Vince Welch, Cort Conley and Brad Dimock

304 pages, due for release September 1, 1998
Softbound $20 ($18 to CPRG members)
Hardbound $35 ($31.50 to CPRG members)
Postage $3 for first, $1 for each additional
Arizona orders include sales tax

Fretwater Press
1000 Grand Canyon Avenue
Flagstaff, AZ 86001
www.fretwater.com

- **Buzz Holmstrom Monument**

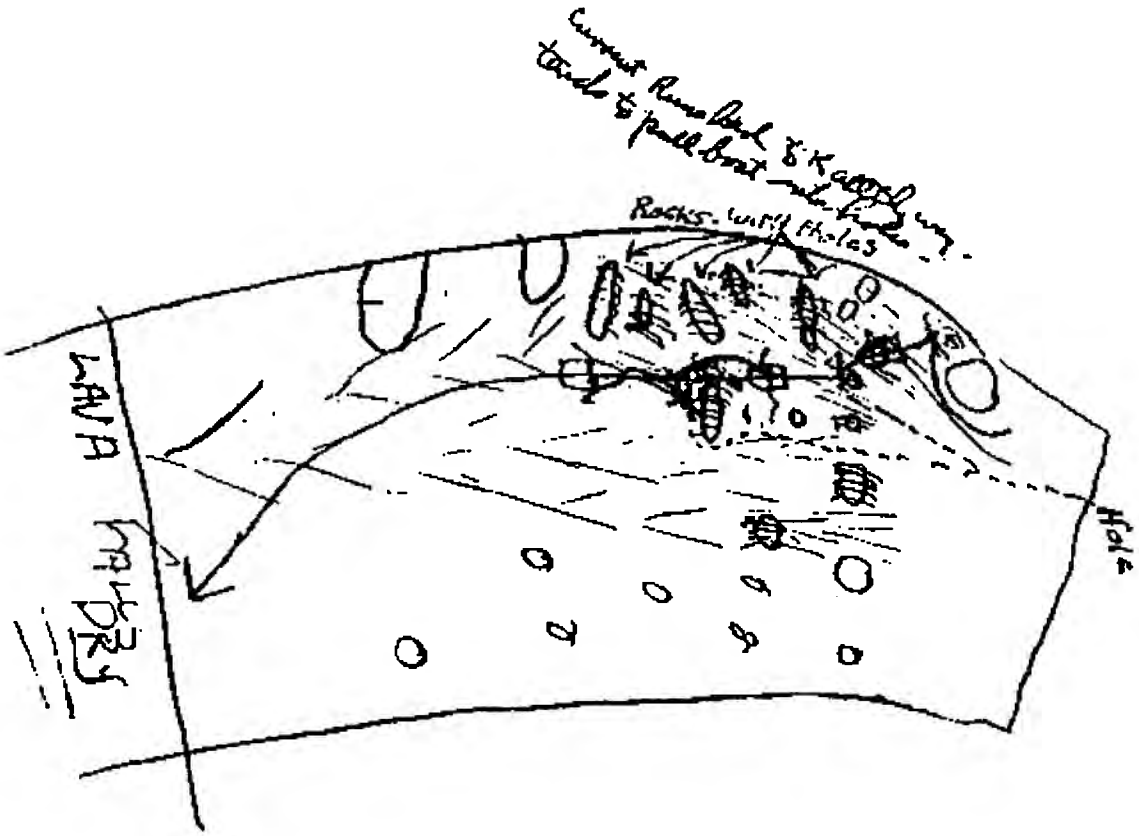
August 22, 11 a.m., Sturdevant Park, Coquille, Oregon. Long forgotten in his home town, Buzz Holmstrom will have a basalt and bronze monument dedicated there in his honor. Many of his old friends, as well as his brother and sister, plan to be there. *The Doing of the Thing*, the new biography of Holmstrom, will be released that day, with all authors present to sign it. Be somebody. Be there.

- **Buzz Holmstrom Show, Display, and Collection**

October 10, 6-8p.m., Cline Library, Northern Arizona University. A multi-media presentation on the life and river trips of Buzz Holmstrom. Movies and images of Holmstrom in action, along with a talk by the authors of his new biography. Book signing before and after.

In addition, a display of photographs of Holmstrom's life, and artifacts from his career, is currently on exhibit in the main lobby of the library, and will remain there through the show in October.

But wait! There's more! Now accessible to the public upstairs at Special Collections: The Buzz Holmstrom Collection. Photographs, letters and artifacts from Holmstroms life. This new collection dovetails in well with several other pertaining to Holmstrom: Lois Jotter Cutter, Carnegie/Cal Tech, Emery Kolb, Bill Belknap, Edwin McKee, Marty Anderson, P.T. Reilly, and more.



Drawing by Buzz Holmstrom of Lava Falls, Grand Canyon. Courtesy of Brad Dimock.

Problematic Dams in the Upper Basin

Complied by John Weisheit

From a reference book (I forgot to record the title) obtained at the Engineering Library from the University of California at Berkeley.

Fontenelle Dam
Green River; LaBarge, Wyoming.

Fontenelle Dam is an earthfill structure that was completed in 1965 and rests upon thin sedimentary beds of sandstone, siltstone and limestones, which are fractured and permeable. The dam is over a mile long, 139 feet high, and holds 345,000 acre-feet of water when full. In May 1965, as Fontenelle Dam was filling for the first time, seepage and subsequent sloughing occurred near the river left spillway. A drainage pipe was installed to remedy the seepage, but sloughing of the embankment continued. In September of 1965, during a spill, 10,500 cubic yards of the embankment eroded away. Loss of the total reservoir was avoided by high releases from outlet works. The damage was suspected to be related to the stress relief joints in the left abutment; the joints were partially filled with natural rock debris. To remedy the problem, the rock debris was injected with a concrete grout.

The dam performed normally until 1982. Spots of seepage then occurred at the toe of the dam near the left abutment and near the middle of the structure. The cause was determined to be inadequate foundation treatment during construction. The reservoir has held 10 feet below normal high pool. In 1983, the problem continued and it was decided to lower the reservoir 25 feet below high pool. In early 1985, the reservoir was restricted to 63 feet below normal pool. To remedy the problem a trench was excavated as a slurry which was later displaced by concrete injection. The concrete cut-off wall is two feet thick and runs the length of the dam to the abutments. It seems to be working for the present.

Bibliography:

"Final Safety Evaluation of Fontenelle Dam", Seedskadee Project, Wyoming, Bureau of Reclamation, Denver, Colorado, July 1984.

Bellport, B. P., Bureau of Reclamation Experience in Stabilizing Embankment of Fontenell Dam, "ICOLD", 9th Congress, Volume I, pp. 67-79, September 1967.

Navajo Dam
San Juan River; Farmington, New Mexico.

Navajo Dam is a is an earthfill structure that rests upon sedimentary bedrock of sandstones interbedded with siltstones and shales; the sandstones are moderately to highly permeable. It is 402-feet high, 3,648-feet long and the reservoir holds 1,708,600 acre-feet of water. As a result of river downcutting, joints and cracks exist in the rock parallel to the canyon walls at both abutments, but more extensively on the river left abutment. The horizontal beds of shale in the sandstone are also open (not homogenous).

Seepage at Navajo Dam was first observed on June 5, 1963 about one-year after it began to fill. When repairs were initiated (1985), seepage at both abutments was estimated to be about 1,800 gallons per minute. To remedy this problem a concrete cut-off wall was installed (as described above for the Fontenelle Dam repair). The wall is 2.7 feet wide and extends 50 to 200-feet from the left abutment and is 60 to 400-feet deep. Leakage from the right abutment was remedied by installing a tunnel and a filtered drainage system to direct seepage away from the abutments contact with the bedrock.

Bibliography:

Bureau of Reclamation
Engineering and Research Center
P.O. Box 25007
Denver, CO 80225-0007

Glen Canyon Dam
Colorado River; Page, Arizona.

Glen Canyon is an arch dam of reinforced concrete that is 710-feet tall, 1560-feet long at the crest, and holds an amazing 27,000,000 acre-feet of water. The dam's bedrock is Navajo sandstone. In 1983 rapid snowmelt and heavy rainfall in the Upper Colorado River Basin created inflows of 111,500 cubic-feet per second for the reservoir. (Please see chart.) The reservoir did not have adequate flood control potential at the time and a spill was initiated. Within three days after the left spillway began operation, portions of the tunnel's concrete lining were excavated by natural cavitation processes. To remedy the possibility of dam failure, flashboards were installed on top of the spillway gates to increase the reservoir's pool potential and thus minimize flows through the left and right spillways. The right spillway tunnel was also damaged during this incident by about half that of the left spillway. Discharges for the river right tunnel were kept as low as possible to limit damages, because the area of damage in the right spillway was further upstream than that of the left spillway (closer to the abutment).

Damage was repaired immediately by filling the cavitation holes with reinforced concrete, smoothing-out the concrete surfaces, and installing concrete slots that would introduce air into the flood flows to reduce pressures. The left spillway was tested in August of 1984. (See The Confluence, Volume 3, Issue 3, "Glen Canyon Dam is Broken".)

(continued on page 27)

A Questionnaire for the Members of Colorado Plateau River Guides

Please fill out the following page so that we can update our data base and also to better serve the members of Colorado Plateau River Guides. Your e-mail address is most important to us; we intend to use e-mail service to provide information more quickly for the membership. Thank you!

First name:_____
Last name:_____
Permanent street address:_____
City:_____
State:_____
Area Code and home phone:_____
E-mail:_____

Are you a guide or a general member?_____
How many years have you guided?_____

• **What are the river reaches that you completed in the calendar year of 1997?** *Please check the appropriate circle.*
❍Canyonlands. ❍Daily (Moab). ❍ Daily (Green River).
❍Dinosaur. ❍Grand. ❍Dolores. ❍Desolation/Gray.
❍Horsethief. ❍Labyrinth. ❍Ruby. ❍San Juan.
❍Westwater.
❍Other rivers:_____
_____
_____

• **Is it time for you to renew your membership?** Please check the mailing label on the back cover for your expiration date. (For example: **Renew: 0399**, means your renewal is due March of 1999.)

❍ $20 for one year
❍ $100 for six years
❍ $195 for life
❍ $295 Benefactor
❍ I would like to make a contribution to CPRG.
Please include your check or money order with this form.

• **Do you have any nominations to make concerning CPRG board positions?**

President:_____
Vice president:_____
Secretary/Treasurer:_____
Bluff Director:_____
Grand Junction Director:_____
Green River Director:_____
Moab Director:_____
Vernal Director:_____

If you need more writing space for the following questions, please use the back side of this questionnaire.

A. It has been suggested that we change our name to (for example) *Colorado Plateau Guides* and become an organization for guides that conduct trips both on the river and the land. What is your opinion on this issue?

_____
_____
_____
_____

B. We are moving forward with the concept of hiring a Director to conduct guide training programs; this would include an office for CPRG. What is your opinion about this issue?

_____
_____
_____
_____

C. The board of CPRG has endorsed the mission statement of Glen Canyon Institute, which is to restore a free-flowing river through Glen Canyon. What is your opinion on the issue of draining Reservoir Powell?

_____
_____
_____
_____

D. What can we do to improve our journal *The Confluence*?

_____
_____
_____
_____

E. Would you be interested in helping produce *The Confluence?* What possible contributions could you make? We especially need people to help produce an oral history project; we also need artists.

_____
_____
_____
_____

F. Is there another issue that you would like to address?

_____
_____
_____
_____

• Thank you for participating. Please cut out this page (or photocopy) and mail to: CPRG, P.O. Box 344, Moab, UT 84532.

Extra space for responses to the questionnaire.

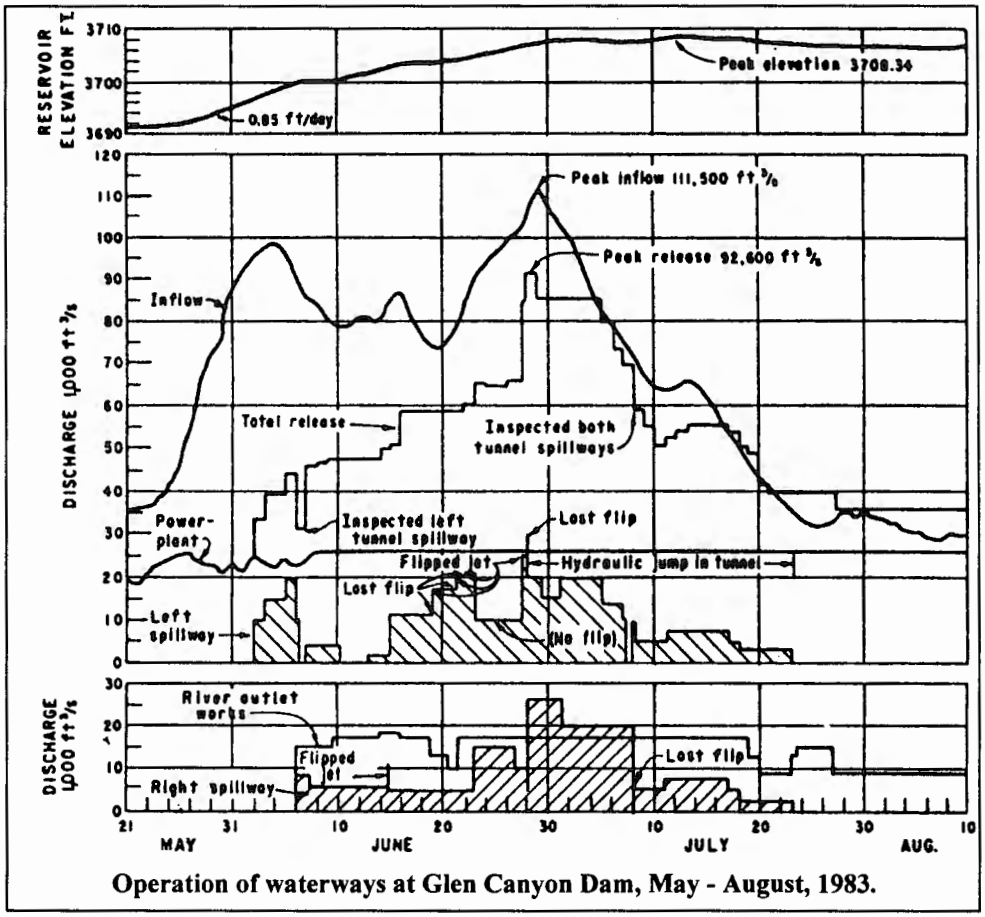
(continued from page 24)

Bibliography:

"Final Construction Report on Repair Spillway Tunnels, Glen Canyon Dam, Colorado River Storage Project", Bureau of Reclamation, Denver, Colorado, December 1984.

Burgi, P. H.: Moyes, B. M.; Gamble, T. W.; "Operation of Glen Canyon Dam Spillways - Summer 1983", Water for Resources Development, American Society of Civil Engineers, New York, NY, 1984.

Burgi, P. H.; Eckley, M. S.; "Repairs at Glen Canyon Dam", American Concrete Institute, Detroit, Michigan, March 1987.



Operation of waterways at Glen Canyon Dam, May - August, 1983.

CPRG T-Shirts

WALLACE BERRY Shirt. A white short-sleeved shirt with two buttons at the neck, CPRG logo where the pocket would normally be, drawing of Grand Gulch on the back.....$22.00

Cotton, ash-colored, long-sleeved HANE'S T-shirt with CPRG logo where the pocket would normally be, drawing of Grand Gulch on the back.....$20.00

Cotton, ash-colored, short-sleeved HANE'S T-shirt with CPRG logo where the pocket would normally be, drawing of Grand Gulch on the back.....$15.00

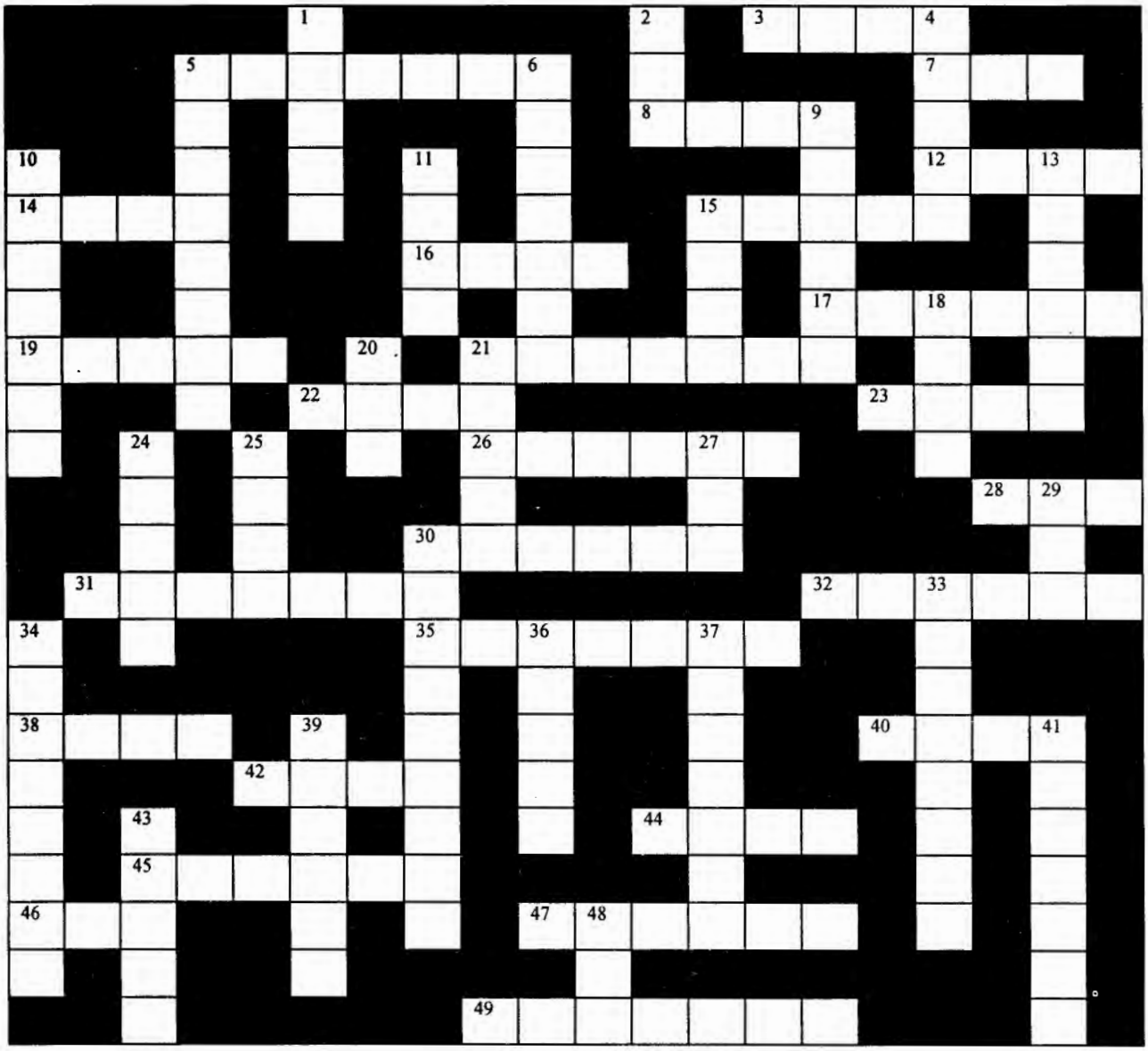
Please include $3.00 for mailing.
Send to: Steve "T-Berry Young", 3270 Rimrock Road, Moab, UT 84532 or call (435) 259-6369

IMPORTANT NOTICE ☞

CPRG Fall Meeting
Saturday September 26, at 10:00 a.m.
Adventure Bound Headquarters
Grand Junction, Colorado
Get off of I-70 at 25 Road (Exit 28) and turn North. Turn left (West) on H Road; third house on right; 2392 H Road.

Crossword Puzzle

Theme: <u>If We Had a Boat; Green River Explorers, Adventurers, and Runners</u> by Roy Webb



Down

1. Last name. Art and May had a ranch in Island Park; a customary stop for river runners like Buzz Holmstrom; near Whirlpool Canyon.

2. An ungulate that is bigger than a deer and smaller than a moose. They winter in Desolation Canyon.

4. This river, which originates in the Wind River Range, is 730 miles long, drains 45,000 square miles, and provides an average of 5,700,000 acre feet of water.

5. A tributary river of the Green that drains the Uinta Mountains and the Wasatch Plateau. It's mouth is near the town of Ouray. Some maps call it the Uinta River.

6. Last name. Wallace wrote a book called *This is Dinosaur* and helped to save the Green and Yampa rivers from the construction of a dam at Echo Park.

9. Last name. David is a trustee of Glen Canyon Institute, whose mission statement is to restore Glen Canyon. He was the director of the Sierra Club during the dam-building controversy's of the 1950s and 60s. The archdruid of the environmental movement.

10. First name of a Mr. Archambeau who, with Denis Julien, established a trading post near Whiterocks (Uinta River) in 1831. Hint: Name of a summer month.

11. A park; like Island Park. A put-in for the Yampa River. Where the *Denver Post Expedition* of 1928 launched.

13. Last name. Don ran with Bert Loper from the Green River Lakes to Jensen in 1940. Ran the Grand Canyon with Bert in 1939.

15. Last name of Amos, who with Buzz Holmstrom, did a river trip in 1938. The water was too low to start at Green River Lakes so they portaged by truck to Green River, Wyoming.

18. A canyon. Powell had other names in mind for this canyon, such as: Coal and Lignite.

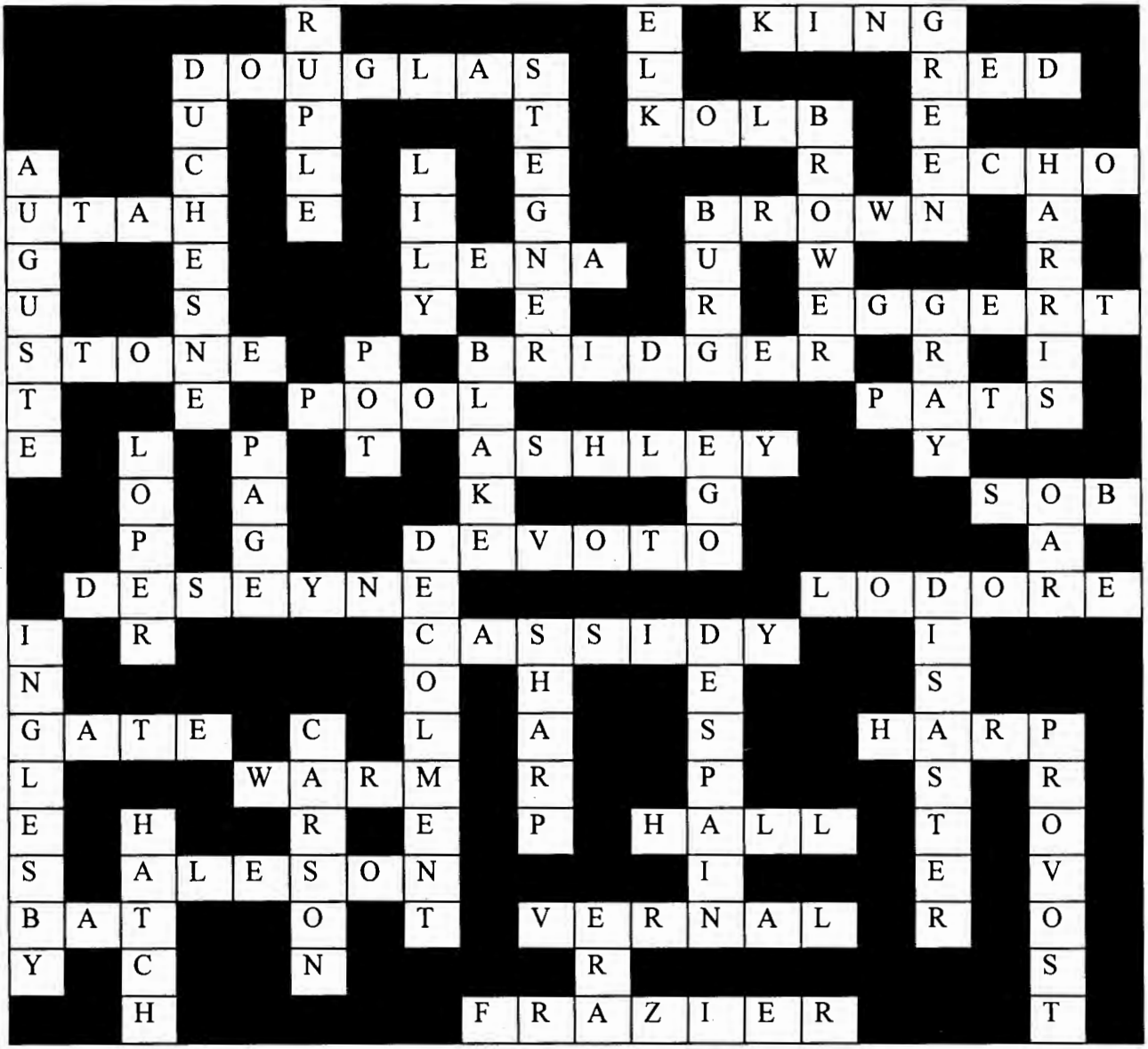
20. A creek and a camp, soon after Disaster Falls. It is suspected that this drainage may have been abandoned by a younger Green River. Powell called it Summit Valley.
21. Last name. Elwyn was a boatman for the USGS survey that mapped the Green River for dam sites in 1922.
24. Last name. Bert was the lead boatman for the USGS survey that mapped the Green River for dam sites in 1922.
25. Last name. F. Lemoyne, and two of his friends from his Princeton college days, went on a Green River trip with Elwyn (see 21 down) as their guide in 1926.
27. Boatmen are known to have a big _ _ _. A mind state.
29. Boatmen affectionately call it a "stick". A spare one is a good idea for a river trip.
30. Last name. Bernard and Genevieve, French citizens, went down the Green River with folding kayaks in 1938.
33. A rapid. Where the *No Name* was wrecked on the Powell Expedition of 1869. The first word only.
34. Last name. A dentist who went down the Green River with Bus Hatch in the 1940s. He fell out of a boat in the rapid at Split Mountain Canyon that bears his name.
36. Last name. C. C. was a friend of Julius Stone and rowed his own boat on the Green River with him in 1909.
37. Last name. Roy was a vocational arts teacher from Springville, Utah, who built the boats used to take the Utah Fish and Game Department down the Green River in 1938. Close friend of Bus Hatch.
39. Last name. Infamous trapper, scout, soldier, Indian agent and frontiersman. He guided John Charles Frémont through Brown's Park in 1844.
41. Last name. Etienne was a famous trapper and there is a river named after him, which is a corruption of his last name, and empties into Utah Lake.
43. Last name. A family from Vernal, Utah, that has an inter-generational history of running the Green and Colorado rivers as an outfitter.
48. Geology term. If the Tertiary is a Period than the Cenozoic is an _ _ _.

Across

3. Last name. Clarence was the first director of the USGS. The highest peak of the Uinta Mountains is named after him. Proved that the discovery of diamonds in the Uintas was a hoax. Wrote a book about Sierra mountaineering.
5. Last name. Earl discovered the dinosaur quarry in the Morrison formation which is now preserved as a national monument north of Jensen, Utah.
7. The quartzite in this canyon, named by Powell, has this color. A rapid in this canyon is formed by the outwash from a tributary creek that has the same colored quartzite and name.
8. Last name. Two brothers who ran the Green River in 1911. Ellsworth went to the Sea of Cortez.
12. A park at the confluence of the Green and Yampa rivers. A dam site, home of the hermit Pat Lynch. Pool Creek enters Green River here. Steamboat Rock is here.
14. The name of a boat that served the USGS dam survey in 1922. Named for a state where the Green River flows.
15. Last name. Baptiste was a trapper who lived (1830s) in this park, or "hole", and bears his name. Above the Gates of Lodore.
16. The second of two words for a named boat that leaked a lot during the *Denver Post Expedition* of 1928 and was lost after pinning the boat on a rock.
17. Last name. Charlie was a film maker and went down river with Don Hatch in 1957; the Grand Canyon was done in 1958 with Don exiting at Phantom Ranch to run the Indus River in Pakistan with his father, Bus.
19. Last name. Julius was an entrepreneur from Ohio who went down the river with N. Galloway as his guide in 1909.
21. Last name. James was a trapper and was probably the first Euro-American to see the Great Salt Lake. Part of William Ashley's entourage. A fort was named after him too.
22. A creek. Enters at Echo Park. Really nifty Fremont Culture petroglyph's. Powell called it Steward's Creek.
23. A pluralized first name. A "hole" that is also called Echo Park. Mr. Lynch's hermitage there.
26. Last name. William was a congressman and a general, and head of an organization of trappers called the Rocky Mountain Fur Company. A creek and a rapid bear his name. An inscription indicates he went down the Green in 1825.
28. Acronym for a profanity. A rocky rapid in Split Mountain Canyon. Also a jeep climb in Canyonlands.
30. The last name of Bernard. A very famous historian who was born in Ogden, Utah, and joined Wallace Stegner in opposing a dam at Echo Park. Stegner did his biography.
32. A canyon. On Andy Hall's suggestion, this canyon was named after a poem by Robert Southy during the Powell Expedition of 1869.
31. Last name. Antoine accompanied the Decolmonts in their folding kayak trip of 1938.
35. Last name. His real name was Robert LeRoy Parker. Butch and the Wild Bunch had a hideout at Brown's Park.
38. The entrance to Lodore Canyon is called such; a portal.
40. A rapid in Lodore Canyon. A cliff above bears the same name. A musical instrument.
42. A rapid. This rapid, on the Yampa River, became more intense after a debris flow in 1966. First word only.
44. Last name. Andy was the cook for the Powell Expedition. He had a campfire incident at Alcove Brook.
45. Last name. Harry, with Charles Larabee, formed a company called Western River Tours; Harry did a upper Green river trip in 1951. Also did Labyrinth and Stillwater canyons with Georgie in 1947.
46. The common name for the Order Chiroptera. A winged mammal.
47. A town in the Uinta Basin that was the home of many a famous river man. Sumner, Galloway, Swain, and Hatch, to name a few, are buried in cemetery's there.
49. Last name. Russell was a doctor from Bingham Canyon, Utah, and went with the Hatch's and there relations on river trips in the 1930s. One of the "Dusty Dozen".

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077
weisheit@juno.com

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED



THE CONFLUENCE

Volume 5 Issue 3 Fall 1998

American Heritage Rivers
River Clean Up 1999
Guide Training Dates
CPRG Ballot Results
Members Letters
Founders of Interpretation
PWC
An Example of Interpretation
CNHA Videos
The End of the White Bison Mural
Ruby Canyon/Black Ridge Ecosystems
Colorado National Monument
Fugitives Reach the San Juan
Astronomy
Elements of Leadership
Water Filtering
Desert Plant Adaptation
J. W. Wilson Inscription
Maximize Happiness
Proposed Guide Fee Increases
Rescue 3
Will Bussard on Uranium
Tibbetts - Two Generations
Frank Stratton
Joe Kiffmeyer
Science Research & Flaming Gorge Dam
Headwaters Institute
Professor of Professor Valley
Colorado Plateau - self test
CPRG By-laws

Cover Photo by: Mike Hill

THE CONFLUENCE

. . . wants to be a quarterly journal of the 501(c)3 non-profit organization, Colorado Plateau River Guides, Inc., and dedicated to:

- **Protecting the rivers of the Colorado Plateau**
- **Setting the highest standards for the river profession**
- **Providing the best possible river experience**
- **Celebrating the unique spirit of the river community**

Guide Membership is open to those who work or have worked in the Colorado Plateau river industry.
General Membership is open to those who love the Colorado Plateau

Membership Dues
$20 per year
$100 for 6 years
$195 for life
$295 Benefactor
General meetings and Board of Directors Meetings will be announced

Officers

President	Steve Young
Vice President	Michele Hill
Secretary/Treasurer	John Weisheit

Directors

Bluff	Clay Hamilton
Grand Junction	Darren Smith
Green River	Shane Edwards
Moab	Dusty Simmons
Vernal	Clark Hatch

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(435) 259-8077
Faxes accepted: Please call first.

We need articles, artwork, poetry, photos, stories and opinions. This journal is composed with Microsoft Word on an IBM PC. If you use a word processor, most programs can be translated. Elsewise, send typed text. Include useful photos, charts, diagrams and/or art. No deadline, however aim at the beginning of quarters: January, April, July, October.

Printing: Times-Independent
ISSN # 1078-425X

E-mail: weisheit@juno.com
teberry@lasal.net
moabhill@lasal.net

EDITOR: Michele Hill

DISCLAIMER

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. The forum is open with no restrictions at the present time. If you have an opposing or supporting viewpoint please send your comments to CPRG.

AMERICAN HERITAGE RIVERS

from The Associated Press via America Outdoors Fall '98 Newsletter

July 30, 1998. President Clinton stood on the banks of the New River in North Carolina to bestow special environmental status there and on 13 other United States waterways. This proclamation of 14 "American Heritage" rivers is a designation intended to direct federal preservation funds to communities surrounding the selected rivers.

Federal liaisons called "river navigators" allow communities to tap existing federal resources and expertise in protecting and restoring the waterways. Cities and towns along these rivers will be able to tap into existing federal environmental programs to help control pollution, protect watersheds and build greenways and paths.

The 14 designated rivers are: The New River; the Connecticut River, which runs from northern New Hampshire to Long Island Sound; the Detroit River in Michigan; the Hanalei River in Hawaii; the Hudson River in New York; the Rio Grande River in Texas; the Potomac River in the mid-Atlantic region; the St. Johns River in Florida; the upper Mississippi from Minnesota to Illinois; the Willamette River in Oregon; the Cuyahoga in Ohio; the Blackstone and Woonasquatucket rivers in Massachusetts and Rhode Island; the lower Mississippi River in Louisiana and Tennessee and the upper Susquehanna and Lackawanna Rivers in Pennsylvania.

1999 National River Cleanup Week is May 15-22, 1999

34,000 volunteered in 300 registered 1998 cleanups. 6,850 miles of rivers and shorelines were scoured. That's 245,851 volunteers covering 65,802 miles of waterways during 3,436 cleanups since 1992. Registration forms are available through www.americanoutdoors.org or 423-558-3595. The purpose of National Cleanup Week is to demonstrate the importance of clean waterways and to encourage constituencies to preserve a community's streams, rivers and lakes. Registration is free. Registrations prior to April 1, are entitled to free trash bags, cleanup kits and safety tips. See page 4 for Moab clean-up information.

1999 Guide Education

Medical		
January 2-10	WFR-Crested Butte, CO	WMA
February 1-11	Wilderness First Responder (WFR)-Moab	CFI
February 1-11	WFR & CPR Recert-Moab, UT	CFI
February 23-25	Emergency Response(ER)/CPR Recert-Moab	CFI
March 20-28	WFR-Pitkin, CO	WMI
March 30-April 1	ER/CPR Recert-Moab, UT	CFI
April 5-14	WFR-Ogden, UT	WMI
April 12-16	ER/CPR-Moab, UT	CFI
April 14-22	WFR-Green River, UT	WMA
April 19-27	WFR-Crested Butte, CO	WMA
May 5-13	WFR-Green River, UT	WMA
May 8-16	WFR-Telluride, CO	First Lead
June 5-13	WFR-Telluride, CO	First Lead
May 7	Community First Aid/CPR-Moab, UT	CFI
Interpretive		
April 19-24	San Juan Interpretive Trip	CPRG
April 26-29	Cataract Interpretive Trip	CPRG
May 4-8	Dinosaur Interpretive Trip	CPRG
May 9-14	Desolation Interpretive Trip	CPRG
May 14-16	Guide Training Seminar	CPRG
Skills		
April 23-25	Westwater River Rescue	CFI
River Skills I	Colorado River	CFI
River Skills II	Dolores River	CFI

For Information: CFI 1-800-860-5262; CPRG 1-435-259-8077; First Lead 1-970-728-5383; Wilderness Medicine Associates (WMA) 1-207-665-2707; Wilderness Medicine Institute (WMI) 1-970-641-3572

Results of the CPRG Ballot

by John Weisheit
Secretary/Treasurer

Elections
President: T-Berry
Moab Director: Dusty Simmons
Bluff Director: Clay Hamilton
Green River: Shane Edwards
Grand Junction Director: Darren Smith

Comment: Voter response was excellent.

The Atlas tailings pile
Move the pile: 31%
Move the pile, with the dust problem addressed: 51%
Cap the pile in place: 13%
Other: 5%

Comments:
- Have a CPRG letter writing campaign to U.S. attorney general to act on this issue!
- Don't presently have adequate information data to voice opinion which action is safe and appropriate for the short term, as well as the future
- Not enough information to vote.
- There's talk of accepting waste outside of Moab at the Klondike site. Now, additional trucks of waste will enter the region. It'll open a business. In 1980s we fought a dump located near Canyonlands and won. Here we're inviting it back. Why? And we can't let downstream users sway decision effecting our community without thought of our well being.
- Who will fund the plaintiff's attorney if CPRG agrees?
- I was a resident of Durango when that pile was moved. The dust fallout was awful.
- The pile in Grand junction was moved via train, then truck. Dust was not an issue as the pile trucks, etc., were sprayed, covered, etc.
- Cap the pile in place and construct a barrier at depth to ground water flow into Colorado River.

Response to comments:
CPRG is one of several groups and/or individuals who have agreed to partner with Grand Canyon Trust in serving a notice of intent to sue the U.S. Nuclear Regulatory Commission for violation of the Endangered Species Act; representation comes from the environmental law firm Earthjustice Legal Defense Fund. CPRG is not financially obligated to pay legal fees. We will honor this partnership to the satisfaction of the CPRG membership.

The legal action of Friends of Westwater (FOW) against the BLM concerning the Pene mining operation in Westwater Canyon

Support FOW: 98%
Don't support FOW: zero
Other: 2%

Comments:
- Don't have enough information to vote.
- But...the BLM created this situation by granting the permit in the first place. Why does Pene take all the blame? Its the damn BLM's fault this ever happened. The BLM has never taken the blame! Let's call them on it.

Should CPRG hire an Education Director to oversee a guide training program?

Support a guide training program: 81%
Don't support a guide training program: 11%
Other: 8%

Comments:
- As long as it does not become mandatory.
- Only if you can get outfitters to increase pay for increased training.
- But I do not support certification as a necessity for guiding.
- I don't know enough about the guide training to vote either way. If it's a training that is mandatory, I vote not to support it.
- How and who will it effect?
- I need more information
- I question this hiring process. Is there a job description? Was the position advertised? There must be a probation period and performance evaluations in place before CPRG should install anyone into this position. What checks and balances are in place? You pointed out development funding and curriculum and a steering committee for curriculum direction from the CPRG board. I know for a fact not all board members are appraised of updated matters and hiring Executive Director. Did you investigate previous work history? References?
- Only if we can afford it.
- I haven't been too impressed with Headwaters Institute; too touchy-feely.
- I support the hiring of Tom C. The position you are describing is not that of an ED. How about Education Development Director? ED has a very different role in non-profit management.
- Let's do more than just fish - does Tom know how to get funding?
- We're not advocating a formal guide certification program. The program we are initiating is voluntary and cooperative. The curriculum will meet the needs expressed by agencies, outfitters and guides alike.

Response to comments: Now that the membership basically approves of the concept, we will endeavor to implement the program. It is our intention to finance the program through grants from various entities. Tom Corcoran was approached because he has the educational background, the desire to work in the upper basin of the Colorado Plateau, and the patience to partner with the CPRG board.

MEMBERSHIP LETTERS

Dear John Holland:

Your outrage at "Friends of Westwater" (FOW) is only surpassed by your hypocrisy (The Confluence, Summer 1998). Your "backcountry 4x4 expeditions" that would be restricted by designation of suitable areas for wilderness and, I suppose, your loss of income from those expeditions taint your argument and cause suspicion of your real motive for outrage. However, I figured my rational side ought to prevail and, that if issues could be examined in specific cases rather than broad generalities, common ground could be found.

So let's write specifics. Friends of Westwater Canyon are concerned about Westwater. Though we would like to devote time to the millions of other acres out there that ought to be preserved, we can only concern ourselves about the "stabbings in our own back yard" to be effective. Westwater is a specific place with its own set of geology, history, use and regulation. It has been designated and set aside by the Congress of the United States as a special place worthy of preservation. As such, it is administered under a specific set of public laws that deal only with "wilderness study areas" (WSA). The United States Department of Interior has a mandatory obligation to insure that Westwater is not damaged or impaired.

The location of an on-going, illegal placer mining operation at the mouth of the Canyon is not appropriate, legal, or allowed. I do not know how to make myself clearer. However, FOW is not out to deprive an individual of any rights he may have. FOW is only out to insure that the rule of law prevails at Westwater. That rule of law requires that valid existing rights are protected and that men not impair natural conditions. We support that ideal, but only under the operation of the law. That law is being blatantly violated and ignored by mine claimants. The federal charges go on for pages.

Members of Friends of Westwater Canyon do not have to go 2,000 miles to "exploit the ignorance of well-meaning environmentalists" from the East in order to find people that understand this. Okay, we have some members from the East. I'll admit. Especially one gentlemen from Ohio who has been most helpful along with his Senator, John Glenn. However, 99% are from the West. These are individuals that clearly see Westwater Canyon as a special place. They are, rational people who need no "duping" (as you say) to support protection of a 17-mile stretch of unique desert-canyon river. These people, I propose, would be outraged as being classed as ones that could be conspired against and "duped" by an underfunded, understaffed group such as Friends of Westwater.

WSA status does not prevent access for citizens. Westwater is one the most egalitarian of places because citizens of all ages and conditions can get to see it, float it and experience it. Mr. Holland, your concern about "freedom to travel" is free ranging. I am sure I could agree that there are areas among your millions of acres that ought to be left open so that people can travel in 4x4s to experience beautiful country. In your letter you imply that "freedom to travel" is synonymous with unfettered license to come and go as you please. You vilify FOW for "stealing" your freedoms by proposing that mining at Westwater be stopped. How does stopping an illegal mine translate to stealing your freedom to travel? To travel to a place constrained by geology, even if it were allowed? Once your places are ruined by exploitation, what do you propose to do to repair and to replace the damage so that "future generations" can have the same enjoyment you currently exercise?

I have seen whole mountainsides removed, pipelines constructed, forests cut, roads built and mines dug. Many of these occur in places that are appropriate. We would be hypocrites if we did not recognize the benefits of wood, iron, electricity, food, and, yes, hard rock minerals. However, Westwater Canyon is not one of these places where this is allowed to happen. Sorry.

Greg Trainor, President
Friends of Westwater.

To Whom it may concern:

I would like to express that I, as a CPRG member, think it would be a huge mistake for CPRG to initiate a guide training program. I believe that organized, accredited guide training could be beneficial to the industry as a whole, and it is a great idea whose time has come. However, I do not think it is the role of CPRG to carry out or instigate this training. I feel that CPRG's role is to speak for the guiding community as a whole, not to define it.

If CPRG were to run a guide training program, the illusion would be given that all CPRG members felt that all guides should be trained a certain way. I fear that a "CPRG way" of doing things would be established, and that the organization would cease to speak for and represent the guiding industry as a whole, but would instead reflect the views of a few individuals who ran the guide training program. An effective guide training program would concentrate on teaching skills that would be useful in the guiding industry. I do not feel that it would be possible for CPRG to accomplish this goal. Its program would have to choose to either please all of its members all of the time or to proceed with a curriculum that not all members agreed with. I do not believe that either option is in the best interest of the membership.

I also feel that the organization would tie its hands by getting tangled up in a training program and that there are many more worthwhile tasks to which CPRG ought to lend its hand. I fear that if CPRG spreads itself too thin it may lose credibility by being ineffective at many things instead of effective at a few.

I would also like to point out that the guiding community draws much of its flavor and spunk from the great diversity of its guides. While most of this diversity does arise from the different backgrounds of its guides, it cannot be denied that the different training each guide receives contributes to this diversity. The passing on of tradition and knowledge from guide to guide in a master-apprentice relationship is always different, always an experience, and part of what makes guides so unique. Organized guide training by one overseeing entity might, I fear, homogenize and compromise the character of guides as a whole.

Sincerely, Tim Payne

FOUNDERS OF INTERPRETATION

Enos Mills lead visitors up Longs Peak, a 14, 256 ft. mountain, in Rocky Mountain National Park. Between his teens and mid-thirties, he was a crusader for preservation and parks. His enthusiasm to share nature soon lead him to examine why he was so successful as an interpreter and why others bombed; he founded Trail School.

Trail School was both interpreter training and, what is now called, environmental education. Enos developed principles, guidelines and techniques that transformed information from accurate but droll science to ingenuity able to meld divergent interests. Enos Mills lived from 1870 to 1922. When his books went out of print in the 50's, Freeman Tilden continued to develop these ideologies and wrote *Interpreting our Heritage* in 1957.

Tilden's book defined the profession of interpretation as it is known throughout National Park Service. He was invited to evaluate park interpretation and used his experience as a reporter, playwright, and non-fiction writer to package the following ideas for Park interpreter training.

Tilden's Principles of Interpretation

1. Any interpretation that does not somehow relate to what is being displayed or described, something within the personality or experience of the visitor will be sterile.
2. Information, as such, is not interpretation. Interpretation is revelation based upon information. But they are entirely different things. However, all interpretation includes information.
3. Interpretation is an art, which combines many arts, whether the materials presented are scientific, historical or architectural. Any art is, in some degree, teachable.
4. The chief aim of interpretation is not instruction, but provocation.
5. Interpretation should aim to present a whole rather than a part, and must address itself to the whole man rather than any phase.
6. Interpretation addressed to children (say, up to the age of twelve) should not be a dilution of the presentation to adults, but should follow a fundamentally different approach. To be at its best, it will require a separate program.

Interpretation means to inspire the visitor to consider a world never before contemplated. As the public receives education, misunderstandings are clarified. An informed public may learn their role and advocate learned practices or, at least, increase their awareness.

Visitors are on vacation. They come of their own free will. Truly they seek involvement. Programs should involve the senses, stir the intellect and tinge the emotions.

Props and gimmicks can provoke an audience. Theatrics saturated in natural history/fact will be remembered a long time. Mostly, personal style, when developed will be tremendously pleasing.

Start with planning. Focus on a theme. Then you can determine the required research. Ask yourself these questions:

- Is my theme stated in a complete sentence?
- Does my theme tell an important story about the site that will enrich the visitor's experience?
- Is this a theme my audience can relate to? Is this a theme that I personally care about? Do I have resources for research?
- If a visitor were asked what my talk was about, would they be able to identify my theme?

Research. Research. Research. Master your subject.

Audiences like sensory involvement, humor, new information made understandable and an enthusiastic interpreter. They do not like dry lectures, an interpreter who talks too much, too technical material or long, unenthusiastic presentations.

There are no general audiences so consider:

Older Adults :
They like depth and follow-up programs. They appreciate interacting with others their age. They are more sociable, less inhibited, vastly experienced. Avoid long or fast paced walks that may tire this audience. Keep in mind sight and hearing may be diminished, affecting depth perception and listening. Rely on their vast experience and incorporate it into your programming.

Foreign Folk:
Often lack knowledge of resource being interpreted. Possibly have limited English skills, are younger and well educated. Be sensitive to cultural etiquette. Speak slowly, deliberately. Take extra time to learn their special needs. Avoid colloquialisms.

Minorities:
Many groups are alienated from the ability to travel. Programs frequently lack input of minority values.

Visually Impaired:
Range from bespectacled to those seeing by touch and hearing. Address these individuals directly. Avoid access through another person. Provide thorough descriptions. Ask what help you can provide. Involvement handling objects would be appropriate.

Ambulatory Limited:
Folks in wheel chairs, using braces, crutches, canes, walkers. Allow equal access. Avoid steep terrain. May require group efforts to assist the movement of these individuals.

Families:
Learning is secondary to sharing time together. Involving children will enhance the involvement of the whole family.

Brainstorm your options. Talks are the fundamental tool of interpreters. Talks take the form of orientations, demonstrations, audiovisual opportunities with props, characterizations, and multimedia shows.

Any successful talk will contain the elements of structure and substance.

Continued . . .

Structure has a simple four step strategy.
1. PUNCH! - Have a provocative introduction
2. Bridge - Answer why that introduction was said and what it means for understanding.
3. Body - Illustrate the theme/message with examples.
4. Conclusion - Answer the question, so what? Provide a summary or call to action which reflects the body.

The first thirty seconds are critical in establishing rapport. Practice your talk so it flows. Avoid barriers between you and the audience. Meet the audience standing upright and eye to eye. Keep your hands out of your pockets. Your grooming projects your dependability. Posture is a statement of competence. Clothing supports or remonstrates your credibility.

Your voice is an instrument. Learn to play it. Allow silent inflections. Specific words, active verbs, concrete nouns, and familiar people/places convey more effective imagery. Don't detract from your talk with body language such as weight shifting, body rocking, table leaning, arm swinging, hand hiding, clothes fidgeting or foot scuffling. Yet integrate facial expressions and gestures. Rehearse.

PWC

Follow up

Activists and letters brought legislation to Acadia National Park. The National Parks and Conservation Association appealed to the public to write letters to ban personal watercraft from hundreds of Maine's state ponds in addition to the seven ponds in Acadia. Acadia is the first National Park to legislatively ban PWCs. Legislation went into effect July 9th, 1998. PWC restrictions in other national parks are weaker and made through executive regulation. Locally, High Country News, Oct. 1998, pointed out restrictions of PWCs in Glen Canyon Recreation Area are difficult to adopt due to the original executive regulations promoting motors there.

Paddler December 1997 sported an article stating the American Canoe Association is rounding up a coalition of groups to ward off use of personal watercraft in wildlife sanctuaries, glacial lakes and whitewater rivers. The article specified a community in Washington put a moratorium on PWC use because of environmental impacts. The PWC industry, so enraged, threatens to take the suit to the Supreme Court.

How do you feel about personal watercraft in the Moab area?

Personal Watercraft

Personal watercraft are small, agile boats powered by an inboard engine and a jet pump mechanism. The U.S. Coast Guard considers them to be "Class A Inboard Boats." They are subject to the same laws and requirements as larger, more conventional boats. Personal watercraft are not high speed toys. While personal watercraft may have a number of differences from other boats, there is no difference between personal watercraft operators and other boaters. For this reason, it is valuable for you to know boating basics.

All personal watercraft have certain common characteristics. The most important of these is the inboard engine with a jet drive propulsion system, and the fact that the operator is expected to be able to safely fall overboard and reboard this vessel. These features are related because the jet drive system eliminates any moving parts, such as a propeller or rudder, on the exterior surface of the hull. The propulsion system parts present little risk to the operator while falling or reboarding. See page 49.



Utah Boating Basics, A Guide to Responsible Boating a manual from Utah Division of Parks and Recreation
Get a copy: 1594 West North Temple
Salt Lake City, UT 84114-6001

Clean-up Slated May 21, 1999 ~ Contact Molly Martin @ Canyon Voyages: 259-6007

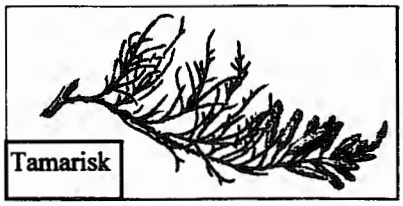
GOALS: 1. To remove trash and litter while increasing community pride.

2. To identify negative resource impacts.

3. To educate participants about the value of watersheds for fish and wildlife habitat and recreation.

WHERE:
Hittle Ramp
to
BLM Ramp
(mile 10)
For details call
Molly

JOIN THE EFFORT! RIVER CLEAN-UP!



An Example of Interpretation:
inspired by Molly Taylor

The guest in a van traveling to Westwater Ranger Station (WWRS) asks:
"What are those beautiful bushes filling the creekside?"

The guide grunts: Those are gross tammies.

The interpreter would tell this story: That is an aggressive exotic tree called tamarisk. The name comes from a river in Spain, the Tamaris River. Ever see an old western in black & white? There weren't as many tamarisks 50 years ago as there are now. They were introduced here via the Mediterranean, it is native to the Middle East. Seed companies sold Tamarisk or "salt cedar" for hedges and shade trees as early as 1850. The United States Department of Agriculture introduced eight species of the Tamarix family from 1899 to 1915. Besides the above uses, railroad companies planted these for wind breaks in the open flat country. By the 1920s planting for erosion control became the practice. The tamarisk has grown along just about any waterway from California to Colorado and spread to Utah around 1880.

It loves water so much one plant consumes 10-20 gallons of water a day. Reasons we aren't happy about tamarisk are: it drinks the water indispensable to the native plants, it grows thick, it chokes out beaches and animal paths, it flowers repeatedly from April to October, over a million seeds per plant, it easily establishes itself and it is difficult to eradicate. On the other hand, studies show the Ord kangaroo rat eats the seeds and leaves, honeybees extract nectar from the flowers and the tamarisk has become a habitat for small animals and nesting birds. Besides, it *is* pretty in the field.

Flowers of the Southwest Desert by Natt N. Dodge
Canyon Country Wildflowers by Damian Fagan
Shrubs and Trees of the Southwest Uplands by Francis H. Elmore

Video Presentations

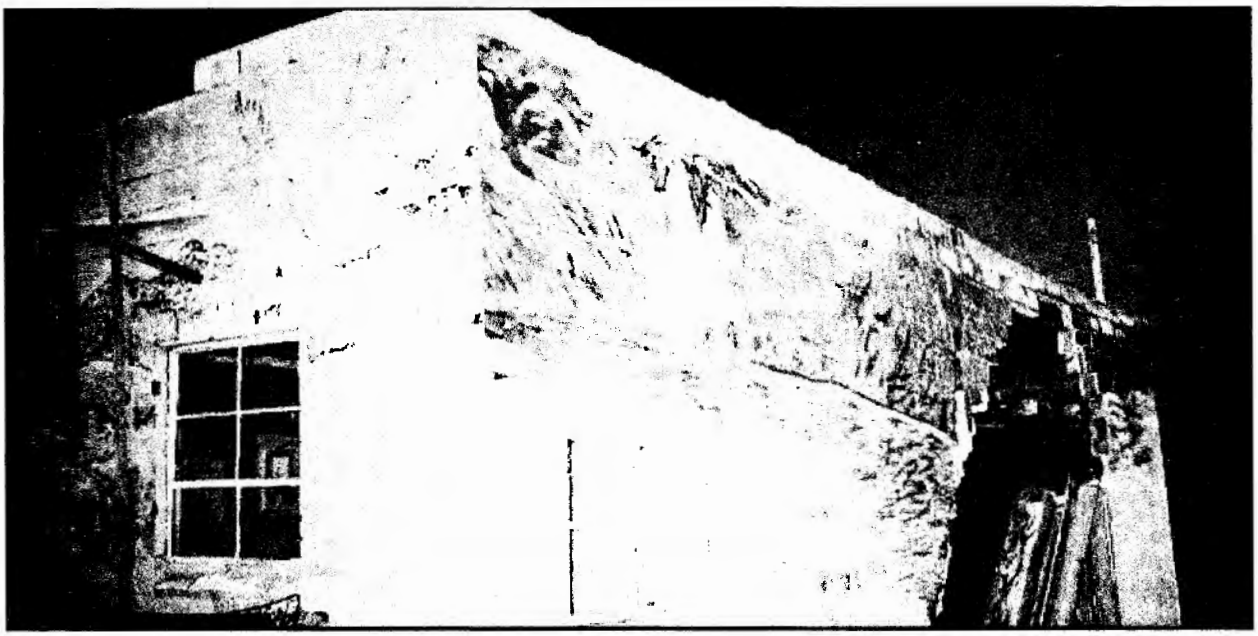
from the Lecture Series of
Dan O'Laurie Canyon Country Museum
Moab Information Center

If your a member of CPRG or Canyonlands Natural History Association (CNHA), you can check-out these videos from the CNHA library at 3031 South Highway 191, in Moab, Utah. Please call CNHA at 435-259-6003 for more information or e-mail them at cnha@moabutah.com.

The videos can also be purchased from Wingate Video Services, POB 538, Moab, Utah, 84532; 435-259-6472. email: wingate@moabutah.com

- Shaman's Paint Box: Rock Art of the Moab Area
by Jim Blazik
- Wild Plants and Native Peoples of the Four Corners
by William Dunmire and Gail Tierney
- Tamarisk: Wetland Invader
by Gary Salamacha
- Cowboys and Cave Dwellers
by Fred Blackburn and Bruce Hucko
- Botanical Contributions of John Charles Frémont
by Dr. Stanley L. Welsh
- Canyonlands Wildflowers
by Damian Fagan
- Lizards I Have Known
by Alice Drogin
- Utah Raptor and other Utah Dinosaur Discoveries
by Dr. James Kirkland
- The History of La Sal
by Hardy Redd
- Hiking the Continental Divide: Tales of a Seven Month Journey
by Sam Wainer
- The Department of the Interior and the Conservation of Water in the West
by John Weisheit
- Edge of the Cedars Pueblo: Chacoan Outpost or Backwards Wannabe
by Winston Hurst
- Bats: Master of the Night
by Tom Haraden
- How the West is Won: Dugout Ranch
by Joel Tuey
- Monitoring and Management of Desert Bighorn Sheep in the National Parks of SE Utah
by Craig Hauke

Coming on January 28, at 7:00 p.m., at the Moab Information Center, Main and Center Streets, Moab, Utah. The Doing of the Thing: The Short and Brilliant Whitewater Career of Buzz Holmstrom by Brad Dimock.



The End of the White Bison Mural

by Earl Perry

"Art is not eternal." ---Ken Kesey

At the close of the 1960s and into the early 70s, Cisco, Utah, was to be the latest in the boom-bust, extractive, resource-stripping western towns. Oil field drilling, proximity to the oil shale developments of the Book Cliffs; make your pile and move on. You can summarize the general perspective of these towns by noting that no one ever plans to die in them, so no one ever plants trees. In those days there was no I-70 incompetently draped over the popcorn soils of the Mancos Shale, only US 6 ascending the hills and dropping into the yellow-gray arroyos. And in those days a set of government contractors were taking silt out of the Colorado River, by dozing little check dams every few dozen yards down every swale and arroyo; still visible, and every one to them breached by now.

No town with the strip-mining mentality is too small for a bar: The White Buffalo Disco. Located at the intersection of US 6 and a dirt road of surpassing greasiness after rain, a track that led to the Cisco Boat Landing, for the handful of people who could find their way in to Westwater Ranch and find their way out again at the end of the trip. It was happening, on Friday and Saturday nights; on a big night its take line reached as far west as Green River City, south into Moab, east to the Grand Junction, north to the ranches in reentracts of the Book Cliffs.

The cement block building, rumored to contain the disco in the front and a crib in the rear rooms, was decorated by a mural on the north wall that you could never quite photograph without the obstruction of the vandalized gas pump out front. The picture was an aerial perspective, from somewhere in the vicinity of Top of the World, looking down canyon toward the La Sals overtopping Fisher Towers. And on an imagined rock cropping high and right, compositionally balancing the river angling through the lower left foreground, was a white bison reflecting on the vast sweep of redrock and laccolith in the mural he inhabited. Symbol of manitou, symbol of luck, symbol of your power's momentary alignment with the universe: a noble white bison.

The White Buffalo Disco fell on evil days. Cisco dwindled. Tempers soured. The proprietress, it is said, got irritated with a hitchhiker loafing about the place, and shot him lightly through the guts. She did her time for assault, but the place was dilapidating and it never came back. Through the intervening years, a stop at the mural has been a fixture of every Westwater shuttle; the genius of the unknown muralist, as overblown and over colored and overdramatic as the country he or she depicted, somehow standing out from and yet within the spirit of the wide-horizoned Mancos badlands where the building stood. The colors blued, and merged with the passage of decades; the kaolinite soils then was the bed of the Interstate, so through the years, rectilinear cracks worked their way up the mortar joints at the cheeseparing construction of this structure. A west wall collapsed. From his position over a window whose lintel was failing these 20 years, the white bison himself was particularly vulnerable. Someone jammed a prop up under the lintel, which gradually bowed under the collapse it was trying to avert; biology and intelligence are but a temporary exemption from entropy.

Between last Friday, August 14, 1998, in midafternoon, and Monday, August 17, 1998, mid-afternoon, the prop cracked, the lintel dropped, the white bison crunched down to the earth in a dusty jumble of cracked pumice block.

Copyright, 1998 Earl Perry

Ruby Canyon/Black Ridge Ecosystem

BLM circulated the Ruby Canyon/Black Ridge Integrated Resource Management Plan in March 1998. The pages are teeming with concerns, management goals, vision and itemized descriptions of the attractions, Wilderness Study Areas and services. The following are a few gleaned paragraphs from that collection of information. It is hoped the reader will be motivated to learn this presented fraction to pass on to other users of these zones or be aroused to seek greater understanding of these public lands as an ongoing study of the Colorado Plateau.

You can contact Hanley Metz at the Grand Junction BLM office for your copy of this management plan.

South of the River

This zone is punctuated by seven spectacular canyons divided by high mesas. Each drains into the Colorado River. Erosion gives way to spires, alcoves, arches and 800 feet deep canyons. Pre-Cambrian igneous and metamorphic rock dapple the canyon floors. Black Ridge measures 7,130 feet at the high point. The river is situated at 4,300 feet.

73,000-acres, Black Ridge Canyons Wilderness Study Area (WSA), has been recommended to Congress for wilderness designation. Colorado National Monument hems one border of this zone. The Monument also has acreage under consideration for wilderness.

The uplands prevail with Pinyon-juniper (pj) woodlands and sagebrush parks. The canyons manifest riparian vegetation (cottonwoods, willow, box elder) along the floors. Other areas are scattered with grassy meadows and pj woodlands.

BLM with the Colorado Division of Wildlife (CDOW) and the National Park Service released 36 Desert Big Horn sheep in the years 1979 - 1981. Collaring and monitoring indicate 75 in the population today. I was startled to behold a full curl ram near the black rock extrusion up Rattle Snake Canyon in 1986. Another one wearing a radio collar was spotted during Canyonlands Field
Institute's February 1998 Eagle Float. The CDOW representative was excited and reminded us that the formal reports benefit tracking this conservation effort.

Colorado River

This zone stretches from Snooks Bottom, one mile southwest of Fruita to the Colorado-Utah State Line (21 miles). This is Horsethief and Ruby Canyon, the floodplain, the river, the hill and canyon walls visible by the river user.

The Colorado River supports floatboating all year. The trip begins at the Loma Launch, unfurling 25 miles to the Westwater, Utah takeout.

Shoreline growth sprouts cottonwoods, willows and tamarisk. Cheatgrass has invaded the corridor and pj is found along the base of the cliffs.

Scientists replaced Peregrine falcon eggs with plastic replicas, hatched the chicks then returned them to the nests. Currently, there are four nesting pairs in the Ruby Canyon corridor, raising two fledglings a year. CDOW Peregrine Recovery Project increased the population dwindling due to weak eggshells from pesticides ingested in the adults' diets.

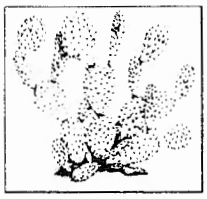
North of the River

This zone approximately possesses the cliff line on the north of the river to two miles north of Interstate-70. This zone on the northwest flank of the Uncompahgre Plateau has eroded to be broad valleys, sloping mesas, primarily rich in fossils. The Trail Through Time accesses an active quarry. The Kokopelli Mountain Bike Trail crosses the entire length of this zone. It also hosts motorized and horseback riding trails.

Grasses and desert shrub claim lower elevations. Pinyon and juniper woodlands stake the highlands. In McDonald Creek grows riparian vegetation. Rare plants Amsonia jonesii, and Cryptantha osterhouti are both known to be north of the river and the latter also found south of the river. The sensitive plant Lomatium latilobum struggles in Rattlesnake Canyon. Pull out your plant books and get familiar with these.

Sensitive avian species as Scott's oriole and gray vireo habitate large areas north of the river. Other species of special concern are the western yellow-bellied racer snake, (near Mac), spotted bat and kit fox.

Traditional Uses of Ruby Canyon/Black Ridge Zones



Ranchers rely on Ruby Canyon for the grazing of herds. There are 16 grazing allotments ordinarily stocked in winter and early spring. Herds are moved to higher elevations in hotter months. Ranchers modified operation to exclude use of Rattlesnake, Mee and Knowles Canyons. Reducing impacts are meant to enhance the riparian growth in the zones. Cryptogamic soils in the Mountain Island Allotment were threatened, so ranchers curbed use of this area. Even scenic values have been addressed as ranchers

removed grazing from the Colorado River Allotment. Further, there are sheep allotments that overlap desert bighorn territory, so these places were voluntarily converted to cattle to protect the introduced species.

Grazing is a tool to develop vegetation goals that will improve wildlife habitat and watershed conditions. BLM works closely with livestock operators to minimize conflicts between public lands users.

Mineral exploration has placed roads and test sites. Presently recreation, scenic values and wildlife habitat are the chief focus of BLM. In fact, the entire Ruby Canyon corridor south to the edge of the Black Ridge WSA no longer permits mineral activity.

There are paleontological areas. Fruita Paleontological Area, Dinosaur Hill and the Mygatt-Moore Quarry in the Rabbit Valley Research Natural Areas have on-going research and paths for interpretation. The Museum of Western Colorado and Dinamation International Society lend efforts to protect and excavate these sites. Each summer these groups sponsor and train volunteers to perform the tedious task of exposing fragile fossils.
Other important concentrations turned up the oldest fossil flower known. Just imagine this land 140 million years back. Rather than desert, there was a floodplain dotted with lakes. Hills covered with huge conifer and cycad trees. It was humid and dinosaurs roamed.

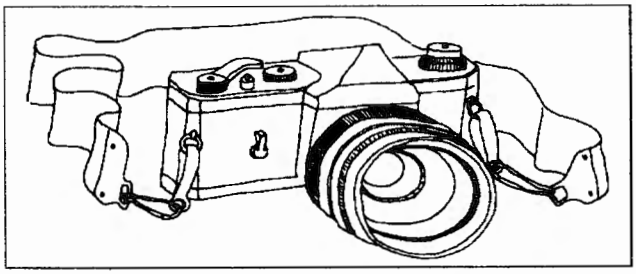
Throughout the Ruby Canyon region, clearances for paleontology and archeology are required before beginning any project or activity.

Cultural Information
Big game hunters occupied the area approximately 9,500 B.C. These were wanderers in the Paleo-Indian Period, specifically known as the Clovis Tradition by archeologists. With climate changes at the end of the last Ice Age, both the Folsom and Plano Traditions appeared in the Ruby Canyon area.

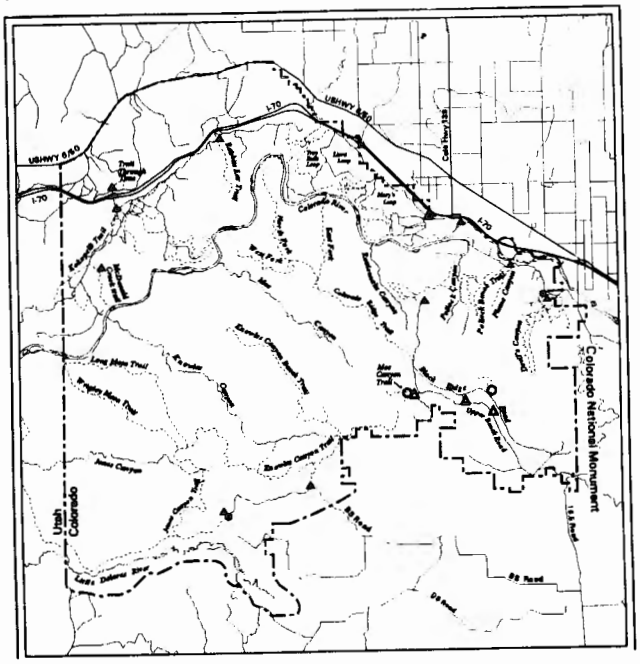
Western United States endured a series of droughts around 5,500 B.C. The large grazers went extinct to be replaced by plants and creatures known today. Adaptation lead to migrations. People traveled in search of water. Water yielded food sources. Thus the populations in the Great Basin went west to higher elevations, and the Great Plains folk to the east. They settled the higher elevations of the Colorado Plateau and the Southern Rocky Mountains.

This Early Archaic Period increased the use of seeds and led to grinding stones. Around 3,500 B.C. the climate changed again. Cooler temperatures beckoned growth of Pinyon forests on the Plateau. This heftier and reliable food source paralleled prehistoric population growth.
The confluence of the Colorado and Gunnison rivers became crossroads for the Colorado Plateau and the Southern Rocky Mountains.

Climate change around 1,000 B.C. brought conditions we know today. Corn made its way up from Mexico around 250 B.C. This Late Archaic Period lasted to 300 A.D. The bow and arrow appeared at this time. Corn horticulture resulted in the development of the Anasazi in the Four Corners region. Through contact with them the local group called the Fremont culture began practicing horticulture and left traces of their distinct ceramics, art and architecture.
McDonald Creek and Sieber Canyon are rich with Fremont rock art and living sites. Currently, photos from 1978 are used to monitor these remnants of the past. The Fremont fade by 1300 - 1400 A.D. and are replaced by the Ute tribe. Utes dominanted the area until U.S. Cavalry relocated them in 1880 making way for American settlement.



Ruby Canyon/Black Ridge appeals to those seeking solitude and primitive recreation. Ranger patrols do not frequent this region like many other recreation areas. Guides can discourage destructive behavior with education about reverence and specific approaches to protect these resources.



COLORADO NATIONAL MONUMENT & JOHN OTTO

May 24, 1911, President Taft signed the order for 13,853 acres to be set aside for a National Monument beside Grand Junction, Colorado. John Otto, born December 30, 1879 in Missouri, became obsessed with the development of Colorado National Monument. He contributed 23 years to trail building and acting as Park custodian. He toiled there with various projects and politics. Government officials unaccustomed to his eccentric manners terminated his services February 28, 1927. He settled in California keeping tabs on Monument affairs. He lived quietly by the Klamath River until his death in 1952.

John Otto submitted the details of a national park to the Grand Junction Chamber of Commerce in 1908. Then he passionately pursued passage of the designation. He jokingly proposed Smith should be the name of the freshly designated monument due to the enormity of Smiths in existence and certain distinction of a Smith somewhere. The monument's name came from Colorado State Representative Taylor's wife who quietly remarked, why Dear not name it simply for Colorado? Since so much discussion had gone on with no results, Taylor took it upon himself to use this name suggestion and then appoint Otto the superintendent of the park.

During John's tenure he became known as the hermit trail builder. He'd offset the hot, buggy summer in the monument with Forest Service work up on Grand Mesa, although Otto really had road fever. He believed roads were the healthiest interest of Grand Junction. He sought support through writing. Boy, what a writer John Otto was. And, boy, how that disturbed the politicians.

John was a son of a brilliant theologian and grew to be an equally free thinker. He left Missouri, after studying the organ at college, to roam the west from 19 to 29 years of age. Otto landed in the mining industry of Washington. Next John found himself in Denver pouring himself into politics. He sought an eight hour work day for miners, but his letter writing was misunderstood and landed him in jail. In those days the Colorado governor was advised that Otto was a lunatic, perhaps life threatening. This age of people were not prepared nor accustomed to his flamboyant style of communication. His favorite campaigns were the promotion of the eight hour work day, transcontinental highways and equal rights for women. John was arrested and tried for insanity in those days. Once cleared to be sane he undertook his obsession with the Monument.

Eventually, he married. His bride determined John was destined to tents or sleeping out in his park. She no longer desired that lifestyle and returned to the east. June 20, 1911 - January 31, 1914, John filed for divorce, stating she absented herself from her husband without reasonable cause. The divorce was issued by default. John got $2000 alimony.

John then began to pour himself into the "Great National Highway," a road system that would connect all the national parks in the west. He met with county commissioners and business men describing the feasibility of a rimrock toll road, a substitute for the then proposed desert highway. And by 1925 hundreds of users traveled that roadway, Serpents Trail, into Glade park. Serpents Trail was closed to traffic in 1947; considered to be "the most dangerous road ever built," although it remains as a foot trail for visitors in Colorado National Monument.

John's next project arose in the midst of World War I. Coal shortages among the public concerned him so he wrote Washington for support to allow collecting dead and down wood in the park for a fee. He activated this fee program again to finance other park projects: wildlife preservation plans.

In 1916, John involved Colorado Representative Taylor to appropriate $75,000 to introduce bison and elk to the park. Elk were donated, but migrated to Pinion Mesa and Glade Park. Not until 1928 were bison placed in the park. A rancher delivered bison to DeBeque and the park. A bull from the DeBeque herd persistently moved cross-country to herd with the bison in Colorado National Monument. This became dangerous and resulted in many damages. The rancher removed his animals. By 1932 the desert highway connecting Moab and Grand Junction was completed. The U.S. Deputy game warden donated two aging bison and two aging elk for the community barbeque celebration. John insisted it was unfounded slaughter and wrote letters stirring up investigations.

It wasn't long before the range was overgrazed. There were 29 bison in 1941. Malnutrition altered their size and bore them irregular features. Authorities began to cull the herd inviting Indian Services to attend the animals for the meat and the hides. Another herd reduction took place in 1956. This time the event resembled a traditional Indian ceremony. It removed the creatures entirely. Scientists determined the landscape was too sensitive to support bison.

Many plans John Otto proposed and fought to activate came undone in Colorado National Monument after he left. Landmarks and trails still retain the names he had given them and his trails remain for our continued enjoyment.

John Otto of Colorado National Monument, by Alan J. Kania

What Members are doing for CPRG

- Dave Focardi will be the trip leader of the Cataract Interpretive Trip this year.
- **Molly Martin with John Weisheit are developing a weekly interpretation content night for the 1999 season. If you have an expertise to share, schedule a night to commit to a presentation. Call CPRG 259-8077.**
- Molly is also taking a lead on the investigation of health insurance for our profession. It is rumored there are local bike and river outfitters offering employees insurance. Besides inquiries on a local level, she will contact America Outdoors to express concerns for and tap into insurance opportunities on a national level.
- Nancy Allemand, Joe Englebrecht, and Molly have helped edit this issue of The Confluence.

A hearty thanks to them!

Fugitives reach the San Juan River

Danger commenced Thursday, May 28, 1998. A 500 gallon water truck was stolen near Durango, Colorado. May 29th, Officer Claxton radios to the La Plata County Sheriff's Department dispatch. He spotted the water truck traveling west on Hwy 160. Witnesses report the truck stopped without Officer Claxton activating his overhead lights. A white male leapt from the passenger side and open fired on the policeman seated in his marked patrol unit. Eighteen shots rattled the vehicle many fatally striking the officer. The vehicle headed south on 27 road. 3 subjects in the truck.

Five minutes later, at the "dead end" of 25 Road, a camouflaged, assault rifle armed man approached Mr. Ibarra at his workplace. The subjects want to take Ibarra's company Ford flatbed truck. Ibarra agrees with no resistance.

During this theft, officers are searching for the water truck, when Deputy Bishop is struck by gunfire from a camouflage clothed subject on the flat bed portion of a Ford truck proceeding along 25 Road.

In rapid sequence, Colorado State Trooper Keller's patrol car is struck by gunfire, a rear tire is flattened. A marked Cortez police department car is shot. Officer Wines is not. The flat bed proceeds north on 25 Road. Detective Martin of Cortez police department drives an unmarked Jeep Cherokee. Shooting wounds his leg and shoulder. Another unmarked unit is driven by Captain Chavez, Montezuma Sheriffs Office and sustains gunfire to the vehicle but he is not hurt.

The flat bed goes west on G Road into Utah then north and back into Colorado. An hour later the Superintendent at Hovenweep National Park prepares to close the park gate. While doing so the Ford approaches and fires directly at Ranger Hutchinson. He eludes gunfire.

Ground search fails to locate the subjects. At 1 PM a helicopter finds the Ford has been run off the road south and west of BB and 10 Roads. Inspection indicated attempts to get back on the road. Failure resulted in winching the truck further off the road, hiding the rear from view with branches. Two loaded magazines are found nearby, indicating one stood guard during this activity.

The truck conceals SKS and AK model assault rifles, 5 loaded magazines, CB/police scanner and rock climbing gear. Two sets of footprints cross the river, they urinated, traveled west ½ mile then headed south. Darkness halted further tracking May 29, 1998.

Salt Lake Tribune Reports

6/3/98 Police identify three suspects of the May 28th robbery and May 29th murder. The names released are: Alan "Monte" Pilon, Jason Wayne McVean and Robert Matthew Mason.

6/4/98 San Juan County requests that Governor Mike Leavitt declare a state of emergency to release state money from the Disaster Emergency Fund and supply Utah National Guard to help search for the fugitives. So far 200 men from four states, the FBI, and the Bureau of Alcohol, Tobacco and Firearms have combed the desert. Tuesday, June 2, Colorado Governor, Roy Omer declared a state of emergency. The order retroactively paid for 25 Colorado National Guard troops and four guard helicopters already involved in the search. The declaration allows National Guard jurisdiction across state boundaries. Leavitt was in London, England Wednesday which complicated passage of San Juan County's request.

Investigations revealed that the three men share survivalist ideology. Pilon, from Dove Creek, is described as anti-government. Officials speculate that these three intended to rob the Ute Mountain Tribal Casino. The three are suspects in a Taos, N.M. casino robbery of January 1997.

1998

APR							MAY							JUN						
			1	2	3	4							1	2		1	2	3	4	5	6
5	6	7	8	9	10	11	3	4	5	6	7	8	9		7	8	9	10	11	12	13
12	13	14	15	16	17	18	10	11	12	13	14	15	16		14	15	16	17	18	19	20
19	20	21	22	23	24	25	17	18	19	20	21	22	23		21	22	23	24	25	26	27
26	27	28	29	30			24	25	26	27	28	29	30		28	29	30				
							31														

JUL							AUG							SEP						
			1	2	3	4							1			1	2	3	4	5
5	6	7	8	9	10	11	2	3	4	5	6	7	8		6	7	8	9	10	11	12
12	13	14	15	16	17	18	9	10	11	12	13	14	15		13	14	15	16	17	18	19
19	20	21	22	23	24	25	16	17	18	19	20	21	22		20	21	22	23	24	25	26
26	27	28	29	30	31		23	24	25	26	27	28	29		27	28	29	30			
							30	31													

A reference Calendar for the chronology of fugitive events

Times Independent, June 11, 1998, vol. 105, No. 24

June 4, 1998: San Juan Sheriff Deputy Kelly Bradford of Blanding responded to a call for help along the San Juan River and was shot twice. Steve Wilcox, a San Juan County Family Service social worker observed a pair of boots at a camp site, then a gun muzzle. He turned to flee as shots rang out. Wilcox escaped uninjured and made a cell phone call which dispatched Deputy Bradford. Bradford was flown to St. Mary's Hospital in Grand Junction.

Further inspection of the camp site turned up the body of 26 year old Robert David Mason. He was dead from a self-inflicted, close-range gunshot to the face. The search then centered on desert and canyons of Bluff, Cortez, Mexican Hat and Farmington. Roads were closed between Bluff and Mexican Hat and North of Bluff to Blanding. Utah Highway Patrol reopened these and the San Juan river access. BLM closed Cedar Mesa and Grand Gulch Plateau areas through June 17th. Park Service closed Hovenweep for that time. Cross Canyon near Hovenweep and Northwest of Cortez and northeast of Bluff also bore closure to protect the public.

Salt Lake Tribune Reports

6/5/98 A disfigured body was found with pipe bombs taped to the body near Swinging Bridge, Bluff, Utah. Investigators

are convinced the fugitives were stockpiling bombs, weapons and food before the rampage last Friday. After the shooting of Officer Bradford authorities evacuated 400 Bluff residents and set up highway checkpoints.

6/6/98 Bluff residents returned home Friday 9 PM. Pilon is in debt for $1500 to the IRS. McVean is described as a nice boy who mixed with the wrong crowd. Also Friday investigators confirmed the disfigured body as 26 year old Robert Matthew Mason. Boaters were hailed off the San Juan river at Mexican Hat.

"This morning we had three different fly-bys by two helicopters," said raft trip leader Gabriella Hess of Holiday Expeditions. "It was a signal that something was wrong." Hess's trip began before the commotion Thursday.

"We pulled in at Mexican Hat where we were going to pick up guests, Hess said, "There were deputies in army gear and rifles. They said, 'Your trip is over.'" Boaters who passed Mexican Hat the day before are committed until they complete four days to Clay Hills.

6/7/98 Saturday, 300 Bluff residents resumed life after Thursday's evacuation and returned home Friday night. Search efforts cost $100,000 a day and have reached a $1.6 million bill.

Theories of the fugitives whereabouts:

- These men located a boat to reach Lake Powell 60 miles away.
- They fled the scene of Mason's shooting to a bunker created before the bloody spree in Colorado.
- Pilon and McVean were never near Bluff. Evidence shows the three possibly split at Hovenweep after ditching the Ford.

Bluff has had 300 law-enforcement officers in town. The Twin Rocks Café cooked burgers and hot dogs for Saturday lunch; Chicken and salad for supper Saturday night.

6/8/98 Jim Hook heads the volunteer fire department and owns the Recapture Lodge, he expressed federal agents frustration over lack of local equipment. No pager system, no radio network, in fact, the fire department has only two hand held radios. Although residents were re-admitted Friday and Saturday through traffic did not open until Sunday. Those were met with shot gun check points and hurried through. Recapture Lodge hoped law enforcement would fill the 28 vacant rooms, though most slept in sleeping bags for free elsewhere. Kelly Bradford survived the shooting and held a new born 8-pound, 15-ounce son born Saturday June 6.

6/10/98 Residents and merchants offer a $5000 reward for the capture of the fugitives.

6/11/98 A duffel bag filled with corroded ammunition of the type which killed Officer Claxton May 29 and a crossbow was found Tuesday, June 9, outside a Utah marina. It looked as if the bag had been tossed out of a car window.

6/12/98 FBI offered $50,000, increasing the reward money to $300,000, for information leading to the capture of the two fugitives. June 11th, Cortez City Council matched Bluff's $5000 collection and U.S. Senator Ben Nighthorse Campbell secured a pledge of $250,000 from the Senate Appropriations Committee. Investigators call the pair of fugitives "doomsdayers" who horde guns and food while awaiting the end of the world.

6/17/89 The 17 day dragnet of the desert dwindles from a 400 member search team to 50 members. It dismantles by June 19.

7/1/98 A girl identified Pilon and McVean, Sunday, June 28, at 9 PM coming up from Montezuma Creek to steal a water truck. The 9 year old girl told authorities one man walked with a limp. Pilon injured a leg in a motorcycle wreck last winter. Utah forces of bloodhounds and officers from the Navajo Indian Reservation, FBI and San Juan County re-established searches. BLM closed for the second time in a month, portions of the San Juan River.

7/3/98 Red flares were aimed at riparian growth on Thursday, July 2, to smoke out the fugitives. Friday, July 3rd, the search was halted.

7/5/98 The San Juan River reopened Saturday, July 4.

"We had a couple of trips out today and until further notice we understand it is open," said Susan DeLorme, who operates Wild Rivers Expeditions with her husband, Charles. DeLorme said their rafting business has been hurt by the searches, but not as much as those that rely on traffic passing through Bluff. When prospective boaters call DeLorme about safety of rafting or kayaking the popular river, she tells them what most people in the area believe. "If you are law enforcement or military, you might be in danger. But we don't really feel like the average citizen is in danger, she said.

River companies continued to conduct business on the San Juan while the FBI and state authorities manage searches. The fugitives are still at large, December, 1998.



Jason Wayne McVean

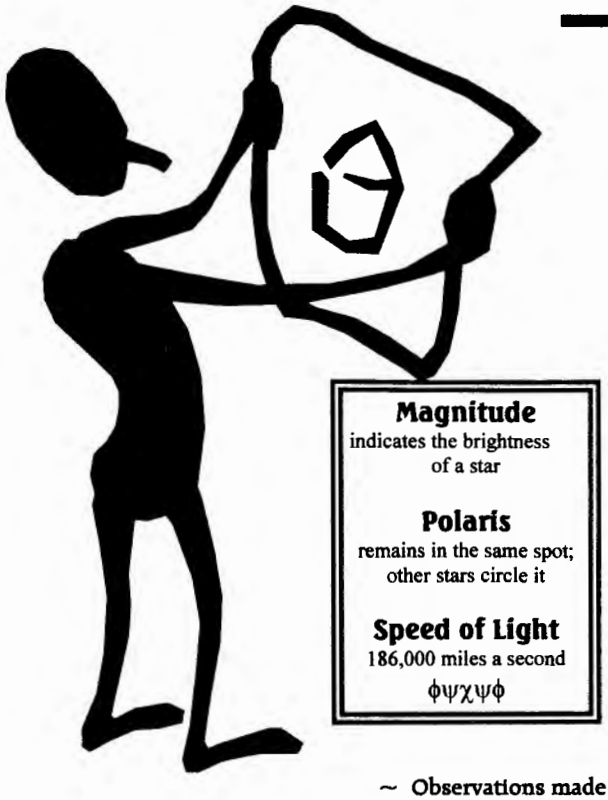


Alan "Monte" Pilon



America Outdoors, Denver, Colorado, December 1998 meeting of the Utah region

Astronomy



Magnitude
indicates the brightness of a star

Polaris
remains in the same spot; other stars circle it

Speed of Light
186,000 miles a second
ϕψχψϕ

18 great finds of all time

~ In 1965 Caltech astronomer Maarten Schmidt identified "quasi-stellar objects," radio sources known as quasars, which subsequently are highly energetic centers of young galaxies.

~ Bell Laboratories in New Jersey, in 1965-1966, Ano Penzias and Robert Wilson identified the 3 K background radiation, the echo of Big Bang.

~ The first pulsar, CP 1919, was found by Jocelyn Bell of Cambridge University in 1967. Pulsars are rapidly spinning neutron stars.

~ In 1609 Galileo Galilei, through his telescope discovered phases of Venus, satellites of Jupiter, stellar nature of the Milky Way and craters on the moon.

~ In 1992 astronomers discovered the first planets outside our solar system (orbiting a pulsar!) and three years later detected the first planets around a sun-like star.

~ Observations made with the Hubble Space Telescope in the 1990s confirmed that black holes exist in the center of some galaxies.

~ In 1687 Isaac Newton's *Principia* was published and finally proved that the sun lay at the center of the solar system.

~ German-English amateur astronomer William Herschel discovered the planet Uranus in 1781.

~ After an exhaustive search on glass photographic plates in 1930, Clyde Tombaugh spotted Pluto.

~ Neptune was spotted in 1846 based on mathematical calculations by Urbain Le Verrier.



~ In 1864,English astronomer William Huggins discovered that nebulae are gas rather than stars.

~ American astronomer Edwin Hubble demonstrated in 1923 that galaxies are separate island universes of stars outside the Milky Way.

~ In 1931-1932, radio astronomy was initiated as Karl Jansky detected radio energy from the Milky Way using his Bell Laboratories antenna in Holmdel, New Jersey.

~ In 1890 Harvard astronomer Edward C. Pickering and Antonia C. Maury proposed a classification scheme for stars based on spectra that is the backbone of understanding stellar qualities.



whirl pool galaxy

~ In 1761 Russian astronomer Mikhail Lomonosov discovered during a transit of Venus that the planet had an atmosphere, confirming that planets in the sky were other worlds perhaps like Earth.

~ In 1801 Italian astronomer Giuseppe Piazzi recognized the first asteroid, 1 Ceres.

~ German astronomer Friedrich Wilhelm Bessel in 1838 announced calculations of a star's distance by parallax, for 61 Cygni, determining 10.3 light-years.

~ Copernicus published *De Revolutionibus Orbium Coelestium.* It led to understanding the solar system.

Recent News

2 new planets discovered.

One orbits the star Gliese 876, 15 light-years away.

Gliese is the closest star around which astronomers have found a planet. All other stars are at least 40 light-years away.

The planet has the mass of 1.9 Jupiters and orbits the parent star five times closer than Earth orbits our sun. (At about Mercury's orbit.)

The other planet orbits Gliese 614, 60 light-years away. It has the mass of 3.3 Jupiters. It is most certainly a gas giant. This planet orbits at about the asteroid belt in our solar system.

Mega merger on Jupiter.

Two of the three white ovals on Jupiter have coalesced into one.

These Earth sized cyclones have been observed for 58 years to be separate storms second in size to the Great Red Spot.

The white ovals are storms of ammonia swirling at 200 miles per hour at the outside edge. Each 9,000 miles across, they showed up easily in 6 inch telescopes. Astronomers have recorded a great white band broke apart in 1938-1939 resulting in these three 9,000 mile diameter ovals.

The spacecraft Galileo in February 1997 recorded images of the ovals particularly close together and squishing another storm cell. And although no one observed the merger, the Hubble Space Telescope showed the change in mid-July. Astronomers suspect it took place when Jupiter was behind the sun in February.

From: *Astronomy*, Oct. 1998, Vol.26, No. 10

ELEMENTS OF LEADERSHIP

DEVELOPING YOUR INTERPRETATION SKILLS

Notes from a presentation given by John Weisheit for the Headwaters Institute

By Michele Hill

Knowledge ~ Experience ~ Willingness ~ Comfort

Knowledge is power: to obtain knowledge go to the top—do it yourself. The books found in the bookstore is information that is distilled; the richness of the subjects that interest you is to be found in the bibliographies. Why not read the books that the author consulted while conducting his research? The primary document is where the expertise is found and finding primary documents is easy since most communities have public libraries. Even if your library does not have the document you are searching for, the librarians can obtain it for you through the inter-library loan service. But university libraries are always the best source to treasure hunt primary documents and primary photographs. The first thing John does, when he walks into a library, is talk to the librarian about his research mission and to become familiar with the library's facilities and resources.

Another avenue to obtain knowledge is through our peers, especially those who have earned graduate degrees in the scientific disciplines. Such peers had their studies directed by meaningful questions and problems that inspired them to thoroughly find the appropriate answers and solutions. These academics are very approachable and are also eager to share their knowledge and experience. Other peers include the seniors of our profession, for example, Kent Frost, Katie Lee, or Martin Litton. Such men and women, too, are very approachable and willing to share their expertise.

You develop relationships with significant peers by becoming willing to insert yourself into opportunities. For example, about 12-years ago John obtained a Grand Canyon private river permit. Besides inviting a few friends, John decided to also invite a doctoral candidate on his trip. The trip ended up becoming a research trip with John and his friends serving as assistants. Said John, "That river trip was one of the best learning experiences I ever had." Science trips are still very much a part of John's continuing education program.

After working a couple years in the Grand Canyon, John came to work in the Canyonlands sub-province. John came to discover that there is a lot of opportunity and challenge available in the Canyonlands area for professional river guides. When John arrived in Moab, the first river trip he inserted himself into was the Cataract Canyon interpretive trip. (Recall that's the research part of the interpretation principles.) Eventually John became a presenter of river history on these interpretive river trips. John acknowledges, "My first talk was disappointing to me. But I kept doing it—making it better—reinforcing it with more knowledge to make better connections." (That's the rehearse part of the interpretation principles.) Feeling strengthened with the knowledge, John continues to present his research and is reaching a level of comfort and continuity. He inherently practices the interpretation principles and continues to employ them, which continues to fortify him with the elements of an education leader.

Another way to develop connections is through the community. John feels the best way to reach into the heart of a community is to become willing to serve as a volunteer or trustee for a non-profit organization. While serving, he learned how non-profits work and he learned a lot about networking with positive people who have incredible diversity, skill, talent and experience.

So, do your research, hone your skills and engage the notables. Insert yourself!

John also amalgamated the unique community spirit of Grand Canyon River Guides to serve as a positive example in developing a guide's organization for the upper basin of the Colorado River. To also establish a similar mission statement for the upper basin as well, which includes: setting high professional standards, to create the best possible river experiences, and to protect our rivers on the Plateau. In the beginning John's interest, to pull together the river community of the upper basin, compelled him to write Brad Dimock, then the president of Grand Canyon River Guides. At that time Dimock was also receiving letters from another Canyonlands entity, Tim Thomas. Dimock encouraged these two Canyonlands guides to get together and, in the meantime, scheduled a fall meeting for Grand Canyon River Guides to be held in the Moab area and to encourage that formation. Thusly, Brad, Tim and John birthed Colorado Plateau River Guides in 1993.

Now CPRG is blossoming. John modeled this maturation to the founding of the United States; that thirteen years passed from the signing of the Declaration of Independence to the ratifying of the Constitution. And a similar commitment from the guides is what is necessary for CPRG to make a difference; to share their voices and to shape this organization into positive and inspirational activities.



Suggestion: Maintain records of your river mileage and training. Mileage should reflect cfs, put-in and take-out points, crew, your role, boat types, private or commercial, significant conditions, hikes, activities, etc.

WATER FILTER SYSTEMS

Aluminum Ammonium Sulfate powder, alum, is an agent to add crispness to home pickling. Alum also congeals sediments in a bucket of river water quickly. Just a half of a teaspoon per gallon of river water, agitated or stirred and left for twenty to thirty minutes, clears the river water remarkably.

The settled water can be used for the final rinse of dish water, boiled for cooking pasta, hot drinks or even filtered for daily drinking water.

New to the market are water bottles, even Rubbermaid markets these, capable of removing protozoa, waterborne organisms like Cryptosporidium and Giardia Lamblia. These systems do not eliminate viruses and bacteria, but they conveniently erase the iodine taste of tablets. Protection from bacteria and viruses are necessary since it is found in the fecal matter of humans and animal and both of these roam wilderness.

DESERT PLANT ADAPTATION

Imagine 10 or less inches of rain fall each year. You've just conjured up a desert ecosystem. Contrary to visions of shifting dunes with scant vegetation, deserts are hosts to microenvironments supporting many species with specialized means for survival in intense heat, parched soils and blinding light.

What are the strategies of plant survival in deserts?

Flower producing herbaceous plants which seed from the same root year after year, let above ground foliage die back in summer. Sleeping underground are the bulbs, tubers or rhizomes, awaiting cool wet seasons, in which, tender growth may spring. These perennials go dormant before wilting can occur, therefore they survive.

Annuals avoid drought by growing only as moisture exists. Annuals, like cheatgrass, live one year. They exist simply as seeds for great lengths of the year and can only grow in assuredly moist soil. Growth is limited to 2 - 4 months in winter through spring. Some annuals complete the cycle of seed germination, growth, flowering and reseeding within six weeks.

Extreme soil temperatures impede bacteria and fungus growth necessary for dead plant decay, thus, desert soils have poor integration of organic material. Desert soils are rich in minerals. Minerals are released from the erosion of surrounding rock or surfaced in water moving up through soil with evaporation. This is a salty soil in which few plants can grow, although some have adapted to do so.

Back to imagination: Think of desert soil behaving like pavement. Rains gather force. Rivulets stream to converge into washes, hardly penetrating into the soil. Yet there are durable seeds which requires the grinding action of gravel in flowing washes to allow water to enter the coat and continue germination. The water action also acts to distribute the seed to decrease competition with the parent plant.

Some plants have shallow but widespread roots. The living tissue is fast to collect soil moisture from the network of roots. The stored liquid is metabolized during dry spells. Other plants sink 90 foot tap roots. Pockets of water at depth won't evaporate like water at the surface. Often these water sources are year round. Plants accessing deep bound water will often drop summer leaves and rely on green stems to promote photosynthesis.

Cactus with pleated stems serve to partially shade the plant helping to keep the plant cool. It is also paramount these plants do not waste water through evaporation so cactus grow thick, waxy coats and close the stomata by day. At night the pores open to collect carbon dioxide for photosynthesis to take place the following day. Cacti species with flattened stems will grow these in various directions so only a portion face direct sun, others cast shade keeping the plant cool. Spines defend the plant from creatures seeking food and moisture. It takes desert plants a long to time to replace body parts eaten by the food chain. And the plant is reluctant to give up it's precious water when it is so scarce.

Sometimes photosynthesis is harmed by light too bright. Some plants rotate on their stalks to avoid direct mid-day sun. Others reflect light utilizing a dense mat of hairs. With so much light plants don't struggle to reach sunshine as vegetation might in rain forests. Give me sunglasses!

These distinct adapted life forms can be identified during any visit to a desert ecosystem. For most, the concepts of adaptation are easier to remember than those Latin botanical names. The explanations fulfill our curiosity of wonder about our natural world. *What will you recall about plant survival in the desert during your next visit out there?*



Plant Survival Adapting to a Hostile World, Brain Capon
Ecology and Our Endangered Life-Support Systems, Eugene P. Odum

The J. W. Wilson Inscription

by Jim Knipmeyer

A short ways below The Confluence is one of the oldest inscriptions to be found in Cataract Canyon. Lightly scratched onto the side of a square-shaped talus block is "J.W. Wilson May 17th 1887."

John W. "Jack" Wilson was a well-known Glen Canyon prospector and miner who spent much of his time around the Hite area. Just what he was doing or how he got to the stretch of upper Cataract below The Confluence is not known. Did he work his way upriver from Hite along the banks of the Colorado, or did he travel overland along the western rim of the canyon and down to the river by way of Spanish Bottom? Or was he prospecting downstream by boat?

Mining entrepreneur and river-runner Julius Stone identified Wilson as "an old telegraph operator who in the 1860s worked in Columbus, Ohio." He afterward worked for the Union Pacific railroad in the early days. Charles Sharp, who met Wilson at Hite in 1909, said that he had come "west on account of drink."

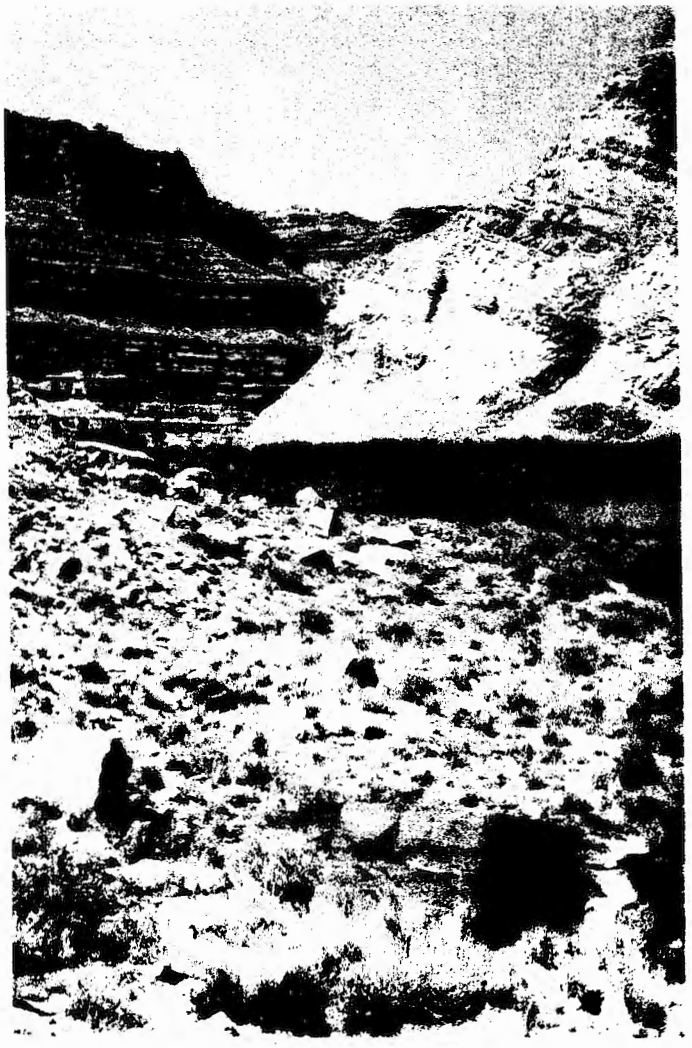
After coming to southern Utah and the Colorado River, Wilson spent the remainder of the century prospecting and mining for gold. Riverman and guide David Rust said that he was known as "Git Ready" Wilson because he was "always getting ready to take out a load of gold." He prospected up and down Glen Canyon, including Good Hope, California, and New Year bars, and the gravel benches along Crescent Creek, present-day North Wash. Engineer, river-runner, and mining capitalist Robert Stanton first met Jack Wilson at Hite in 1889.

In 1896, during his voyage down the Green and Colorado rivers with Ramon Montez, George Flavell reported meeting Wilson at Hite, where he was temporarily minding the combination store and post office them. In his diary, Flavell described him as "very nimble and robust, though his gray hair plainly told that his days were long on the land...." Flavell also disclosed that "he (Wilson) had dug for gold until his pick, patience, and soul were worn out, and at last, after 37 years of finding nothing, he had quit in disgust. He was passing his last few days brooding over the campfire, alone, thinking and picturing what he would have done if he had struck it rich ...."

However, when Robert Stanton returned to Glen Canyon in 1897 with his Hoskaninni gold mining venture, he met Wilson, again at Hite. Throughout the duration of the Hoskaninni project, from 1897 until 1901, Wilson was employed by Stanton. In the fall of 1899 Wilson was in charge of the road building of the route leading from the plateau down the west wall of Glen Canyon to a bar on the bank of the Colorado. In his diary, Stanton refers to this as "Wilson's Creek Road" and the slope as "Wilson's Creek Hill." Wilson's name was also given to the side canyon coming in at this point, as well as to the subsequent camp established here.

After the turn of the century Jack Wilson remained in Glen Canyon. John Hite listed him as a member of a river party in 1905 that was transporting mining equipment from the mouth of North Wash, just upstream from Hite, down to Lee's Ferry.

The last mention of John W. "Jack" Wilson that I have been able to locate was in Julius Stone's account of his 1909 voyage down the Green and Colorado rivers. In his diary entry for Saturday, October 23, he states that "we stop at Tickaboo bar (a short distance downriver from Hite), and go up the creek about a mile to call on Cass Hite.... We swap a lot of talk about old times. He tells me that John Wilson is still prospecting in these parts, but is now hanging out in Hanksville when not in the hills ...."



Mike Ford examining the J. W. Wilson inscription below The Confluence in upper Cataract Canyon. Photo by Jim Knipmeyer.

MAXIMIZE HAPPINESS

Studies propose that dispositions are determined by genes and brain chemistry. The neurochemical roadways in the brain determine happiness setpoints by age 13. The disposition route has been plowed, paved and traveled and will remain a lifetime. Heavier traffic in the brain's left prefontal cortex expresses optimism and enthusiasm, said Richard Davidson, Ph. D., psychology, University of Wisconsin, as interviewed by R. Daniel Foster. Foster's investigations continue to be revealed in this article. David Lykken, Ph.D., behavioral geneticist, University of Minnesota, points out, if the left prefontal cortex wasn't developed, you are not destined to be perpetually sad. Unhappiness can be minimized by integrating happy habits daily.

FIRST, consider the following strategies from David Myers, Ph.D, professor of psychology who wrote *The Pursuit of Happiness.*

Devote yourself to stimulating activities. This does not have to be career based or expensive. Think gardening, sports, potlucks, board games with friends, collecting, reading and editing an issue of The Confluence. Provide for yourself enjoyment and challenges that rotate out of chore-dom.

Live now. Avoid believing achieving happiness is conditional: 'When' you buy a snowboard, 'when' you write a novel, 'when' you become a featured individual in some Hall-of-Fame. Go for recognizing the nuances of happiness: Playing basketball with Grandma, Dad, your niece, nephew and spouse; or taking in the costume creativity of the trick-or-treaters at your door.

People forget to look at what's around them. Looking, noticing and just being are a matter of practice. When the mind obsesses about the past and future, interrupt the pattern. Come back to the sensations of the present.

Make close relationships a priority. If your support network has thinned, seek anew through your career, hobbies, sports, social gatherings or other interests. Another person can mirror or even draw out the parts of us that feel stronger, lovable, or beautiful. Support networks even boost immune systems. Good health complements happiness too.

Be spiritual. Define spiritual in your own way. Know that quieting the mind gives way to a superior force. Spirituality lifts an individual beyond the muddlement of limitations.

Take charge of your time. Mastering use of your time yields productivity. Accomplishment resounds of personal control. List projects you want to bring to a successful conclusion. Define the desired outcome, specify the methods to assert, discover the smaller steps in large goals and sequential frames toward achievement. In other words, set goals. Devise goals by the day, the month, a year, ten years. Review effectiveness periodically and be flexible about growthful change.

FINALLY, **Fake it.** Eliminate that inner critical voice. Replace it with positive ramparts. Imitate traits of outgoing personalities, high self-esteem and optimism. Stand tall, breathe deep, smile and be engaging.

Just go Boating!

Proposed Increases in Guide Fees

Proposed fee changes outlined in R651-206-2. River Guide Permit.:

currently:	fee	renewal	expiration	proposal :	fee	renewal	expiration
Guide 1	$10	$10	5 years		$60	$45	3 years
Guide 2	$10	$10	5 years		$60	$45	3 years
Guide 3	$10		yearly		$25		yearly
Guide 4	$10		yearly		$25		yearly
Retest cost	0				$15 per attempt		

Although the first round of public input concluded November 16, 1998 at 5 PM. Guides and Outfitters continue to have an interest in the above proposal. Sheri Griffith, Chris Smith (CPRG), and Dee Holiday met with Ted Wooley of the State Parks and Recreation office in Salt Lake City. Invariably, the public process continues.

Connie Steven of the state legislature said that a bill was passed in 1997 that enables the State Parks and Recreation board to set fees for outfitter and guides. At this point the fee increase proposal is a matter of business, said Steven Allred, the Legislative Fiscal Analyst. Ordinarily, it is passed during the January 45 day session as public expression would have been solicited and considered before this step. CPRG has volunteered to track this matter and explained that part of the public is not satisfied with the proposal and desires to continue the public process with intervention through our state representative Keele Johnson. Allred will both review the fees and alert CPRG to the meeting in order for us to contest fee increases. CPRG will then contact Keele Johnson and communicate activity to outfitters.

Rescue 3 International Beginnings

Reprinted with permission from Rescue 3 International

Rescue 3 started as little more than a concept. Founder Jim Segerstrom started in search and rescue in a somewhat roundabout fashion. After college and the service he moved to Europe for two years. He acquired a love for mountaineering while working as an apprentice guide in a Swiss mountaineering school.

Upon returning to the United States, he worked for four years in a Nevada mine. With responsibility for mine safety he took one of the first EMT courses offered by the State of Nevada, acquiring certification number 849 in 1975. Moving back to his home in Sonora, California, he started teaching EMT courses at the local college, acquired an interest in a mountaineering store, and used his background as a SCUBA diver to get a temporary job on a movie set. That movie, a forgettable epic patterned upon Deliverance, and remade most recently as The River Wild, was the start of what would become the Swiftwater Rescue Training Program.

Thinking his many years as a diver would serve him well in the river, it took only a few days working with the whitewater guides to show Jim he actually knew little about the dynamics of moving water. The following year he went through the Pacific River Outfitters Guides Training Course, and by the end of the next year was working as a Head Boatman on rivers throughout the West.

That same year an incident involving a Sheriff's Deputy almost being swept to his death led the Tuolumne County Sheriff's Department to start a departmental Search and Rescue team. Jim was a founding member. Many of the initial team members were commercial guides. A formalized program in river rescue training was something that naturally followed.

In 1979, this program was demonstrated to several hundred attendees at a Water Rescue Conference set up by Jim and others at the local college. Struck by the response to the river rescue portion of the conference, Segerstrom, along with co-instructor Jack Ross, moved to establish a curriculum in search and rescue. Simultaneously, several attendees from the United States Lifesaving Association (USLA) approached Segerstrom with the idea of seeking corporate sponsorship for a series of river rescue teams across the United States. The American Lifesaving Emergency Response Teams (ALERT) were before their time. So, with the need to have a medium for such training, and an agency to direct the standards, Rescue 3 was born in late 1979.

The name was chosen, first because it was "catchy," and secondly, because Rescue 3 was supposed to be an instructional and research company concerned with all areas of rescue: •air, •aquatic, •and terrestrial... ...thus, Rescue 3.

The initial instructors were acquaintances from the Rescue Community: Ben Schifrin and Mike Croslin from Tuolumne County Search and Rescue; and, later, Whitewater Guide Warren Berg and ex-Seal Gary Kibbee.

In 1981, the program was redesigned into the early form of what we now know as the Swiftwater Rescue Technician 1 and 2 programs. In that same year, the criteria to become an instructor ceased to be "...those who had stuck with it the longest and could remember the most..." and, a formal instructors program was started.

Swiftwater classes started being taught throughout California and slowly spread across the United States, while the core instructors continued to survive in other jobs (Segerstrom as a paramedic, Berg a deputy sheriff, and Croslin a medical student). Working with other groups in the United States, the early boat and helicopter classes continued to develop as well.

By 1990, Rescue 3 had acquired another instructor/trainer, Barry Edwards; a full-time office staff of one; and, a student list in the thousands. Classes also had been taught in Canada and Australia. Barry and Jim were stretched to the breaking point trying to run the business and simultaneously make a living as paramedics.

Phil Turnbull, an Oregon Fire Chief and SRT 1 Instructor, introduced Jim to his brother, Mike, and his wife, Judy. Having just sold a lucrative business and possessing a fully functional office setup complete with computers, they were intrigued with the idea of a rapidly expanding enterprise. Thus, in a moment of weakness, they made Jim an offer "too good to refuse." The result was Rescue 3 International, Incorporated.

The rest, as they say, is history. Today, with a full-time office staff; computers; a toll-free number for the United States and Canada; and, in-house printing, typesetting, copying and binding facilities, Rescue 3 International services rescue programs and instructors around the world.

Rescue 3 Philosophy

Rescue 3 International is an organization made up of professional people actually involved in Emergency Services, either full- or part-time. They are Paramedics, Fire Fighters, Peace Officers, EMTs, SCUBA Instructors, Rangers, and active Search and Rescue team members. They are affiliated through the International Rescue Instructors Association (IRIA) and/or the Northwest Region of the United States Lifesaving Association (USLA).

Rescue 3 International Instruction Philosophy

IRIA Instructors share similar philosophical outlooks concerning both rescue instruction and rescue itself. Outlooks they believe should be shared with any agency and student with whom they are in contact.

1. We must bury the old training axiom, "Those who can, do. Those who can't, teach." Rescue Instructors should be teaching state-of-the-art techniques always. They can't do that by

becoming instructors only. They have to remain active to some degree in their chosen rescue discipline. Additionally, they must continually research and develop improved material, both through their own initiatives and through such information exchanges as the IRIA, NASAR and other similar groups. Active involvement is the first key to being a competent instructor.

2. There are many rescue disciplines, some newer than others:
a. Cave and Mine Rescue b. Cliff Rescue c. Dive Rescue and Recovery d. Heavy Rescue e. High Rise Rescue f. Inflatable Rescue Boat Operations g. Surf Rescue h. Swiftwater Rescue i. Trench Rescue

Even searches are now being treated as rescue emergencies. It is important to remember that none of these disciplines is distinctive and stands on its own with its own manuals and techniques. Rather, they each have their own unique aspects while borrowing applicable techniques from the others. For instance, High Rise and High Angle Rescue contains material developed for not only Vertical Wall Rescue, but also High Rise Fire Fighting, structural engineering, architecture, Heavy Rescue, Dirt Cliff Rescue, and even some considerations from Water Rescue and Search and Disaster Management.

3. There is no one way to do any kind of rescue. Rescuers should avoid the dogmatic, "manual" approach, and instructors are obliged to expose and train students in as many possibilities as they can. Protocols are acceptable only if they allow rescuers the discretion to use their best judgment at the scene.

4. Rescues should be undertaken:
a. Utilizing the lowest risk methods first, while setting up higher risk methods as next alternatives.
b. All personnel should assure themselves they are prepared to:
i. Rescue themselves (Self Rescue) as their first priority.
ii. Back each other up and rescue each other as their second priority.
iii. Having assured themselves that i. and ii. above are met beyond a reasonable doubt, should the team undertake to rescue the victim. Self-sacrifice in Rescue Services is traditional and commendable... and a useless waste. Rescue Instructors would rather appear as expert witnesses to testify why nothing was done, than to testify why a rescuer was injured or died.

5. Rescue Instructors are obliged to impress upon their students that successful rescues are a mixture of four things:
a. Experience b. Judgment c. Practice d. Training

Rescue Instructors only provide training. If students expect to be proficient following training they must continue to practice their skills and take refreshers. As a student is trained in an individual skill, the Rescue Instructor no longer has responsibility for that student if the student agrees that he understands the skill. That is the role of a mutually-signed logbook or skills sheet, such as pilots, SCUBA divers and paramedics use.

Rescuers are advised to maintain a record of their experience and actual calls, as time-consuming as that may be. A bound volume, with proper narratives and maps as necessary, not only serves as a memory refresher in the event of a legal problem, but also as proof of ongoing training and developing expertise. Proof that the instructor will wish to see before contributing to the defense. Training isn't enough. Practice and experience are vital in order for the Rescue Leader to make correct judgments at the scene.

6. By the nature of rescue training, even if the student is a volunteer, he or she assumes a mantle of professionalism when he or she is certified. Like a rookie cop, a new fireman or a new EMT, the correct feeling at the completion of such training should be one of adequacy along with the need to train further. If a student completes a rescue clinic with the feeling that he is competent, that student is in for a rude awakening, and the Rescue Instructor has done them both a disservice.

7. Students and instructors alike should always be open to criticism and new techniques. Many valuable rescue methods have been developed by students during rescue classes. Instructors in their turn should accept criticism and new techniques, keeping in mind all of the above, particularly that they are obliged to expose their students in the future to those new developments. IRIA newsletters and USLA and NASAR magazines also serve as forums to distribute this information.

8. If you're going after the victim and you contact him don't lose him again. Case law would seem to point to action for abandonment, even if all efforts possible were attempted. All of the points above will contribute to lowering the liability for the rescuer. As far as liability insurance and local laws are concerned, they almost never provide adequate individual legal protection to the rescuer.

9. In order to successfully complete the rescue, it is necessary to meet four objectives, in order. We refer to these as the four components of the SAR (Search and Rescue).
a. First - we must locate the victim(s). This may be done simply by looking over the bank and spotting the rolled-over vehicle and its trapped occupants; or, it may involve a room-to-room search in a building; or, SCUBA divers in a lake, consuming a lot of time.
b. Second - once the victim(s) are located, we have to reach them. Again, this may be as simple as walking across the road; or, may involve ascending or descending a steep cliff face or a building, consuming hours.
c. Third - once we've reached the victim(s), we must assess, provide initial stabilization, and prepare the victim(s) for extrication. It is not necessarily the function of the Rescue Team to also be the most highly trained medics, but they should be prepared to use their equipment and skills during this phase to move the medic to the victim if necessary. In other words, the medic may have no rescue skills at all, and may be moved about like so much baggage. Some medics may prefer this since they can then concentrate on patient care.
d. Fourth - the final phase of the SAR is the actual extrication. This may be nothing more than a short haul of the victim(s) up to the road with lots of helping hands; or, a complex lowering down the side of a canyon; or, a tyrolean across a swollen river. Again, **all four phases must be completed in order.**

10. Successful rescues are effected by teams, although they may be initially nothing more than a collection of individuals from several agencies or groups. Whether we refer to the Incident Command System, or Critical Incident Management, there are still four roles which must be filled;
a. The "Leader," or Incident Commander, may not be the most technically competent person at the scene, but he understands disasters. The senior medic may have to fill this role until he can be relieved - a tough decision since the level of medical care must thus be less. However, he is only one man, and by

standing back and remaining detached, he can maintain and overall perspective.

b. The "Rigger" is our logistics person, in charge of equipment and setting up rescue systems and delivery systems. If he or she and his or her minions need equipment, they turn to...

c. The "Gofer" is the jack-of-all-trades and probably the most valuable person at the scene, after the Leader. He and his assistants fulfill many critical roles:

i. Maintain records and communications.

ii. Keep inventories of equipment and manpower.

iii. Liaison with the press and family.

iv. Do anything else that is needed at the scene that is not immediately critical to the rescue effort.

d. The actual "Rescuer" is the fourth role. These may be individuals hanging on the ends of ropes or managing a Stokes litter; or, it may be groups, squads, task forces or strike teams of mixed assets, each performing a particular task. Some structures title this job the "medic." However, as we have seen, in fact, the medic is a sub-role, unless the rescuer just providentially is the most highly-trained medical person as well.

Search and Rescue is a growing and young profession. The foregoing points have served many of us well in recent years. Only the tests of time, and the law, will show their ultimate credibility.

Low To High Risk Rescue Options

Generally speaking, it is impossible to determine to everyone's satisfaction a simple set of rescue options that all concerned groups can use for river and flood rescues. Instead, each group usually elects to use methods that their particular training background makes them feel most comfortable with.

Rescue 3 initially had the input of many professional lifeguards through our affiliation with the United States Lifesaving Association, and the Royal Lifesaving Society of Canada. Besides giving the program a realistic set of training exercises for in-water rescues, these professionals also gave the program (with some small adjustments due to river environment) our axiom for low to high-risk rescue options:

Reach, Throw, Row, Go, Tow, Helo

1. Reach is simply trying to reach the victim from the shore by extending a pole, a ladder, or possibly a piece of inflated fire hose to victim(s) stuck in a boat in a low-head dam. Since the rescuer doesn't go in the water except accidentally, the risk is obviously low.

2. Throw usually refers to throwing some flotation device to a swimmer. In the river, this usually refers to the throwbag, one of those pieces of equipment that every Rescue Team now has, but one with which most rescuers do not have adequate skill.

3. Row refers to any kind of boat that might be appropriate to effecting a Swiftwater Rescue.

4. Go and Tow cover in-water contact rescues. Since a significant number of people drown each year trying to rescue others, it follows that making such rescues in current has even higher risks, and should only be attempted after all other lesser risk options have been exhausted.

5. Finally, Helo has been added by the cadre of instructors for Rescue 3. We work with, on, and around helicopters during rescues and medivacs, and teach Helicopter Rescue programs. Universally, while professional helicopter crews freely admit to being willing to attempt anything, they are also the first to counsel that local rescuers should be attempting all other options first while the helicopter is en route, rather than depending upon the helicopter as their only option.

Remember, you know about river rescues, and not a lot about helicopters, generally. The reverse is just as true. There have been many instances where the inappropriate helicopter was called. Often, the rescue has been a success, and sometimes it hasn't. The bottom line is be helicopter conservative. Call 1-800-457-3728 for Rescue 3 International.

Wil Bussard on Uranium in the Chinle Formation

Transcribed by Karla VanderZanden

Most of the uranium deposits on the Colorado Plateau are mobilized by ground water, transported in solution. By and large, the source of the uranium has never been able to be identified, as far as where it came from before it was deposited in the sedimentary rock because it is not inherent in sedimentary deposits.

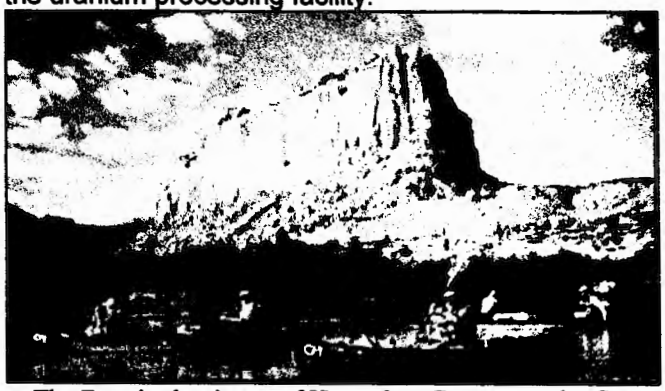
Where did it come from? One of the suggestions is that a swath of igneous activity in the middle to late Tertiary, about 10 million years ago, that created a whole bunch of laccolithic bodies, the Henrys, La Sals, Abajo . . . one of the suggestions is that it comes leaching out of those igneous rocks that are intrusive rocks with very little volcanic activity.

Other places it has been seen: there are some high grade veins in the Precambrian rocks in the San Juan. Other than that, nobody has really identified what the source is for these mass quantities of uranium.

(Missing information here due to major technical difficulties in recording)

The Plateau really got going with the major exploration after World War II, through the 50's, and the market was good up until the mid to late 70s when the bottom fell out.

Yellow cake is radioactive, it is not good to have yellowcake or carnotite, that kind of rock, in your house. Its not the kind of thing you want continual exposure to. That's why they clean up the Superfund sites. Durango has an increase in Leukemia, and various forms of cancer. People have suggested that it was related to the uranium processing facility.



The Frog in the rincon of Horseshoe Canyon on the Green River in Labyrinth Canyon



Teri Ann Tibbetts

full time professional river guide from 1980 to 1992 is related to Bill Tibetts featured in the *Times Independent* ---'A look back in time'.

Teri Ann relished a two week solo river run from Green River (town) to the Confluence, where she met Brian Coombs and his sport boat for support through Cataract and a push off the lake. (Lake Powell)

She stopped at Bill Tibbett's long abandoned cabin along the Green River and hiked around to find his name in the back of cave with the date 1924. Teri Ann confides she imagines rebuilding the cabin as a historic preservation project.

She shares a story, but urges I verify it with Ray Tibbetts, about Bill who had sheep that it appeared he stole and he was put in jail, though he broke out. Years later he was elected Sheriff! He lived for awhile at Horsethief, the homestead out on the Island in the Sky.

"I wisht I'd'uv known him (Bill) back then. I'd've hung out with him," says Teri Ann. He might have dug hanging with Teri Ann too.

She is known as the Queen of Westwater. During her reign she was a part of five boat trips of 30 passengers, three times a week. She and the Tag-a-long entourage were resplendent in costuming for trips. She was also known as Wildass Teri Ann Tibbetts.

I can recall rendezvousing with her at Fish Ford with a bucket of beers on ice, the top down on the model A, just because. I once asked her if she wasn't afraid of losing that fine indian/torquoise jewelry? She did not hesitate to reply, "People from all over the world wind up here with me rafting and they *all* take pictures. I'm going to look good."

Teri reflects on changes in the industry. She proposes visitation has tapered since her fulltime years. Guides no longer languish in the twelve year dedication like those in her wave of guide kinship. She suggests, people are here for 2 - 3 years and move on. This generation of guides prefer the quick hit of rapids. Here in Canyonlands, because of the flatwater, a guide has to look around, have substance. She then considered the story of an individual who began here, but wound up in Idaho for ten years. Leading trips in this country just isn't for everyone. You have to talk to the people . . . the visitor.

By Michele Hill

A look back in time

Courtesy of the Dan O-Laurie Museum



Costumes

Ruined cabin

Getting to the other side . . .

Bill Tibbetts ran cows on both sides of the Green River, and often used a raft to ferry supplies from one side to the other, as in this photo taken in 1924. Accused of cattle rustling, Tibbetts fled "downstream" in the 1920s, where he remained for years, ranching and exploring. He returned to town in 1941 where "all" seemed to be forgotten. Bill and his wife, Jewel, never forgot those years along the Green River and its tributaries, and spent a great deal of time returning to the canyon system. Both became legends in their time for their knowledge of the Green and Colorado River complex above the confluence of the two rivers. (Dan O'Laurie Museum photo from the Ray Tibbetts collection)

FRANK STRATTON

OF TOUR WEST, OREM, UTAH
(adapted from an oral history)
JULY 18, 1995

I started running rivers in 1967, just a private trip. Two friends and I decided it was better than just part-time. We formed a corporation called Tour West, Inc. in 1969. Eli Gourden, Russell Hansen and myself and our wives were equal share holders in the company. I was a farmer as well as a school teacher. I was prepared well for paddling with the clients and handling the equipment. That was the job I took when we went into the company. Eli, he took promotion. He was good at it. After five years, Eli, dropped out. He said, "It's too much for me, guys. I can't get enough money out of the company, " which was true. Russ Hansen was a school teacher too. Teaching was our part time job. "Oh, Eli, go get yours (part time job)." (Laugh). Gourdin got fed up. Not with us, but with a lotta, lotta hard work. Still, he had his effect and his ideas. Russ Hansen was overall president until he quit after ten years. I said, "If you are having problems Russ, let me handle the river, I can do it. I've been doing it. I can do it for a year or two until you get things straightened up in your life." And he says, "Nope." He said, "In all honesty, I've got to say I can't do it Frank. I've got to sell to somebody. If you want my share, make me an offer." I said, "Well, let's work it out together." So we worked it out together, what would be fair. That knocked the company down to two people, my wife and me. That's the only two who own stock in the company now. The others, we bought back their stock.

Stock involves being incorporated. Tour West is a legal corporation. We were farsighted enough to do this. We became a legal corporation in Idaho for the Salmon River and we became a legal corporation in Utah for Cataract, primarily, although we have done some commercial use in LoDore and on the Yampa; of course, we have the jewel of all of them and everybody has to admit it, the Grand Canyon. So that's all the corporations: Three corporations.

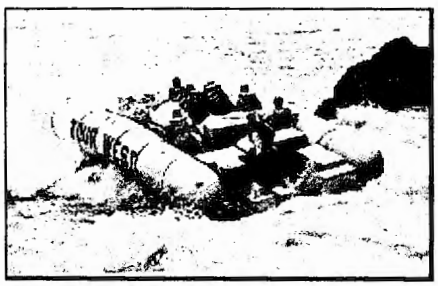
Tour West's first permit was on the Main Salmon. We were too late to get the Middle Fork of the Salmon, but we got on the Main which is a nice piece of water, if you've been there. I love that river. I love all of the rivers you might say. River running became a family thing. We trained our boys, the Hansen's boys, Gourden's boys, and the Stratton's boys. Presently, I have five grandchildren who are working as guides. It's been hard on my wife. It's not her favorite pastime. But she enjoys going too. Last year we rafted together down the Salmon. This year we're going to do a Lower Grand together. She knows me. It's been more than a job for me, a lot more. We started a travel agency which was sold later because there wasn't significant profit in it. So we got out of that. That's generally the history of the company.

Originally, it cost twenty five dollars for a permit, for one trip through Grand Canyon, under the Forest Service, not under the Park Service. Forest Service came to us in 1970 and said, "Guys, I think we'd be better off being in the Park Service, doing it in the Park as Park Service. We can get you a franchise signed, sealed, and delivered." And you go for it. That's just before the big escalation. Turned out twenty one of us guys had enough luck to apply for and get the Grand Canyon outfitter permit. Everybody could've. A lot of people could've. They didn't do it and then they bellyached about it. The number of outfitters was capped at twenty one. Another cap went into effect in 1972. That's when the use of user days or user nights was regulated. It's been argued either way, which we ought to do, but it all amounts to about the same - fee increases. Included in our fees, we pay a franchise fee to the government, a recreational fee to Arizona, about half of it is insurance, taxes, etc., you name it! It wasn't this way at first. We could take a hundred and fifty dollars and go through the canyon and have a great time. When all these other charges got into it, we just had to keep raising our prices. People criticized us, saying that we shouldn't charge that much. We charge as little as we can, so we are not ashamed of what we charge. We are not in it just for the money.

Tour West takes rowing trips on request. You can take three guides and put one each on a Domar. We could run a trip of four or five per boat, twelve to fifteen would be in the group. We disciplined our own selves on that, but later Park Service put in the stipulations. The only trouble we have, for the most part Park Service is great people, once in a while we get one down in there who knows everything, and how far do you think he'll get with a guy who has over 200 trips down in there? So I button my mouth and let them have their spell. And I'm not sure I am accurate either.

In 27 years we borrowed ideas for our company from Western Expeditions, Jack Curry. Ted Hatch, a good friend, helped all of us. Ted was one of the first commercial outfitters to go through Grand Canyon. Tour West designed a boat a little bit different than most of the Grand Canyon companies. Tour West has a 37 foot boat with elevated side riggers. I had my wife going through Crystal one time and the guide I was training got wrong and he ran under power sideways. It just lolled down. I am down here near the water, the load is against this shoulder, the tubes against that shoulder, but, what's exciting about what we think we did, the riggers changed the point of gravity. Once the rigger hits the water, it's like taking a wheelbarrow and tipping it up back wards. The rigger wants to throw the boat back level.

We have only tipped big boats 3 or 4 times in 27 years. I really believe in our boat design. We cater to the people. Safety first and then fun. When in doubt, lift your motor



The unique elevated outriggers

and sit the people in so they can't get hurt getting knocked around going through some of the holes. We've had few accidents, but the accidents are there waiting, if the guides don't follow instructions the way we try to teach them. I trust the big boats. I'm 73 years of age, people wonder, I think, can he operate the raft, that old guy? (laughs) I personally have over two hundred trips behind me as a guide and a leader. That's a lot. That's more than most owners. A lot of the owners like Martin Litton did a lot of personal running himself, and Ted Hatch did a lot, even though I tease him that Hatch is so big he's never involved with actually guiding. I wonder if Ted has done as many trips as I have.

As far as age, I told my company I want to run until I match Martin Litton's age on the water, 79, I think. Don't quote my figures. I'm seventy three now, so I'm getting there. Litton had a real important role. He had some connections where he could do some good for the operations, for all of it. He sold out for a nice profit I presume with the Sky Blue Sky. I finally got out of debt, but that is because I sold some farm land. It is hard to cover a big operation.

I wouldn't want to run at eighty like Bert Loper or Georgie. Georgie White, though, I loved her. What a gal she was! She had those big 'ole triple rigs and when she'd go to run a rapid, she'd raise her motor and sit down and let the three boats . . . One might go half-way up the shore, then slide back in. She did it though. She got those big 'ole rafts down through there. We can't help but love her for her part in the episodes. She had a beer in one hand and a story coming out of the other. She didn't need any props or anything, she could draw a crowd. She finally ended up living in Las Vegas. Her sister did the paperwork and bookings, while Georgie was out having fun with the stories and that.

Ken Sleight was another contemporary. When we were fighting the battle of the oars versus the motors, he was right in the thick of the oars. One time I was down at Diamond Creek meeting some more people, here comes Ken Sleight, motoring! I said, "Ken, I thought you were a rower." He said, "Well, I got to make some of this dam money while I can." (Laughs) "Yeah, deep down in, you figured you'd be better off if everybody was rowing. Maybe you would and maybe you wouldn't. One thing is for sure if you do rowing only and leave off the motorized guys you are not going to be able to get the people through the canyon you'd like to see go." So we do it both ways. We sat in committee in the meeting we had. We said, "We think the people should have a choice. If they want a twelve day trip or a thirteen day trip rowing fine; we can do it. And if they would prefer the faster trip, fine we can do it." That's the way we believe. We have way more demand than our quota, easy. The Park Service regulates our fees and use, so we think it is a clean operation. And I'm bragging as you can tell. And our part in it has been thrilling. I hate to look back, but that's the point I'm at now. I still run the Salmon. I could run the Grand after all those trips. You can't believe how many letters Tour West gets thanking us for such a great trip. If it's not me on the river it is one of our guides; sometimes it's one of our grandchildren.

And, of course, the grandkids like the work; the grandsons are getting their way through college, so it is a family oriented company. That's what it is. We get together when we need to solve a problem and talk it over. My grandson, Jason, is the river manager. I might live until I get a great grand son guiding. I've got four wonderful great grandsons. The oldest one is nine. (Another one was born since this oral history was recorded.) That's only another ten years and he'll be a guide. It is exciting. When that comes around we'll call ya. You can come take a picture. That would be four generations. If you got me, my sons, my grandsons and my great grandkids, it would be. Of course, they aren't afraid to run. They've been with Grandpa. I trained the grandsons real good. We did, I should say.

Susan is our daughter. She works in the office. She's the head one in the company now. She councils with me though. I went on a mission, my wife and I, a Mormon



Frank Stratton

mission, and they did fine. Suzie would call me, dial direct every week or ten days to get caught up on what we need to do. Our manager quit us while I was gone, Howard Lewis. He quit us. Found a better job. It's not a lifetime career with a lot of people. Usually I say, "I'll hire you full time, Howard, if you'll finish your degree, because I don't want you struggling to finish your degree, because you are the manager of a river company." So he worked for ten years until he needed to go, somewhere else or do something else. He got a job at BYU maintaining one of those high rise apartment buildings. He's perfect. He learned how to order food. He knew all the people to talk to. He was well prepared. We feel good about the value of the work experience here as a stepping stone for our employees development.

We had another employee who got a job with Utah Parks and Recreation, primarily, because of his work with Tour West as a leader. He's a lifetime guy in the state park service. Some of the guides have just done it part time, some are teachers and get their five or six trips a year and love it. Lanny Hackey, he started into the company about 1972 or 1973, a real long time ago. He still wants to run, and his son is running now.

How do we pick when we want another guy? Training can easily cost two thousand dollars, so we try to screen them. With one trip or two I can tell if they can be a good guide or

not. Often we'll put a friend of a guide on a trip. Usually, those acquaintances are like-minded and work out. Sometimes we don't get one single trip out of a prospect. Other times there's a long relationship.

Here's something that may be interesting: When we started the company there wasn't many people. There was hardly any people running the river. Outfitters. And they were cotton boats not nylon. The cry came, "The canyon is getting dirty. It is unclean, toilet paper here and there, " and all of this. "We've got to do something about it." So the outfitters, that was me and twenty other guys. It started out with twenty one people. It is down to sixteen though. So what did we do? We take twenty miles each, each outfitter took twenty miles, took a crew down and cleaned the canyon, took everything that could be found. Dug up charcoal, did everything you could do to have the canyon clean. A lot of people don't know it took the outfitters that week, or however long it took, I can't remember.

In our company, too, we took out all those flats at the Marble Canyon dam site. Are you acquainted with that? We took five of those out of the canyon. Everybody thought those were an eyesore. The historians are against the removal. We bid on it and got the bid and hauled those suckers out of the canyon. It took two trips and about two weeks to do it. Tour West gets credit for that. Not many people know that. We worked hard to have a good company that helps people. We feel good about what we've done that way.

Like for ten or fifteen years we were struggling with what do we do with human waste? You know about these things I'm sure. And we tried different things. We tried burying. When the campground started to smell we knew that wasn't going to work. We tried liquefying with a battery motor. That didn't work at all. We said, well, we'll just carry it out. And we did in ammo cans. Then they designed some washable, reusable containers and they work. We take everything out including the urine. We don't even leave that in the canyon. . It cost our company about seven thousand dollars to convert our system from an ammo box to our present system; a lot of people don't realize that. I know it is harder to carry everything out if you're rowing. We row groups too, so we know it's hard. We usually send an extra row boat. We call it the garbage boat. The trainees get to run the garbage boat while they are training and getting to know the river and that sort of thing. By then they have their six trips in and they can become a guide.

Those early days, it was only 1970, you learned to cook on open fires. We had to take all the charcoal out. You'd get your pile of wood, a certain size, right beside the grill. The dutches (cast iron pot) would go right on the coal or charcoal, and then you'd balance the griddle on the edge of the dutch. You'd have to guess about flame control or you'd get burnt pancakes. (Laughs) You'd have to guess when it needed a stick. You got so you could do it, but boy when it would get your eyes . . . boy those were the days. But now we have these burners. I said, "We need one of those burners that hook to propane." Now there is a heat blower that can get the water hot in ten minutes. We used to do the dutch oven and grill, and they marveled at us. Anyone could've done it after a few trips.

We take a lot of equipment but we got those big rafts. I bought about 200, 250, cots. We said, O.K., guys we sent you enough tents that you can take tents with you. You can do either your thing with army cots, or you can do it with these tents. They loved cots. They didn't have any problem getting their sleep at night. We put tents with our people irregardless of what the weather was. Tents were a godsend. My son, Stephen, knows how to weld aluminum, so he can repair anything we need. He repairs cots, tents, frames, you name it.

We went through exciting times, like ten years ago and twenty years ago in Cataract. Presently, my son David is on 55,000 cfs, Sunday, in Cataract. We know where the men are and this may be corny, it depends on who you are, we pray a little bit when faced with a real rapid. All we need is the guidance. We can get through there all right. Dave said, "Dad, that was a whopper!" "What did you do?" "Well, I got down in there in number two and I couldn't get the boat over into the eddy at number three on the right." So he had to straighten his boat, idle it down into the big 'ole shelf on the left, and come up through the thing. He said, "Dad that really shook us up." I said, "You've got the boat that could do the job, didn't ya?" He said, "Yeah." I said, "Well start bragging then don't complain." (laughs) It's funny. That has to be one of the reasons you go on the river, for the adrenaline. Like one guy says, "We're just a bunch of adrenaline junkies." (Laughs) I think that is well put.

We ran Cataract at 115,000 in 1984. I personally ran a boat through there and Stephen, he ran a boat. Dave didn't on that trip because he had done most of his trips on the Grand, so I said, "O.K. We'll put Dave with Brad Bird." So we put him with Brad Bird. I had a helper with me and Steve had a helper with him. We ran forty some odd people, mostly travel agents, what a thrill! Those people didn't know how scared we were, the guides. We had one of our secretaries with us, cause she is answering questions, and I said, "You got to go. You've got to know first hand what is down there if you want the people to believe."

We stopped above number two and the guides walked down. The water was high enough, we decided we could run it on the right. That's the one and only time I ever ran two on the right. It was a tremendous rapid. We went through fine. Had to maneuver around a rock that we didn't see from the left side of the river, a sleeper down there. We had to get around without falling into Niagara Falls. Now you know, that's number two. We just idled it down that right side, perfect runs. We didn't try to give the people a thrill on that one. We don't play games with number two. I don't care who says anything about it, we just go as safe as we can.

Photographs courtesy of Tour West. Oral history recorded by Michele Hill.
Collections are submitted to special collections at the Marriott Library, U of U, SLC.

An Oral History With Joe Kiffmeyer

recorded 1/95

My first full year as a "Colorado River Boatman," what romance! This is what I wanted to be for awhile. Boy! I'd like to go out to Moab, be a boatman, so here I was on the river with passengers. We put together a 33 foot Leland that Tex had, (Tex McClatchy of Tex's Riverways). It was a big donut boat with outriggers and a big deck in the center of it. Mike Hawk was going to drive it. The trip was with a bunch of retirees, forty-five, fifty retirees from Sun City. The week before that trip we put this Leland together and wanted to take it down through Cataract so . . . it was a training trip!

We hung a cowbell on front of the Leland and shuttled off to Potash. That's where I first met you, Michele Reaume, as a matter of fact. We ran into the interpretive trip that was down there that particular year. You were captaining the paddle boat. Doni (Kiffmeyer) got all excited when he saw you... he'd told me about his Grand trip that he and Ann Marie (Aubrey) had gone on. "Yea, that' s Michele , who was on the Grand trip," he introduced you and me 'cause he and I had talked about the Grand trip and now I had met somebody that had been on that trip. I think it was that night we were camped on one side of the river above you guys (the Interp Trip) and you guys were down below on the other side so we went across the river. I was real hot on guitar at that particular time in my life, so we trudged on down to your camp and played guitar. We all partied together and everything.

Well the next year, Doni was gonna be the Cataract boatman and I was Cataract boatman in training for Tex (McClatchy). He was gonna send us on the interpretive trip, the Park Service Interpretive Trip, so we had to prepare a J-rig.

"We want it to look good now, Doni," said Tex. We patched and gayco'd the whole thing. I mean it was a miserable boat; man, it leaked everywhere.

We got an engine up and running and we're looking around for a spare (engine) and Tex says, "Oh I got a spare for you up in the shop. It's my special one!" So we went up there and he got this spare for us and we never tanked it or anything, just strapped it on.

There was a massive amount of patching that we had to do on the j-rig. As you know with patches 50% of them actually hold and the other 50% you have to peel back, re-clean and re-patch. OK, that one stayed, but this one didn't, so pull that one up.

We were a couple of days. We'd break for lunch, go into town, go to the Poplar Place and we'd come back from lunch and all our tools, glue, everything would be gone. He'd come Tex . . . "Tex have you seen all our stuff?"

"Oh, I took it up to the hanger, it might get used if I leave it here."

"Tex, of course it's gonna get used, we're patching!" ha ha .
So we'd start patching and he'd drive around in that little four wheeler of his, raising the dust, so Doni and I started announcing the 'Tex 500.'

"Here he comes now into the back stretch, varoooommmm." We were making fun of him and he didn't like that. We got the boat adequate for our interp launch. Jim Braggs was down there at Potash. There were all kinds of boats. It was the first time I had seen a self-bailing raft. At that time the whole Colorado River mentality was Havasu (Riken). It was the workhorse of the river.

The way to get through Cataract was to have your boat full of water and row like hell. That way you could stay stable in the water. Old boatmen looked at these new self bailers like HMMMM, I dunno. I don't think that's a good way to go through Cataract.

I thought the boat did fine. What a great concept, you don't have to bail! And not so dam heavy either.

We are all down to Potash, oh, god, fifty, sixty guides . . . total guide trip, right? Braggs asks me to give the safety speech. I say, OK, and untied the Tex j-rig, push it out and yelled, "Let's go!" Everyone cheered, pushing and racing down to the river. Braggs stuttered, "What about life jackets?"

"Yea! Put your life jackets on. Let's go!"

He told me later that wasn't a good safety speech. I'd have to learn something better than that!" ha ha ha. DeVore and all those other guys laughed their asses off. They thought that was great. Being a ham, such as I am, and into acting stuff, I played along to it too.

We got to, where'd we camp that night, Little Bridge. We were directed to park next to World Wide, the Mormon boat. All the young Mormon kids, clean cut Mormon kids and the boat right next to them is all the Tex gang. DeVore was there. He was just starting up Descent, off-shoot son of Sidewinder. We had all these raunchers on our boat and parked next to World Wide, no, Western, which was one of those 5 tube j-rigs, 32 . . . 33 feet. It was like an aircraft carrier. It had a generator with a blower.

They put us next to them because we had to pump up the boat twice while we were on the water. It was a riot. Two young Mormon guys . . . one looks at the

Joe Kiffmeyer continued . . .

other, and lifts up his stuff, he has a six pack of Pepsi there. The other one perks up, looks around and shakes his head yes. We howled. Ha ha ha. In the morning the j-rig is flat. One tube was entirely down so Western was giving us crap for giving them crap about the platform with a generator. Now they're airing our boat for us and it was good-natured banter all around. We got along real well.

I had my duckie with me. I was gonna run the first part of the canyon in my duck. Headed towards Brown Betty, floating past Spanish Bottom, I had to pee real bad. I didn't want to pull over to the side so I just peeled out of this wet suit I'd borrowed, this big, thick, black wetsuit that I'd borrowed . . . unbuckled the life jacket, stood up and took a pee. I was real close to the rapid, got all set and was goin' through when I realized, "Shit! My jacket isn't buckled." About the same time Jim Braggs, who was on the Park Service Boat, didn't have enough life jackets to go around on their boat. So here's Braggs wearing one of these seat cushions that says, 'NEED HELP.' Park Service pulled into Brown Betty, where we camped that night, and Braggs runs to my brother, Doni, still wearing this 'NEED HELP' thing. He 's saying, "Your brother's life jacket's unbuckled! Your brother's life jacket is unbuckled!" Doni is looking at him and here I come with my life jacket unbuckled through Brown Betty, as if he (Doni) could do anything about it, right? Braggs like, first you screw up the launch thing and now you're running through here with your life jacket undone and I'm looking at him and said, "What's this thing you're wearing?" "Oh," he says, "we didn't have enough life jackets on our boat and . . ." We howled at that! We thought that was funnier than hell!

I ran all the way down to the drops at forty thousand something. There we put the duck on the Western boat and I got in with Dan Vernon, an old Hatch boatman. We ran the drops and it was a riot.

He was telling me he didn't want to go look at the River (at the Big Drop Two scout on the left). He pulled off to the side, he didn't want to look at the run, he opened a beer. "Here have a beer with me." I said all right. Then he said, "I did this last year and I got in trouble, but I can't sit here and do this, you wanna go?" I said sure. The other two people on our boat were up with everybody else. Still, I untied the Hatch raft, pushed him off, jumped in and we were the first ones to run through. We blasted through the wave wall. Had a really good run and, of course, Braggs . . . "You again? You (Dan) did this last year and you (Joe) probably egged him on!"

That was our interpretive trip. Doni's boat, the j-rig, engine crapped out early in the canyon, just above Mile Long (rapids). Doni whipped out the other engine, picks up the spare, puts it on, man it won't even pull. He opened up the top, that's when we had duct tape all over those Mercury engines, to find loose parts were just sitting in there. We're going, "Oh God!" and we could just hear Tex, you know, "All you have to have is an engine that looks like a spare and they'll pass inspection." Oh god!

Braggs came over and Doni ended up using the park Service spare for the Tex j-rig. The transfer was right there in the water as the boats approached Mile Long. This is Doni's first full blown trip down and I mean, you could smell the fear pouring off of him. He's riled, "Dam Tex, Dam Tex, I hate 'em. I hate 'em. We made fun of Tex's gear all the way down and, of course, when we got to Hite it was the first thing Tex heard about.

"Your gear . . . your boat . . . ha, ha, we had to blow it up all the time. Your engine, we had to replace it . . ."

Tex got real mad at Doni and me. "You don't run down my equipment in front of other people." Shit, the boat was, well it wasn't like nobody couldn't see the equipment problems. He still got real mad. Doni ended up quitting and Tex wouldn't let me run Cataract, but he let me run dailies. I was chief Daily Boatman for the year. I did get Cataract trips near the end of the season. That's when he was thinking of doing business with Renee Parrish.

She was from Arizona and ran a travel agency. She hooked up with Tex on one of Tex and Milly's winter trips. Renee had T-shirts printed - "PARRISH WITH TEX." She got hold of these soap opera stars who were out of work because of a screen writers strike at the time. Not being a soap opera watcher, I had no idea who they were. I don't remember the names, but they were from General Hospital and such. One of the real good actors told me he was starting on a feature called Robo Cop. He and I did some improvisation together. I played guitar for them. We all did acting games and it was really neat. They enjoyed us because we played with them and had a sense of theater. Also, we got along great. On this trip was the first thong bikini I'd ever seen!

The California women get up and do their power walks along the beach. Thueson, Bathemess, the old goats, were on that trip. "Look at that thong! Look at that butt!" It was a lot of fun. Parrish showed up with another charter group. We put together two j-rigs and six Havasu. Tex was to bring the

Joe Kiffmeyer continued . . .

group down to Spanish Bottom in the jet boat. Boatmen were to deadhead down with the boats and meet them there. We left the day before, in the tradition of time, we got horribly drunk, horribly stoned. Having a late start, we ended up night-floating. We weren't even to the loop by night fall. We kept on cruising, kept on drinking. Randall Bentley was with us. We had to put him in a life jacket in case he fell off of the boat. We finally washed up on a sandbar and DeVore, the trip leader, said, "Nobody move." Of course, Randall wanted to get out and push the whole package off. "No. No. Nobody move! This is camp." Everybody passed out. We came to in the morning and the river had gone down. The whole package, two j-rigs and six Havasu, was high and dry!

We discombobulated all the boats and got them out in the water. We took apart one j-rig and put it back together, the other one we unloaded to lighten and pushed it out and reloaded it. Everybody was horribly hung-over! Fiercely!

I always got along with all the rangers. Got to know them all. Actually, Doni broke a lot of the ground for us. They all liked him. He's always been a real professional type of boater. He was really good with the people. Me, I was more, let's have fun, let's have a good time. How did these rocks get here? 600 years ago spacemen came down . . . ha ha. Park Service often mistook me for Doni. I never had any problems with them, always got along real good. I liked Braggs, still do! I think he was secretly amused at the shenanigans on the interpretive trip, although he couldn't really come out and say it or couldn't be for it.

It was 1983, the big flush and again, the second hundred year flood in 1984. Doni came here in the spring. I was going to follow him. I was in Breckenridge, Colorado, skiing when I broke my knee. So I didn't get here until late July of 1984. Mike Hawk and his girl, Bo, were trying to buy the rubber end of the business off of Tex. Hawk and Bo liked Doni and it transferred over to me.

I packed up from an orchard management company doing irrigation while my knee healed, left Grand Junction and came to Moab. They needed someone to watch the yard and answer phones. I could live in the trailer. They couldn't pay me but left a tank of propane and told me once that's out you are on your own! Sure, I said.

This was September. Boatman burnout was in effect. I did my first dailies without a license, without first aid cards, it didn't seem that strict at that time. When I came here, Tex was the last of the old yahoo-cowboy operators. Tex was still going. Sidewinder had just folded. Some of the raunchy Sidewinder boatmen were coming into Tex's fold. Tag had already gone into the new 'guides' instead of, the boatman thing. Even the original license read "Boatman!" I got here at the time of the last hurrah of the 70's style of commercial boating. We still wore cut off jeans. For warmth we wore wool, drysuits were unknown. By 1985 I got legal.

Doni quit early in the season and went to work for Sheri Griffith. We had Degles and DeVore and Bathemus and Thueson coming to work for Tex. It was either Tex or Sarten, if you were an old boatman, a crusty old boatman. The other companies wouldn't have you.

I burned out on commercial boating early. I never fell out of love with the river. After two years of commercial boating I went down on an off season Green River Trip. We put in at Mineral and went on through Cataract with DeVore, Pam, Joshua and geodesic dome, Carl. We didn't stop to fix meals. We had granola out of the bag, ate jerky. I thought this was wonderful, after waiting hand and foot on commercial passengers. I've become a private boater.

Ken & Pam, two young guys they had taken down the Grand Canyon and myself went out for ten days. With DeVore you can really get sick of the guy, but for some reason I never have. His sense of humor has always appealed to me. We went down the Green, the usual funny stuff, drinking, the stupid macho drinking mystique.

The first night we camped at Turks Head and DeVore fell in the river, tripped over the fire and fell in the river. We all laughed and howled. It was cold, cold, cold. There was no snow, the sixth of December in 1989, but the sky was clear and immensely cold. We got to Water or Shot Canyon and decided to hike into the Maze.

The two young guys took off. Whoosh! Up they went. Pam, Ken and I are getting ready. "We don't have enough beers!" says Ken. We are already carrying two a piece, but end up carrying almost a case of beer with us. We only got to the rim. We started so late, it was well into afternoon and we were down to our long johns because the sun was warm. We only drank a few beers however because it was so cold. We had to carry them back to the boat. We didn't hike very far. In fact, we never really hiked anywhere. We'd start out and get somewhere to sit and drink and Ken would tell us about where it was we were going, so there was no need to go, how about a beer!

Well the two lads had a two-man ducky to paddle. Ken, Pam and I were in a grossly overloaded Havasu. We went from Water Canyon to the confluence down to

Joe Kiffmeyer continued . . .

rapid number five. The lads went into the hole at Five, Little Upset, and flipped. We fetched them, a paddle and made the eddy at Five and LAYOVER camp. We planned to layover but the geo-physical set up of the cacmp put it in shade the entire day, but from 2:00 to 3:30. By noon Pam and I sought some sun to thaw out. Once I started thawing I started waking up. The others went back to bed down in camp. Being in shade and so cold, nobody wanted to move. I was all for moving camp up there on the rocks.

We couldn't decide whether to push on the next day or go hike up into Surprise Valley and up into the Doll's House. There was a big full moon, big! I woke four times in the morning to go down to the river to pee. COLD! The eddy was filled up with ice, backing up against the boat. Ken says something like, 'where's all this ice going to? We're going to get jammed in here, we gotta get outta here." We packed it all up.

The two lads didn't want to ducky anymore. That was the first year I had a drysuit. I had everything on under that suit. On my feet, I had poly-socks, neoprene socks, plastic bags and Tevas to keep the plastic on.

We took off. It was easy to see where the current was in the upper canyon, Cataract Lake. You could see the current because of the ice flows, eddies on either side filling up with ice. My ducky was self-bailing, but at the bottom of a rapid it would fill with ice and I had to scoop the ice out. I could see Pam bailing buckets of ice out of the Havasu. So we ran Cataract like that. I think it is the most exciting thing I've ever done! It was extreme boating.

We got to the bottom of the rapids and changed our clothes. Everybody got on dry, warm clothes. We threw the wet rolled ducky, drysuit, wetsuits, life jackets into the bottom of the Havasu and beat cheeks to get out of there!

Near Clearwater Canyon it was getting dark. I was for going on in the moonlight and trying to get out of there. There was so much ice going past us, going somewhere to hit the lake and jam up. We had a heated debate about whether we should go on or not. We went through the pros and cons. If we hit something that would tear the boat in the dark we could have serious problems. So we spent the night. Nobody slept well. In the morning we blasted coffee, the air pump was frozen, we had to thaw it to pump up the Havasu. We thawed the kicker motor then climbed in and wrapped sleeping bags around us.

The ice was getting bigger. We were laughing about there's a continent sized one, there's a country sized one. It wasn't very thick. It was amazing. It would just appear out of the water, rise as it froze. On the lake the floes joined together. Pretty soon we were pushing huge pieces out of the way. It was neat to see the current line on the lake. At Sheep Canyon this huge ice field spread ahead of us, like something out of Antarctica.

We are in the ice flow and the ice is bearing left then takes a long sweeping turn right where it disappears in that field of ice deep in the bay. We traveled part way along the flow when DeVore says this is not the way. We're going to be crunched if we go this way.

He turns the boat to go back upstream and find a way on the right side. All that ice became malicious. We could hear ice hitting the motor, thunk, thunk. There was no place to go. DeVore thought if we just blasted through over there . . . Put on your life jackets! But these were frozen solid in a big mass in the bottom of the boat. We couldn't even pull them apart. "We're gonna die! Gimme a beer quick!"

DeVore eased the boat over the ice plates, I was up front with an oar trying to bust up or push floes out of the way. He'd get the boat onto the ice and the weight of the boat would finally break the ice. Then there'd be these jagged pieces of ice and we were in a rubber boat.

We bulled our way through, over big pressure ridges, real plate tectonic stuff. We got into a shallow spot and could see open water ahead about 100 yards. We crunched through maybe ½ to ¾ inch thick ice. One bad slice and we could have been in the water and dead. Cold, no life jackets, no wet suits, it was nuts.

We busted through this lead and it caused a big section of ice to break loose and float to close up the channel behind us. When it hit the ice pack, it formed this big pressure ridge right in front of our eyes. The curling up, the whole thing building, it was spectacular.

We made it back to Hite, of course. The fear didn't really hit us until we were driving home and realized we could have died, it was an extreme situation. We waved good-bye to Cataract for that year!



Joe Kiffmeyer who now works with Griffith Production Services here in Moab has volunteered his time to transcribe three oral history collections. I thank you Joe. It is my privilege to honor you with this revelation of stories as I heard them once upon a recording opportunity. My thanks also to Karla Vander Zanden who has contributed money to the CPRG oral history fund. Michele

Thank you!



May 1985 Cataract Interpretive Trip @ Imperial Camp
The ladies tore Kerry's shorts off that night.
Photos courtesy of Herm Hoops



May 1985 Interp. Upper left in sun: Brian Merrill
Lower right corner: Annie Hoghaug donning a Western Safari Exp. T-shirt, company name of pre-SGRE.

Scientific Research Leads to Temporary Changes to Flows from Flaming Gorge Dam

by Barry D. Wirth ~ Bureau of Reclamation

Press release dated November 16, 1998: For two days in November, flows from Flaming Gorge Dam on the Green River in Utah will resemble those of past years, with significant hour to hour fluctuations in releases from the dam. Scientists working on endangered species research downstream of Jensen, Utah, will require the flows on Monday and Tuesday, November 16 and 17,1998.

The Bureau of Reclamation will vary releases between 1,400 cubic feet per second (cfs) and 4,200 cfs over the two-day period. This is a significant deviation from management practices of the dam for the past six years. Normally, flows at this time of the year would either be steady or have minimal fluctuations. The overall operation of the dam, in accordance with conditions imposed by the Endangered Species Act, mimic the natural hydrograph of the Green River Basin, with high flows in the spring and early summer, followed by lower flows the rest of the year.

However, researchers who have been monitoring flow and stage changes, which is essentially the level of the river in relationship to the river channel near Ouray, Utah, are in need of information about how fluctuating flow regimes from the dam attenuate as they move downstream from Jensen to Ouray. They are looking at how the characteristics of the river change based upon the
amount of water being released from the dam. This relationship information is well understood upstream of Jensen, Utah. There is only limited information downstream of Jensen where there is significant habitat for endangered species of fish. Data will be collected through the week as the flows released on Monday and Tuesday reach that stretch of the river, 166 river-miles downsteam of the dam. The information will assist biologists in recommending
future operations and flows that will assist in recovery of the endangered fish in the Green River.

Specifically, the release pattern will look a lot like flows from years past, when operations were driven by hydroelectric generation market conditions. Releases will be at 1,400 cfs during the late evening and early morning hours. From about 2:00 pm until 7:00 pm, releases will be near 4,200 cfs. In between, in the late morning and early afternoon, releases will be in the 2,400 cfs range. The ramping rate, which is the rate of change in releases, will not exceed 600 cfs per hour.



Joe Kiffmeyer
Photo by: Michele Hill

These special releases have been coordinated by Reclamation with the Fish and Wildlife Service and Western Area Power Administration. Following the two-day event, releases will return Wednesday to a steady flow regime of 2,400 cfs.

Headwaters Institute

The 2nd Annual River Education Workshop in Leadville, CO, December 1998 began with an activity of mapping the headwaters of the region each attendee boated most frequently. After the drawings were accomplished, each person indicated their waterway and shared a relative issue in their region. Ken Miller, a workshop participant, has attended every Headwaters function thus far and told the group it was rewarding to see Hick's New Mexico birthed idea expanded to touch the states coast to coast, as depicted in this mapping activity. It opened the floor for Tom Hicks, Executive Director of Headwaters Institute, to commence: 'Why we are here?'

As a group the boundaries between conservation and education was defined. Headwaters announced conservation through education was the organization's aim. Headwaters Institute would join allegiance with another non-profit, River Trust. HI's angle is simply - *water*; the relationships and interconnectedness follows. Through the river guide profession there is the possibility of exponential diffusion of information. HI wants to assist river communities to hurdle money concerns and parallel efforts for guides to perpetuate knowledge gaining opportunities. The Colorado Plateau representatives interceded that guides owe it to the public to interpret the resources correctly and accurately.

The group brainstormed. Tom Corcoran asked of the group, What do we want to teach our customers? This session was translated to fortify River Guide Training Seminar content. The content was determined to be: General ecological principles, cultural history, natural history, civics and citizen participation, artistic methods of instruction through practice; geology, hydrology, geomorphology, and earth sciences; and leave no trace principles.

Once the brainstorm session began another topic arose. What is the common denominator in the training of the leaders in this circle? Could that common fact be responsible for our tenure in the river guide profession?

1. Did a senior guide buddy up to teach us?
2. Was it invitations to rendezvous events?
3. Was it training on baggage boats? Or a group ten day intensive training.?
4. Did we receive specific information, spiels, campsites, hikes, and rescue skills?
5. Was it competitive to get into the profession, saw tryouts?
6. Were we a part of a fellowship, a camaraderie?

Overall, we identified the benefits of mentoring. The trick in the mentor realm is the mentor chooses a student, rarely does a student pick the mentor. However, students could pursue a mentor, insert oneself.

Corcoran then refocused the group to identify how do we want to teach? Unanimously the group replied experientially. Then the group rattled off: questioning, lecture, bullets of knowledge, experience illuminated with prior knowledge . . . methods that reach guides and motivate them. The group was wary of spiels for the rut it could create. On the other hand it would allow the guide some basic content to rehearse to learn individual style through repetition and even, perhaps, set up a growth curve once the individual was fortified with comfort.

Rendezvous, it was decided, is too blurry. Training is distinct. Headwaters Institute polled the group for a name and soon RETS became commonly used during the workshop; River Educational Training Seminar. Although, individual events would assume personalized titles according to themes.

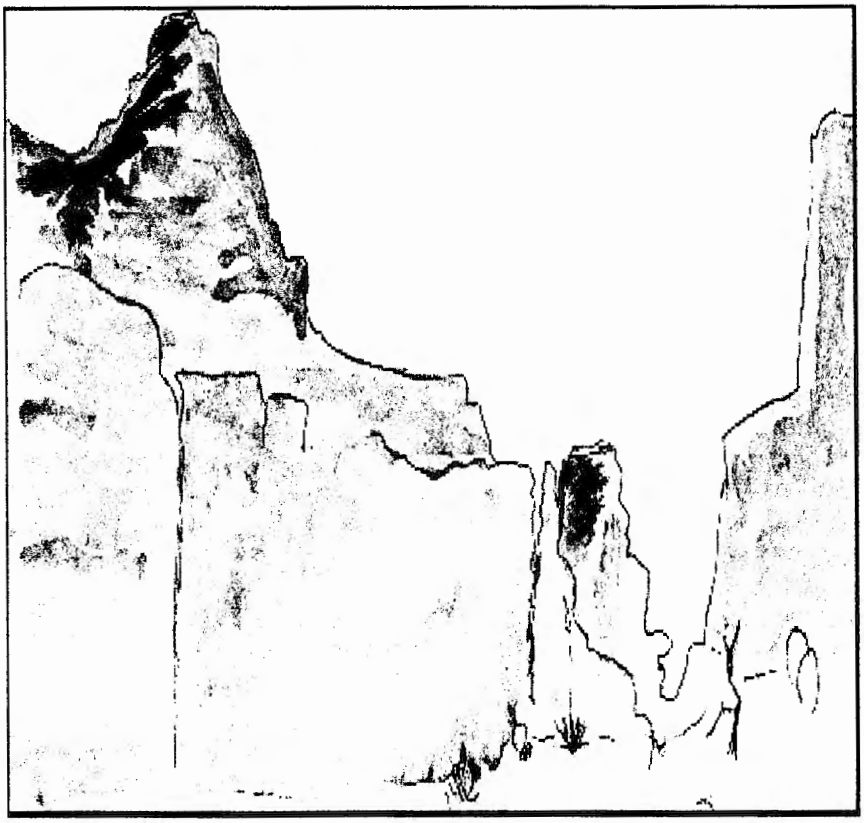
Through another activity lead by Hicks the group examined 'How to teach?' A pair sat back to back, one drew a picture and lead the partner to duplicate the drawing through verbal directions. As we debriefed this activity, the group determined talking back and forth, checking in, aided in being effective communicators. One pair expressed difficulty because there was no eye-to-eye contact and the group considered how this example compared to communication over the telephone, how teachers must adapt their method for the audience. We learned there were trigger words, when mentioned as a metaphor, tainted the true meaning of the message; that listening is tough. You've got to know when not to say anything or jot responses rather than interrupting and causing a tangent that loses perspective of the speaker's aims. And finally, it was discovered, the speaker should keep in mind the experience of the audience. This examples was shared:

A youth on a summer work program through the public school was directed to package broken kayak paddles to be shipped to the manufacturer for repair. The employee gave the supervisor a three foot cubed cardboard box with the shafts extending from one corner. The youth had never dealt with packaging for shipment, he had done what was asked of him, although it wasn't what the supervisor had in mind. In this case the youth needed more specific instructions to contain the paddles that would be acceptable to the shipping agent. For some audiences, particular tasks, you will necessarily be precise and considerate of the common knowledge you and the audience share; then build on that.

Dates of the various RETS were noted. Planning guidelines for coordinators were reviewed. CPRG has copies of this material for any interested persons. So far the dates are: Kern River, CA, May 11-12; Moab, UT, May 14-16; Arkansas River, CO, June 1-2; American River, CA, May 27; Maine, Rio Grande, Deschutes dates are pending. Another date to watch for is The Association for Experiential Education in Moab, UT, in March 1999.

Back in Moab there was a steering committee meeting of representatives of Bureau of Land Management, Arches and Canyonlands National Parks, Utah Guides and Outfitters, State Parks and Recreation, Colorado Plateau River Guides, Canyonlands Field Institute, Canyonlands Natural History Association, and Headwaters Institute. Chamber of Commerce, Nature Conservancy, Utah Travel Council were invited but did not attend. Event content, format and structure was presented then the committee attendees introduced themselves and their expectations.

- State Parks, Dave Dawson replied, we register professional guides. Parks is interested that there is a common knowledge of state boating law. Testing is a means to acknowledge guides have that knowledge. Parks are also concerned about the cost of the workshop, will it make money or will fees simply cover cost of the program. Dave was informed, the event hopes to break even.



- CNHA, Brad Wallis stated that CNHA exists to assist education of Park Service and Forest Service. He perceives CNHA is interested that the event happens and is done well. CNHA is in a supporting role.

- UGO, Bob Jones notifies that UGO participates with funding and circulating the dates of training available to guides and outfitters. As an outfitter, he wants structure that leads you somewhere, rather than a presentation of isolated subjects. Bob produced a collection of colored cards and explained: he attends America Outdoors a convention of outfitters on a national scale. At the end of a speaker's presentation he receives one of these colored cards. AO has it set up, that you can send in so many of one color to get a 'diploma.' As an outfitter, I'd say to my guides, you get ten of these cards then come talk to me about a raise. (CPRG requested he put this topic on the UGO February meeting agenda).

- National Park Service, Paul Henderson indicated, it is policy that interpretation in the Parks is in concert with park parameters. Canyonlands has been rather loose about these parameters. The Parks want to be involved with what the guides tell visitors. CPRG has a copy of related concession contractual requirements, operating plans for outfitters, and pertinent prospectus exerts of Canyonlands National Park Service for CPRG planning reference.

- BLM, Marilyn Peterson reports, BLM has financially supported CFI in guide training efforts and is interested in seeing BLM training materials integrated into the training of guides. This material is currently provided to the outfitters. She emphasized working together to prevent redundancy, misinformation and bringing various training material together.

- BLM, Russ Von Koch has seen the community events at Star Hall and Desert Waters. He reiterates, BLM provides financial support to guide training. He expects the partners will do great things - though not with his involvement - in fact, he delegated Marilyn as a contact. Russ also pointed out he would like CFI to provide documents that were manifest as a result of past funding to CFI training projects.

- CFI, Michele Hill informed the committee that CFI has turned the event over to CPRG. Content, logistics, advertisement, and funding is entirely the responsibility of CPRG. CFI will provide an instructor if the event's curriculum incorporates one of the CFI staff.

- Headwaters Institute, Tom Corcoran proclaimed HI does not advocate certification. A proactive committee can create a product that Park Service will see as valuable training to guides.

The meeting ajourned with the tentative event name ~ Life on the Rocks ~ possible speakers: John McPhee, Don Barrs, Luna Leopold with an emphasis on geology.

Needed from the CPRG membership are two individuals to coordinate the event.

Education Coordinator (Lead) is accountable to Headwaters Institute and local Educational partner for overall content of the event.

- creates with Logistic Coordinator a logical itinerary and submits a draft (with budget) and final copy to Headwaters Education Director for approval including times, locations, presenters, keynote speakers, etc.
- secures presenters, advises on expectations, and completes follow-up (thank you letters, receipts, stipends) post event
- completes Event Evaluation Form and submits all unpaid receipts from event

Logistics Coordinator (Apprentice) is accountable to Headwaters Institute

- secures event location
- estimates attendance
- achieve attendance target
- create a logical itinerary with Lead Coordinator
- specific necessary for successful event (travel, food, shelter, etc.)
- completes Event Evaluation Form and submits all unpaid receipts from event

notes and drawing from Michele Hill

Professor Valley, Richardson Amphitheater, Professor Creek, Richardson Post Office

The man behind the names. Sylvester Richardson settled on what he called Bijou Creek, now known as, Professor Creek, in 1885. Remains of his store at the mouth of Bijou Creek can be seen today as vertical slabs. This same site became a post office in 1888; he had shortened the Thompson route to Cisco from Moab by sticking to the Colorado River valley. He had married, for a second time, a writer, Marion Muir in 1886. They settled in the vicinity of the present Professor Valley Ranch, growing incredible fruit, which was reported in the Grand Junction and Grand Valley newspapers.

1897 rolled around and Grand County separated from Emery County. Richardson filled the position of prosecuting attorney on the county seat and continued to dabble in politics, but he didn't always get the votes. It's been reported that he had 'founded the first Gentile colony in Utah,' out there along Professor Creek. By 1900, he was toiling over water rights with his neighbor, Waring. The courts awarded Waring two-thirds of a cubic foot per second with the primary rights to Professor Creek and Richardson, the Professor, received one third of a cubic foot per second with secondary rights. It was an unusual decision since settlement rights were determined, at that time as, first in time first in rights and Waring settled in the valley after the Professor. That year Richardson's post office was charged for a shortage of funds by postal authorities. He was able to prove otherwise, but it was a hassle. He was not Mormon and wrote news that reflected good terms with his community, but real or imagined, felt out of sorts with his community.

The Professor had come from Gunnison, Colorado prior to Bijou Creek. He sold himself as a geologist to an 1873 exploration of the Elk Mountains near the Gunnison Valley. He walked all over the Gunnison basin and discovered viable mineral wealth. He returned to Denver to set up a stock company to establish the Gunnison townsite. With $6,000 and twenty men he returned to build the first soil roof cabin there in 1874. There were struggles over the platting of the town. Utes were relocated onto a reservation to provide more land to settle. Tolls roads were built to help the mineral and agricultural developments. The town had a population of one thousand in 1880 and the Denver & Rio Grande Railroad arrived in 1881.
It was Richardson who had fostered a bridge across the Gunnison River, and purported road and community meeting house construction. He got a sawmill into the town, he capitalized on coal mining and entertained as a musician. All that effort from 1875 to 1883, then he went broke in 1885. His deals rarely turned a profit.

Originally, Sylvester Richardson was from Wisconsin. He taught school and gave singing lessons. He acquired carpentry skills there too. He married in 1858 and took his wife, Elizabeth, to Denver. Men at this time were visionaries, idealizing conquering the unknown lands west. Once in Denver he drove wagons and tried ranching. His wife and son eventually returned to Wisconsin. Freed from the necessity of providing for a family, Richardson was attracted to what lay beyond the Continental Divide, that's when opportunity landed him the founding of Gunnison.

Born in New York on the Hudson River, his grandfather fought revolutionary battles under George Washington. His father helped escaping slaves reach freedom with the under ground railway. He had left his origins on one river to flourish and falter along two other waterways. He had been referred to as the Professor in Utah because of his ready knowledge reflected from a broad life experience. The Professor died, May 4, 1904 in Morrison, Colorado, at 75 years of age. He was prospecting for uranium.

Recap of Lloyd Pierson's, *The Professor of Professor Valley*, The Zephyr.



Photograph: Lazing on the Green River
by Michele Reaume

The Colorado Plateau, What do you know about it?

Ask yourself, what do I know about the following topics?
Use them as a study guide for a winter project or write up a few paragraphs to share with the rest of us. One question, I've been asked and I know has been looked into, is: How did Fischer Towers get their name? Were they named after someone like the Professor of Professor Valley?

On a broader scope, can you identify the river system feeding the Colorado Plateau? Can you draw a map in the sand that includes dams, geophysical features, pertinent designations, and the headwaters of our rivers on the Plateau? Can you play cartographer and prepare one to be publish in The Confluence for a teaching tool?

Can you discuss the history of Colorado National Monument? How about the history of Arches and Canyonlands National Parks? Do you know the history of Bureau of Land Management and Bureau of Reclamation?

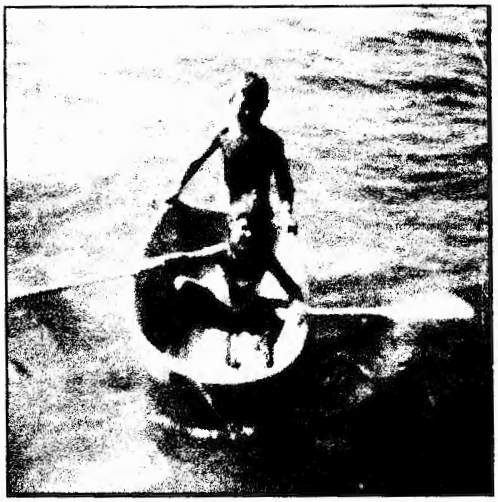
Can you describe what it is meant by American Heritage Rivers? How about Wilderness Study Areas? What is the Wilderness Act? How much of the United States is Wilderness? What is the status of Wilderness in Utah?

What does Leave No Trace mean? Relate Leave No Trace to guiding in the backcountry. How can you demonstrate positive and negative impacts to your clients while in the backcountry? What specific areas in your region of guiding need attention to soften our impact on the land and/or wildlife? What is appropriate behavior when we visit archeological sites, Wilderness Areas, National Parks, BLM land? What behavior do *you* practice in these places?

What information requests do you have in regards to the Colorado Plateau?



Stash along the Loop hike, is it ethical?



One of the CPRG member's first boating experience, 1964.

CPRG By-laws:

CPRG is organized for the following purposes: (a)To define, promote and protect the river ecology of the Colorado Plateau through stewardship. (b) To effect changes in agency river management plans that are designed to improve the wilderness quality of the river experience. (c) To provide a forum of communication that will encourage cooperation and provide a sense of community among river guides of the Colorado Plateau. (d)To participate in studies and programs which benefit the canyons and rivers of the Colorado Plateau. (e)To create a forum that will promote professionalism within the guiding community of the Colorado Plateau. (f) To promote and provide a better understanding of the Colorado Plateau through the education of guides and the public. This will partly be accomplished by a quarterly publication called The Confluence.

Reading Tim Payne's member letter, I was compelled to reprint the above part of the by-laws. I appeal to the membership to write as Payne has. Write your individual perceptions of why CPRG is organized, express how CPRG should go about fulfilling the above by-laws or recommend formal amendments to the existing by-laws.

One concern is that training will be mandated to guides. At the national level, America Outdoors, there is a movement to investigate certification of guides and AO looks to the American Canoe Association, who currently has an accreditation standard in use. CPRG wants to fulfill item (e), create a forum that will promote professionalism within the guiding community of the Colorado Plateau and be proactive in sharpening our profession. This does not equal certifications that cost more money. Food Handler's card, medical training, state licensing are plenty! Too much?



CPRG's momentum is in creating a proactive system of training that can be construed as distinguished professionalism. Look, J.W. Powell was the first river runner to publish his journal about his trip through the plateau, it was Utah river runners who first carried passengers for hire in river running and it could easily be Utah guides who set the precedence for distinguished practices which require no additional governing.

The CPRG way of doing things is entirely up to the membership. Your board is exploring how to approach this and definitely cannot proceed without membership approval. So speak up, write it out, e-mail express, attend meetings, call your board members.

Currently, CPRG has negotiated with Canyonlands Field Institute to run the spring event, CFI named, Desert Waters. I'll now refer to that event as the Guide Training Seminar. The Guide Training Seminar is another step to fulfill CPRG's purpose for organizing.

Yep. Dear membership, are you willing to participate? Contribute? This year mentors will be needed. To help teach those 'skills that would be useful in the guiding industry.' Because CPRG is you, is *each* member; CPRG is a reflection of a pro-active or inactive membership. All comments are welcomed and encouraged.

The entire spring schedule of interpretive river trips (listed on the inside, front cover) is another means of meeting the by-laws, especially, promoting our guiding community.

What are the tools a guide should have for you to want to boat commercially with them? I'm fishing for basics here. Tell us.

What few things should CPRG be effective at? What does the membership want? The training 'content' is broad. CPRG board has met with steering committees of Headwaters Institute and our local related outfitters, organizations, and agencies. Rather than reinvent the wheel, CPRG utilizes available resources to sift through existing material, present it to the members for feedback or general distribution of knowledge.

The board agrees that the guide community is outstandingly unique, that is how the mentor concept has gained momentum. Events organized by CPRG simply promote an opportunity for guides to flaunt their stuff, truly! Or even pick up something new. Most importantly these opportunities are a way of distributing knowledge. Who knows? An unfamiliar topic may come up for one of us guides out there that deeply speaks to the heart and one of us determines, hey, that can become *my* area of expertise! Sure we know a lot about a lot, but think of it, don't you have one area that rocks your world and other topic areas that do nothing for you? We have to be exposed to it to discover our inclination.

CPRG means to mobilize opportunities so guides continue discovery and bespeak it to our guests, clients, participants, students, whoever your audience is.

My point is:
accredited guide training . . . shrug. CPRG is not necessarily aimed that way.

Michele Hill, Vice-president CPRG

Skyline Ranch, outside of Telluride, was the site of Larry Hopkin's River Rendezvous of the 1980s. There were contests, river videos, state of the art demonstrations, beer, fantastic fellowship and stories galore. You never knew who you'd meet. Pictured are Georgie White and Michele Reaume with a rendezvous official. Photo by Grog, Autumn 1983.

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
(801) 259-8077
weisheit@juno.com

FORWARDING AND RETURN POSTAGE GUARANTEED/ADDRESS CORRECTION REQUESTED

The Wilderness Medicine Institute is seeking qualified wilderness medicine educators

REQUIREMENTS

- Wilderness EMT-B or other advanced medical training.
- Pre-hospital emergency medical experience.
- Two or more years teaching in an outdoor education setting or classroom.
- Several seasons experience leading extended trips in wilderness settings.

To receive an application contact:

Shana Tarter • Director of Special Projects
WMI • P.O. Box 9 • Pitkin, CO 81241
VOICE: (970) 641-3572
FAX: (970) 641-0882
EMAIL: sltsjp@rmi.net
WEB: www.wildernessmed.com

Application deadline is March 15, 1999

CPRG is seeking an educational coordinator
for the May 14-16, 1999 Guide Training Seminar
Contact CPRG @ 435-259-8077

Individual will
Design content of the program

- Work with logistics coordinator to create an itinerary of times, food, location, presenters, keynote speakers, etc.
- Advise speakers on expectations and completes a follow-up (thank you letters, receipt accounting, etc.)
- Maintains records of agreements, correspondence, contact list, etc.
- Complete an Event Evaluation Form

There are planning guidelines to enable the coordinators.

MENTORS Needed: Guides with a minimum of one year of trip leader experience or a knowledge expertise are requested to participate in the May 14-16, 1999 Guide Training Seminar. To assist instructors in break-out sessions. For more information contact: CPRG @ 435-259-8077

CPRG Spring meeting
convenes May 17, 1999 @ 9 AM
It follows the May 14-16 Seminar. Stay tuned for location in Moab.

Canyonlands Field Institute is taking applications for Trip Leaders. For more information contact CFI @ 1-800-860-5262; 259-7750.

The Confluence

The Journal of Colorado Plateau River Guides Volume 6, Number 1, Spring 1999



Rethinking Western Water

1998 Desert Waters Rendezvous

D. Larry Anderson

David Wegner

Bob Lippman

Roy Webb

John Weisheit

Bob Bond

"Life on the Rocks"

Clarence King and The Diamond Hoax

Eddying Out

Westwater Canyon

Guide Training

A. G. Turner

"Frenchy"



We do have a history of rethinking our water management policies. For years Moab locals dumped their old cars and large scrap metal on the north side of the Colorado River near the mouth of Courthouse Wash. Eventually, bulldozer crews would push the waste into the Colorado River; circa 1937.

From the Verlyn Westwood Collection; Dan O'Laurie Canyon Country Museum; Photo 30-36.

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. (CPRG), which is a member of a 501 (c) (3) non-profit organization called Canyon Country Volunteers. CPRG is dedicated to:

- **Protecting the rivers of the Colorado Plateau**
- **Setting the highest standards for the river profession**
- **Providing the best possible river experience**
- **Celebrating the unique spirit of the river community**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau

General Membership is open to those who love the rivers of the Colorado Plateau

Membership dues
$ 20 per year
$100 for 6 years
$195 for life
$295 Benefactor

General Meetings and Board Meetings will be announced

Officers

President	Steve Young (T-Berry)
Vice president	Michele Reaume
Secretary/Treasurer	John Weisheit

Directors

Bluff	Clay Hamilton
Grand Junction	Darren Smith
Green River	Shane Edwards
Moab	Dusty Simmons
Vernal	Clark Hatch

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-3598
Email: cprgutah@hotmail.com
Faxes accepted: Please call first.

We need articles, oral histories, poetry, stories, and opinions. This journal is composed using Microsoft Publisher. If you use a word processor, we can translate most programs. Otherwise, please send your text typed. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

Managing editor: John Weisheit (jweisheit@hotmail.com)
Editor of this issue: John Weisheit

ISSN # 1078-425X

DISCLAIMER

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. This forum is open with no restrictions at the present time. If you have an opposing or supporting viewpoint please send your comments to CPRG.

CPRG HAS A NEW PHONE NUMBER AND E-MAIL ADDRESS

Phone: (435) 259-3598
E-mail: cprgutah@hotmail.com

SPECIAL ISSUE: "Rethinking Western Water"

This issue is dedicated to the 1998 theme of "Desert Waters Rendezvous," as conducted by Canyonlands Field Institute. This river education seminar was coordinated by Tom Corcoran of Canyonlands Institute, Tom Hicks of the Headwaters Institute, and Steve Young of Colorado Plateau River Guides. The three-day event started on a Friday evening, April 17, at the Moab Arts and Recreation Center (MARC) with a public forum moderated by Dr. Rich Valdez, an aquatic ecologist. The discussion considered the citizens proposal to drain Reservoir Powell. The opponent to the proposal was Mr. Larry Anderson of the Utah Division of Water Resources and the proponent for the proposal was Mr. David Wegner, a trustee of Glen Canyon Institute—an organization dedicated to the restoration of a free-flowing Colorado River through Glen Canyon.

Other faculty members for Saturday's field event on the Moab Daily (Colorado River) included: Robert Lippman, environmental law; Roy Webb and John Weisheit, historians of federal reclamation in the lower and upper basins; Suzanne Flory, a water education coordinator for the state of Utah; and Tom Chart and Melissa Trammel, aquatic ecologists for the state of Utah.

Sunday's event included a slide presentation by noted author Tim Palmer, and a discussion of leadership skills with Bob Bond.

The presentations by most of these members are included in the following pages of **The Confluence.**

SPECIAL THANKS TO:

Catherine Cowles for a Lifetime Membership
Pat Grediagin for a Six-year Membership
Marty Shelp for a Six-year Membership
Annie Tueller for a Six year Membership
Steve Swanke for a Six-year Membership
Deborah Shank for a Six-year Membership
Don and Denise Oblak for a Six-year Membership

The Colorado River

Utah's Perspective

by Larry Anderson, Director
Utah Division of Water Resources

The steep and turbulent Colorado River falls more than 12,000 feet as it flows from the Rocky Mountains in Colorado and Wyoming to its natural outlet in the Gulf of California. The river has a huge drainage basin that covers over 244,000 square miles; it is 1,440 miles long and passes through parts of seven states and Mexico. The seven states are referred to as the Colorado River Basin states and comprise about one-twelfth of the area of the continental United States. Despite the size of the watershed, the Colorado River ranks only sixth among the nation's rivers in volume of flow with an average annual undepleted flow in excess of 17.5 million acre-feet (maf) (15 maf at Lee Ferry, the compact division point). In comparison, the Columbia River's drainage is about the same size, but its flow is about 12 times greater.

Demands on the Colorado River are not limited to needs within the basin. In fact, more water is exported from the basin than from any other river in the country. The Colorado River provides municipal and industrial water for more than 24 million people living in the major metropolitan areas of Los Angeles, Phoenix, Las Vegas, Salt Lake City, Denver, San Diego, and hundreds of other communities in the seven states. It also provides irrigation water to more than 1.8 million acres of land. The river has more than 60 maf of storage capacity, 4,000 megawatts of hydroelectric generating capacity, and provides more than 20 million annual visitor days of outdoor recreation

Law of the River

Because of the critical role of water to all social and economic activity in the arid west the Colorado River has been the subject of extensive negotiations and litigation. From this has developed a complex set of federal laws, compacts, court decisions, treaties, state laws and other agreements collectively known as "The Law of the River. The principal historical documents forming the "Law of the River" include:

- Colorado River Compact of 1922
- Boulder Canyon Project Act of 1928
- Mexican Treaty of 1944
- Upper Colorado River Basin Compact of 1948
- Colorado River Storage Project Act of 1956
- Supreme Court Arizona v. California decision (1963)
- Colorado River Basin Project Act of 1968
- Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs of 1970
- Minute 242 of the 1973 International Boundary and Water Commission
- Colorado River Basin Salinity Control Act of 1974
- The Grand Canyon Protection Act of 1992.
-

Dividing the River

The Colorado River is often described as the most regulated river in the world. Considering its importance to the basin states, Native American Indian Tribes, and Mexico, it is surprising any agreement has been reached to divide the river's water.

In the late 1800s and early 1900s, a sizable agricultural development emerged in California's Imperial Valley. Water was delivered to the valley from the Colorado River through a canal that went through Mexico. Mexico allowed Imperial Valley farmers to use the channel in exchange for a portion of the water. American farmers were unhappy with the Mexican government controlling their water supply from the river, and they began to push for the construction of a new canal built entirely within the United States, an "All American" canal. Disastrous flooding occurred in 1905 along the Colorado River. The river broke through a temporary diversion through the riverbank, and for two years the entire flow of the river poured into the Imperial Valley before it could be diverted back to the river channel. The flooding destroyed homes and thousands of acres of agricultural land, filling a natural depression known as the Salton Sink and creating today's Salton Sea. As additional flooding occurred in 1910 and the Mexican Revolution began, pressure intensified to construct an All-American canal to bring Colorado River water to the valley and build a flood control dam and storage reservoir on the lower mainstem Colorado River. In addition, Los Angeles was interested in developing hydroelectric power to meet the needs of its growing population.

California realized construction of a project to harness the river would require the federal government's assistance, which would raise legal and political issues. The other six basin states did not oppose structural control of the river, but were determined to resist a project for California unless they received satisfactory assurance of their future use of the river's water. Such use by California, they feared, would establish appropriative claims to the water (first in time, first in right), and would prejudice the equity of any future apportionment of the Colorado River among the states. The solution appeared to be the development of an interstate compact between the basin states that would detail the division of the water in the Colorado River.

1922 Colorado River Compact

Compact discussions began on January 26, 1922, and on November 24, 1922, basin state and federal government compact negotiators approved the Colorado River Compact. The compact split the river system into an Upper Basin—Arizona, Colorado, New Mexico, Wyoming and Utah—and a Lower Basin—Arizona, California, Nevada, New Mexico and Utah—and partitioned the rights to the water between Lower and Upper basins. The dividing line and measuring point was at Lee Ferry, approximately 17 miles below Glen Canyon Dam. The compact apportioned from the Colorado River, in perpetuity to the Upper and Lower basins, the exclusive, beneficial consumptive use of 7.5 maf of water per annum. The Upper Basin agreed to guarantee the Lower Basin apportionment of 7.5 M acre-ft. per annum; in addition, the Lower Basin received the right to increase its annual beneficial consumptive use of water by 1.0 M acre-ft.

Even though the compact negotiators were unsuccessful in their attempt to divide the water between the individual states as originally intended, the compact reduced the upper Division

Map of the Colorado River System

Upper basin projects are not highlighted in this map.



"the State of California agrees irrevocably and unconditionally with the United States and for the benefit of the states of Arizona, Colorado, Nevada, New Mexico, Utah, and Wyoming as an express covenant and in consideration of the passage of the said 'Boulder canyon project act' that the aggregate annual consumptive use of water of and from the Colorado river for use in the State of California... shall not exceed four million four hundred thousand acre-feet of the waters apportioned to the lower basin states by paragraph 'a' of article three of the said Colorado river compact plus not more than one-half of any excess or surplus waters unapportioned by said compact..."

For clarity, the 1922 Colorado River Compact says the term "states of the Upper Division" means the states of Colorado, New Mexico, Utah, and Wyoming, and the term "states of the Lower Division" means the states of Arizona, California, and Nevada. It further says the term "Upper Basin" means those parts of the states of Arizona, Colorado, New Mexico, Utah and Wyoming within and from which waters naturally drain into the Colorado River system above Lee Ferry. The term "Lower Basin" means those parts of the states of Arizona, California, Nevada, New Mexico and Utah within and from which waters naturally drain into the Colorado River system below Lee Ferry.

states' concern that the faster-growing Lower Division states would monopolize use of the Colorado River. The compact set aside the prior appropriation doctrine of "first in time, first in right" and allowed each basin to develop its apportioned water as needed without fear of losing it through non-use. The compact side-stepped quantification of Indian water rights.

The Arizona legislature, in contrast to other basin states, refused to ratify the compact because it felt the compact left Arizona unprotected against rapid development in California. Arizona also opposed, including tributary water (specifically the Gila River) in the compacts apportionment. Because of Arizona's refusal to approve the compact, Congress did not ratify it until 1928 when the Boulder Canyon Project Act was passed. The act allowed the compact to become law with the approval of six states and the enactment by California of a statute limiting its use of Colorado River water. Arizona finally ratified the compact in 1944. The California Self Limitation Act was passed March 4, 1929. It provides that, ...

Water for Mexico

The last 75 miles of the Colorado River is in Mexico, where the water is used for irrigation. Mexico's share of the Colorado River is determined under provisions of a treaty signed in 1944. The treaty guarantees Mexico 1.5 maf, to be increased in years of surplus to 1.7 maf and reduced in years of extraordinary drought in proportion to the reduction of consumptive uses in the United States.

No mention was made in the treaty about water quality, but a subsequent agreement between the United States and Mexico, called "Minute 242, International Boundary and Water Commission, September 4, 1973," contains a provision guaranteeing Mexico relatively clean water.

The water delivered at the international boundary must have an average annual salinity of no more than 115 (± 30) ppm over the salinity of water that arrives at Imperial Dam. In 1974 the Salinity Control Act was passed authorizing the

use of federal funds to help control salinity in the Colorado River. Title I of the act authorized construction of a desalination plant near Yuma, Arizona, to desalt 80,000 acre-feet of return irrigation flows from farmers in Welton Mohawk Irrigation District prior to the water being diverted by Mexico. The desalting plant was completed in 1992 at a cost of $250 million. Because of the high annual operating cost of over $25 million, the plant is not being operated at the present time. Title 11 of the act and subsequent amendments authorized federal agencies to cost share with state and local organizations for the construction of projects, mostly in the Upper Basin, to control the salinity of the river by decreasing the amount of salt entering the river. One of the projects in Utah funded by the program is the Uinta Basin Salinity Control Project, where the irrigation efficiency on approximately 94,000 acres of farm land has been improved by implementing land leveling, border irrigation or converting from flood to sprinkler irrigation practices. This has resulted in the reduction of over 84,000 tons/year of salt entering the Colorado River.

Upper Colorado River Basin Compact

Formal negotiations on an Upper Basin Compact were initiated on July 31, 1946. They were prompted by the desire of the states to continue water development in the Upper Basin which had been put on hold in 1941 by wartime restrictions. The Upper Basin states wanted to construct a major federal project, but federal funding was contingent on an Upper Basin Compact. On October 11, 1948, the Upper Basin states entered into the Upper Colorado River Basin Compact to apportion allowable depletions between the states. The four Upper Division states were uncertain how much water would remain after they met their Colorado River Compact requirement to deliver the Lower Basin 7.5 maf per annum and how the Mexican Treaty obligation might affect the available water supply. So they apportioned the remaining water as follows:

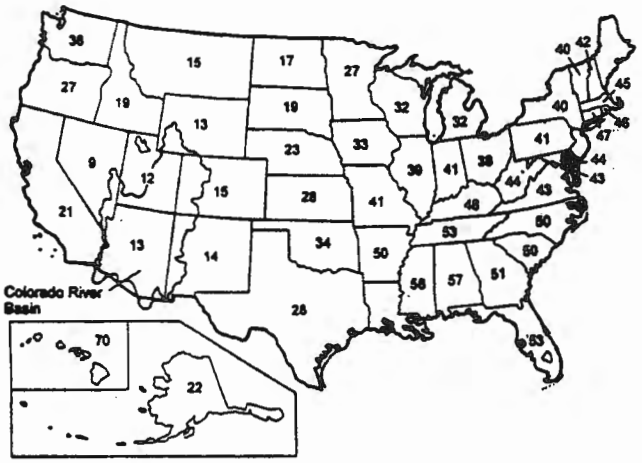
> Colorado-51.75%; New Mexico-11.25%; Utah-23%; Wyoming-14%; Arizona-50,000 acre-feet (Deducted prior to calculating other state shares.)

The Upper Basin Compact gave the states the final protection they needed in order to develop and use their water gradually, without fear of losing it through non-use.

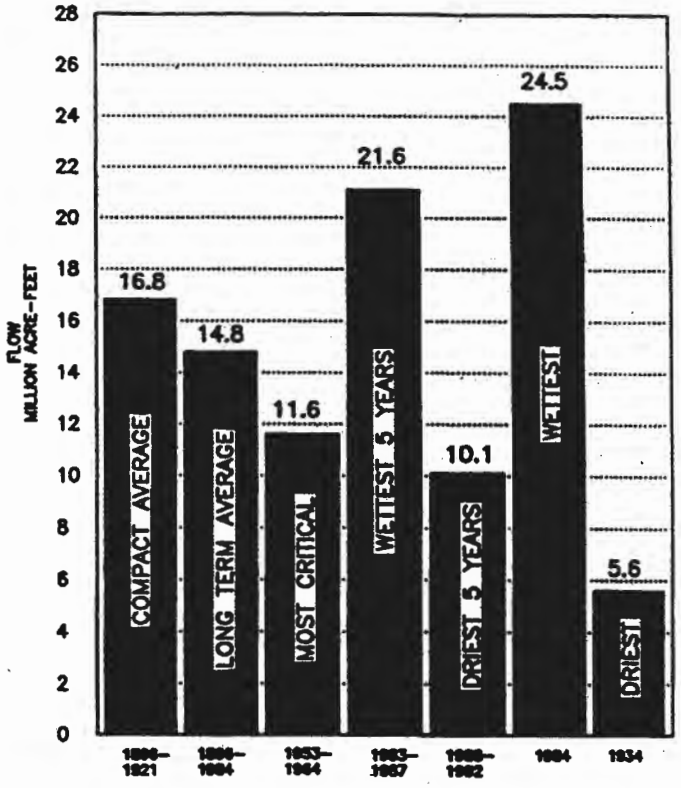
Problems with the "Law of the River"

Although the "Law of the River" established the basic water entitlements of the basin states and Mexico, problems still exist. The Colorado River Compact was negotiated during a time of abundant precipitation; the river's annual average flow (1896-1921) at Lee Ferry was thought to be about 17 maf. Today, based on 1896-1991 flows, that figure is estimated to be 15 maf per year. Looking longer term (1564-1960), studies of tree rings by the University of Arizona professors estimate the average flow of the river could be as low as 13.5 maf. Unfortunately, the Colorado River Compact of 1922 was based on recorded flows which produced the highest long-term average in the history of the river. The basin states now agree the compact was negotiated during a period of high water supply. Using the most recent stream flow data, and subtracting the compact and treaty guaranteed annual apportionments to the Lower Basin of 7.5 maf and Mexico of 1.5 maf, and recognizing the impact of sustained drought periods, the Upper Basin is left with an estimated dependable supply of 6.0 maf. Utah's allocated share is reduced from 1.7 maf, based on the Colorado River Compact allocation of 7.5 maf to the Upper Basin, to approximately 1.4 maf.

1961-1990 State Precipitation



Average Annual Colorado River Flow at Lee Ferry for Selected Periods



Boulder Canyon Project Act

Even though Arizona refused to ratify the Colorado River Compact until 1944, it became law in 1929 with the passage of the Boulder Canyon Project Act. This act authorized construction of the All-American Canal, Hoover Dam and power plant and gave Arizona, California and Nevada the option of developing a Lower Basin Compact to divide their Colorado River Compact apportionment. The Lower Division states were never able to agree on the division of the water, and the final apportionment was not decided until the Supreme Court ruled in Arizona v. California in 1963.

Arizona v. California

In 1963 after 11 years of legal battles, the U.S. Supreme Court in its decision in Arizona v. California, confirmed the 1928 Boulder Canyon Project Act Lower Division apportionment of main stem Colorado River as follows:

California — 4.4 maf and 50 percent of all surplus;
Arizona — 2.8 maf and 46 percent of all surplus and
Nevada — 300,000 acre-feet and 4 % of all surplus.

The court also held that Arizona's use of the Gila River and its tributaries would not reduce its entitlement of 2.8 M acre-feet from the main stem Colorado River.

The 1908 Winters v. United States Supreme Court decision established the doctrine of Indian reserved water rights. The courts held that such rights existed whether or not the tribes were using the water. This decision was reaffirmed by the court in Arizona v. California when the court awarded water rights to five Indian reservations in the Lower Basin. The court determined the only feasible way the tribe's reserved water rights could be measured was on the amount of "practicably irrigated acreage" on the reservations.

Utah's Current Use of Colorado River Water

Even though Utah is considered an Upper Basin state, portions of the state lie within the Upper and Lower basins. The majority of the eastern half of the state is in the Upper Basin, while the Virgin River and Kanab Creek drainage, located in the southwestern (Washington and Kane counties) part of the state, are in the Lower Basin.

Upper Basin

The Colorado River enters Utah just west of Grand Junction, Colorado, but few diversions are made in Utah directly from the river. The greatest use in Utah is from the Duchesne River system in the Uinta Basin. Lesser amounts of water are diverted from the Price, San Rafael, Dirty Devil, Escalante, and San Juan river systems. Water is also exported from the basin to the Wasatch Front by the Central Utah Project, Provo River Project, Strawberry Project, and several other smaller diversions. Table I shows the current and projected uses of Upper Basin compact water in Utah.

Lower Basin

The majority of Utah's use of water in the Lower Basin is from the Virgin River drainage. The Virgin River is a non-compacted interstate stream originating in Utah that passes through Arizona and Nevada before entering the main stem Colorado River at Lake Mead. According to the Court Decree in Arizona v California, the Boulder Canyon Project Act left tributaries (which include Kanab Creek and the Virgin River in Utah) to the exclusive use of the state in which they arise. The state of Utah believes it has the right to develop and use flows of Kanab Creek and the Virgin River to meet the needs of the area.

Agriculture is the largest user of water from Kanab Creek and the Virgin River drainage in Utah. But municipal and industrial uses are expected to increase five fold in the next 50 years, exceeding the use of agriculture. Table 2 shows the current and projected uses of water in the Lower Basin of Utah.

Projected Uses of Colorado River Water in Utah

Upper Basin

Utah will have about 300,000 acre-feet of undeveloped Colorado River water available for future use in the year 2020. During the energy crisis in the late 1970s, oil shale development in the Uinta Basin seemed imminent, and many observers believed such development would use much of the state's remaining Colorado River water. By the early 1980s it became apparent that such development was not economically feasible, and would likely remain infeasible for many years. The Central Utah Project (CUP) probably will be the last large water development project in Utah funded by the federal government. Additional development of thermal power may take place at existing plants in Emery and Uintah counties, and additional municipal, industry, and agricultural water development will occur. With the passage of P.L. 102-575 by Congress in 1992, the CUP Completion Act became law. Ute Indian reserved water rights, quantified as part of the act, will become law with the ratification of the compact by the tribe and state. The tribe will receive an additional 100,000 acre-feet of water if the compact is ratified.

Lower Basin

The Virgin River Basin of Utah, the fastest growing area in the state, is expected to grow at double the state's average over the next 20-30 years. With the increased population and related industrial growth, municipal, industry, and secondary water depletions, will increase from 21,000 acre-feet per year to over 96,000 acre-feet per year by the year 2040.

Unresolved Issues

The Colorado River Basin states began dividing up the water in the Colorado River about 75 years ago. Even though states and federal agencies have been able to work together to resolve many difficult issues, new controversies develop and old issues still exist.

Unresolved Issues in Utah

1. How will Utah use its remaining Colorado River Compact allocation?
2. How do we keep Lake Powell as full as possible for recreation users and meet the increasing demands for water in the Upper and Lower basins?

3. How will we meet the future needs for water in the Virgin River Basin?
4. How will the reserved water right claims of the Utes, Navajos, and Shivwits Indian tribes be resolved and what will be the impact on existing uses?

Unresolved Basin-wide Issues

1. How will the increasing water needs of the Las Vegas, Nevada, area be met?
2. Will the Metropolitan Water District of Southern California be able to acquire enough water to keep its aqueduct full?
3. Will the basin states agree on a "surplus water" declaration where the additional "risk" to the Upper Basin states will be assumed by the Lower Basin?
4. How will the Bureau of Reclamation meet federally approved water quality requirements for Colorado River water delivered to Mexico?
5. How will the Endangered Species Act and other restrictive federal legislation affect the current and projected uses of water in the basin?
6. How will the federal reserved water rights in the basin (Indians, national parks, monuments, etc.) be quantified, and what effect will the quantification have on state allocations?
7. Will the basin states and Indian tribes reach agreement on the interstate marketing and transfer of water?

References

1. *Allocation of Utah's Colorado River Water,* Daniel F. Lawrence and Barry C. Saunders.

2. *Contrary Views of the Law of the River of the Colorado River., An Examination of Rivalries Between the Upper and Lower Basins,* John U. Carlson and Alan E. Boles, Jr.

3. *Layperson's Guide to the Colorado River,* Western Water Education Foundation.

4. *Reflections on Sixty Years of Water Law Practice*, Glenn G. Saunders, Resource Law Notes, Number 18, September 1989.

5. *Slide Seen for Non-OPEC Oil Production,* Oil & Gas Journal, *April 29,1991.*

6. *The Story of Hoover Dam,* United States Department of the Interior, Bureau of Reclamation, 1971.

7. Californians Stake in *the Colorado River,* Colorado River Board of California, Revised June 1969.

8. Statement of Elizabeth Ann Rieke, Assistant Secretary, Water and Science Department of the Interior, before the Water and Power Subcommittee of the Senate Energy and Natural Resources Committee, June 8,1994.

Table 1
Utah's Upper Colorado River Basin
Projected Depletions
(Units in 1,000 acre-feet per year)

	1990	2020	2050
Agriculture/Stock	496	555	573
Municipal, Domestic	24	41	57
Mineral/Energy	8	8	64
Power/Industrial	45	51	56
Indian settlements	--	50	100
Existing exports	157	237	237
New exports	--	25	65
Total depletions	730	967	1,152
Evaporation storage units	120	120	120
Total	**850**	**1,087**	**1,272**
State share - 6.0 M acre-ft. yield	1,369	1,369	1,369
Remaining water available	519	282	97

Source: Utah Division of Water Resources, December 1996

Table 2
Utah's Lower Colorado River Basin
Projected Depletions
(Units in acre-feet per year)

	1990	2040
Municipal and Industrial	10,600	51,300
Secondary (lawn and garden)	11,200	45,500
Agriculture/Stock	51,300	37,600
Exports (to New Castle area)	2,600	2,600
Reservoir evaporation	5,300	8,400
Shivwits Paiute Indian Band	300	Unknown
Total Depletion	**81,300**	**145,400**

Source: Utah Division of Water Resources, August 1993

STATE OF UTAH
NATURAL RESOURCES
Division of Water Resources

Colorado Plateau River Guides
Announces
A River Education Seminar (RES) for 1999

The event has a geology theme called

"Life on the Rocks"
May 14 – 16, 1999

Look for further details on the pages of this issue

Draining Reservoir Powell How Will It Impact Utah?

by Larry Anderson, Director, Water Resources

Thank you for inviting me to participate in this panel discussion. I am happy to discuss the merits of Glen Canyon Dam and Reservoir, as well as provide information on how draining Lake Powell will impact all who live in the Colorado River Basin. Much of the information I will share with you comes from the written comments submitted at the congressional oversight hearing this past September and information we have developed.

Many of us who work with the Colorado River felt the proposal made in November of 1996 by the Sierra Club and Glen Canyon Institute to drain Lake Powell was so far out in left field that it did not deserve a serious response, especially in light of the potential devastating impacts to the environment, recreation users, endangered species, water and power supplies and the local and regional economies.

Historical Background

The Colorado River has been described as one of the most regulated rivers in the world. With the rapid development of the desert southwest in the early 1900s it became evident that a water development program was necessary on the Colorado River, in an effort to control the erratic water supply and provide flood control protection. This need led to the development of a set of federal laws, compacts, court decisions, treaties, state laws, and other agreements known as "The Law of the River".

The process of dividing the river began over 75 years ago and is the product of two interstate compacts, a U. S. Supreme Court decree and a treaty with Mexico. Through this process the plans were laid in place of how the Colorado River was to be developed. In 1956 Congress passed the Colorado River Storage Project Act (CRSP) authorizing the construction of several projects including Glen Canyon Dam and Reservoir. Before Congress ever authorized the CRSP Act there was considerable debate and discussion on what was needed to control the Colorado River and allow the Upper Basin States to meet their Lower Basin water delivery requirements and still be able to develop and put to use their allocation of Colorado River water. In addition conservation groups (including David Brower, then president of the Sierra Club), water users, federal agencies and congress negotiated an agreement for the construction of Glen Canyon Dam and Reservoir. With the variation in the natural flows of the Colorado River and the basin wide demand for water, Lake Powell provides the long term carryover storage necessary for Upper Basin States to meet the water deliveries required to the Lower Basin by the "Law of the River".

Impacts of Draining, Lake Powell

From information presented at the Congressional hearing by the Basin States, federal agencies, tribes, power users, recreation and water users, the following impacts of draining Lake Powell have been identified.

Recreation Opportunities Lost

- Almost 3-million people annually visit Glen Canyon National Recreation Area; Powell draws the vast majority of these visitors; without it visitation would be minimal.
- About one-half million boating days are logged annually at Lake Powell. Draining the lake would provide more "wild river" for river runners, but the number of new opportunities would pale compared to the boating days that would be lost.
- About 30,000 angler-days are spent annually on the blue ribbon trout fishery below Glen Canyon Dam. That fishery, those days, and the warm-water angler-days on the lake itself, would be lost.
- The trade-off for draining Lake Powell would be a loss of recreation opportunities for millions of people in exchange for a different type of recreation (river running) for a few thousand.

Economic Impacts

- Visitation to the Glen Canyon National Recreation Area, including boat rental at the lake and the fishing activity below the dam, is estimated to generate in excess of $400 million per year to local and regional economies—the vast majority of this would be lost.
- Some 2,000 private boats are berthed at Lake Powell. By federal law the vast majority of these boats are registered in the state of Utah and annual property taxes are paid as part of the registration process. Utah counties could lose hundreds of thousands of dollars annually in tax revenue.
- The Navajo Tribe would experience a significant financial loss. The Navajo Generation Station, one of few such amenities that has been provided to an Indian Tribe, could be shut down with a loss of over 1,900 jobs and associated power. If the Navajo Power Project were to remain operational, significant costly modification would be required increasing energy costs to more than 3 million customers. In addition there would be a loss of tourism industry revenues.
- If the proposal is pursued, a costly EIS would likely be required. Extent of the cost is uncertain, but the recently completed Glen Canyon EIS cost $80 million and took about 10 years to complete.
- Structural modifications, to Glen Canyon Dam to allow Lake Powell to be drained would be very expensive.
- Glen Canyon Dam provides flood control benefits to the Lower Basin states and Mexico. It is impossible to quantify future costs that might be incurred without its ability to control flood flows; it is expected that such costs could be substantial.
- Loss of 3500 gigawatt hours of hydroelectric power producing revenues of $80 million yearly.

Environmental

Post dam riparian conditions in the Grand Canyon appear no worse than before the dam was constructed, but they are substantially different. Operation of the dam has created a refuge for birds of regional significance, a cold-water blue-ribbon trout fishery, and a regulated river with high

biodiversity. We give this up in hopes that something better will develop.

- Draining the lake will have certain negative environmental consequences, including: leaving rock formations around the reservoir bleached, (bathtub ring), exposing significant debris, and potential problems with the sediment that has been deposited in the reservoir, which may dry along rock walls and become airborne during windstorms; creating dust and air quality problems.
- If it becomes necessary to replace the lost energy generation, it could become environmentally significant and will be expensive.

Water Supply

- Upper Basin States would be further constrained in developing their remaining allocations. During a prolonged drought some existing Upper Basin uses might be curtailed.
- Lake Mead would fill with sediment at a much faster rate, thereby decreasing its life expectancy.
- The construction of the Lake Powell pipeline for the delivery of water to southwestern Utah would not be feasible, and there is presently a great deal of interest in this project.

Legal Issues

- Federal legislation would be required to drain Lake Powell.
- The delicate balance of water rights and water supply between the Upper and Lower Basin States could be destroyed, resulting in costly long term negotiations or litigation and significant modification to the "Law of the River."

Conclusion

The Colorado River is used to meet the irrigation needs of over 1.8 million acres in the Basin. Over 24 million people receive municipal water from the Colorado River Basin including the major Upper Basin metropolitan areas of Denver, Albuquerque, and Salt Lake City, as well as hundreds of smaller communities. Lake Powell has a storage capacity of over 25 maf and generating capacity of 1,350 megawatts of power. The hydroelectric energy from Glen Canyon Dam is used by over 100 cities', towns and Indian communities throughout the Basin. In addition Lake Powell is a vacation destination area for millions of visitors from around the world who enjoy the scenery and water activities associated with the reservoir. Much of this would be lost if Lake Powell was drained.

Lake Powell allows the Upper Basin states to continue to develop and use its Upper Basin water compact allocation and at the same time meet its obligation to deliver 7.5 maf annually to the Lower Basin states. Without the storage that Lake Powell provides, future use of water in the Upper Basin would be in peril. Without Lake Powell, the dire impacts of water shortages, rationing, economic chaos, and water wars, among all users (including instream flows) could become a legacy left for future generations. Lake Powell is the Upper Basin states security to both its existing and future water supply availability.

Restoring Glen Canyon Linking Our Future to the Importance of Our Past

by David Wegner
Trustee of Glen Canyon Institute

What is the value of a resource? For many years developers and politicians have equated value with building, controlling, and expansion. Economic growth was the golden ring that they were after—unconstrained, full steam ahead, unabated development of opportunities to make money and sustain more and more people moving into an area. Expansion and spending fuel short-term economic growth. That philosophy has made many people rich and allowed for society to expand. The question that must be asked, though, is *does short-term growth provide long-term economic and environmental stability?*

Events over the summer of 1998 indicate that we live in a very tenuous economic time. Financial crisis in Indonesia has cascaded to Japan, Russia, South America, Mexico and is knocking on the door of the United States. What we have learned is that the house of economic cards is built on a shaky foundation. The short-term economic growth juggernaut has run over the environment and our rivers, resulting in a constipated water system that according to Bruce Babbitt has given the Colorado River the regularity and predictability of a giant toilet.

Long-term environmental and conservation values are what drove John Muir, Aldo Leopold, David Brower and Martin Litton to fight for our natural heritage. Today it is easy to gaze across the landscape and see that a future has to include an environment that is sustainable and ecologically intact. Not fragmented or cut up into pieces that provides little ecological integrity or value.

Restoring Glen Canyon

The mantra that the Glen Canyon Institute has been shouting from the riverbanks for the last few years is being heard. All across the nation and the globe scientists, academicians, students, decision-makers, and the public are contemplating the potential of restoring this vital piece of our ecological heritage. Wallace Stegner called it developing the "Geography of Hope." Today we are exploring the potential and seizing the opportunity to become active participants by restoring our landscape and developing the values for tomorrow.

Values Based on Ecological Integrity

The potential of a restored Glen Canyon provides us a visceral feeling have worth and value. The desire to restore Glen Canyon goes far beyond the goal of wanting to right a wrong. It gets to the core need for long-term societal and ecological sustainability and restoring value in our landscape.

The reasons and values can be categorized into five broad areas:

(1) Biological, (2) Water quality, (3) Physical, (4) Economic, and (5) Spiritual. These are not the only areas of interest but they do bracket a large percentage of the perspectives.

BIOLOGICAL: ***Ecosystem integrity is only as good as the system that supports it.***

The Colorado River system is composed of hundreds of small tributaries and rivulets coalescing into one of the most unique river systems and landscapes in the world. Nowhere else have the rivers carved such an intricate and extensive series of canyons and ecosystems. Millions of years ago, a dynamic river began carving the canyons and riverine habitats that evolved into the river system we see today. Biologically a unique assemblage of fish, amphibians, plants, and insects evolved as the river defined itself. Cut off from the influences of other river basins and the oceans, the Colorado River developed an ecosystem defined by a dynamic flow regime, seasonal changes in hydrology, and limited influences from outside sources.

Restoration of Glen Canyon will provide a cost-effective approach to deal with many of the endangered species problems and long-term ecological sustainability. Millions of dollars are spent each year in fragmented and uncoordinated approaches to endangered species recovery in the Upper and Lower Colorado River Basins. This includes the Upper Basin Endangered Fish Recovery Program, the Grand Canyon Monitoring Program, the San Juan Recovery Program, and the Lower Basin Multi-species Conservation Program; all independent efforts funded through water, power and tax revenues. While the biologists are making heroic efforts to do the right thing, the decision-makers, politicians and extractive resource users continue to fragment the effort and ecosystem. The result is millions dollars spent with only limited success. What is missing? A connected riverine habitat system. Restoring Glen Canyon will provide immediately a solution, not a Band-Aid to the long-term ecological sustainability of the river system. A connected river, a dynamic river, a living river. Not a series of stagnant pools and constipated tailwaters.

In just one action, a restored Glen Canyon will provide habitats for endangered and native fish populations, spring habitats for amphibians and insects, and a connected riparian zone in which native birds can once again flourish. Why continue to spend millions on the hatcheries, fragmented stream sections, studies, and thermal control structures (all which provide limited help) when the solution lies in just restoring the river? The Department of the Interior just completed a fourteen year series of studies in the Grand Canyon; spent well over $100 million dollars on the science and an EIS and concluded that the modification of dam operations would only have limited success for environmental sustainability.

WATER QUALITY: ***The proof is in the data.***

The Colorado River watershed is largely composed of sedimentary rocks laid down millions of years ago when the continent was consistently rising, sinking, and being inundated by geologic seas and inland water bodies. The combination of incoming and outgoing seas, erosion of the mountains, and deposition of sediments resulted in rock layers that have chemical characteristics similar to the sediments being deposited in the oceans today—high in salts and trace metals.

The unimpeded Colorado River cut, deposited, and moved these sediments along on their journey from the mountains to the sea in a straightforward manner. Along comes the reservoirs and suddenly sediment traps are created and the annual cleansing system is corrupted. The result is that today reservoirs are trapping sediments and the metals and salts that they carry. Reservoir Powell traps thousands of tons of sediment every year from the Upper Colorado River Basin, which, according to the Department of the Interior, harbors some bad water quality conditions due to the sediments that are being farmed, irrigated and eroded.

Today the reservoir traps the sediments and provides an environment where the trace metals and salts can change from benign forms to ones that can migrate from the sediments to the plankton and zooplankton and right up the food chain. Without the annual flushing we are compounding the water quality problem. Is it fair to push this eventual toxic waste dump to future generations when we can do something about it now? Isn't it our responsibility?

No one can predict how long it will be before the sediment material becomes a real problem. Much is contingent on annual runoff levels, upstream conservation measures, and the limnoloigical conditions in the reservoir. Based on Bureau of Reclamation projections, in the not too distant future, the reservoir will be consistently drawn down to meet downstream and upstream demands, the sediments will be exposed, and the problem will most surely escalate.

Lastly is the problem of oil, that is, the oil that comes from the use of two cycle engines on the reservoir. Every 4.4 years enough oil is spilled through the use of two-cycle engines to equal the 11 million-gallon Exxon Valdez oil spill. True, a great deal is evaporated into the air and the water does dilute some of it. However, some does make it into the sediments and does affect the environment. Seems like another Exxon Valdez level spill is not what we want for the future.

THE PHYSICAL WORLD: ***Does a reservoir in the desert really make sense?***

A great deal of oohing and ahhing goes on the first time anyone sees the reservoir. A blue body of water set amongst the Navajo sandstone. It is true that the surface looks fantastic. It is the story that is unseen that must be told, however.

Lost Water

Over 700,000-acre feet of water annually evaporate from the reservoir surface; enough water to supply the Salt Lake City area for four years and the Los Angeles basin for one year. That is a lot of water. This is water lost to the atmosphere and consequently unavailable. Not important enough in Reclamation's eyes to be quantified exactly. Similarly, the amount of water sucked into the banks of the reservoir has never been quantified. Who knows how much is "temporarily" lost to the rock? Reclamation doesn't care so no one bothers to measure it.

Sediments

Grand Canyon is being deprived of its sediment lifeblood. Over 90% of the sediment that used to sustain the Grand Canyon beaches and riparian zone and Colorado River ecosystem downstream are now trapped behind the dam. These sediments carry with them the nutrients, trace metals, and life-sustaining sustenance necessary for ecological sustainability. Grand Canyon cannot sustain its ecological integrity without a consistent re-supply of sediments and water. Periodic floods make for good press and stories but they are only temporary actions. In less than 12 months after the 1996 floods, over 80% of the beaches created were already eroded away. Long-term sustainability requires more.

Hydrology and Dam Safety

Glen Canyon Dam has been anchored into Navajo Sandstone, an aeolian sandstone that has a propensity for spalling off and falling apart. The Reclamation geologists and engineers knew this. Their solution? Bolt the walls together downstream and watch the rock and landslides upstream. Reclamation records are replete with records of falling Navajo sandstone and failure of joints once they were inundated with water. Safety was and remains an issue and the hydrologic events of 1983 proved that the dam is fallible. It is only a matter of time. Reclamation has yet to complete a dam failure inundation study below Glen Canyon Dam. Their logic— not enough people or reason to do one. I may be wrong but even one life and certainly one of the crown jewels of the National Park System are reason enough to at least be able to predict what impacts would occur.

Restoration of the Canyons

Rangers for the National Park Service have for years been documenting the impacts of the reservoir levels on the deposition of sediments in the side canyons. They have photo documented side canyons when they were full of sediment, laid down by high reservoir levels, and have re-photographed them after the reservoir dropped in elevation. The result has been irrefutable proof that once the sediments are exposed, the combined effects of summer rainstorms and spring runoff serve to cleanse the side canyons within 12 to 24 months. Not the generations that some claim it will take.

ECONOMICS: ***Surely restoration of Glen Canyon cannot compete with the revenues generated from houseboats and jet skis.***

Benefits are not always what they seem. Studies across the country have conclusively shown that when the true costs for construction, maintenance, support, restoration, and long-term payback are considered, the benefits do not add up to the true costs. Glen Canyon dam provides revenue from the sale of electricity. No water is actually sold downstream. Some is consumed by the City of Page and the Navajo Generation Station does use some reservoir water for cooling but the majority (over 98%) goes downstream without collecting a penny. Electricity is sold at the lowest rate possible—just enough to meet the payback of the original Colorado River Storage Project and its features. Glen Canyon Dam provides just 3% of the power for the four corner states of Utah, Colorado, New Mexico, and Arizona. Three percent—quite a tradeoff for the drowning of Glen Canyon.

The Cost of Recreation

It is true the powerboaters and jet skiers spend a lot of money. The gas station at Dangling Rope on the reservoir is purported to pump the most gas of any station in Utah! But the true costs of where the recreationists spend their money needs to be looked at. How many of them buy their boats in Page? How many buy their food in Page? How many of them really add to the long-term economic sustainability of the community? The answer is not that many. Recreation that is based on a more sustainable environment will provide a longer-term, more inflation proof, economy. The 1980s and 90s have provided an unusual sequence of years in which expensive recreation toys became the in-thing to have. How long do you think that will last when the economy shifts? Already people are bemoaning the impact of the Asian economic crisis on tourism and hotel use. A longer-term, sustainable economic balance must be developed. Restoration, sustainable use of the resources, and development of an economy that builds on the natural beauty of the environment are much more economically desirable for the future.

GLEN CANYON: The ***heart of the Colorado River system reunited with the soul of the Grand Canyon.***

Many of us can still recall today the impact that the first image of the canyons and rivers of the Colorado watershed had on us. The breathtaking vista, the surging waters, and the vastness of the landscape. It caught us and has held us close. It is well known from archeological and anthropologic studies that the native cultures also treated the landscape as unique and special. The soul of the land created a spiritual landscape for them as it does for us today. Today many of the places for the soul and psyche are gone—condominiums, developments, expansion explosions, encroachment, all the features that define progress take away from our past. Soon we are relegated to remembering our favorite spots through coffee table books, videos, or "you should have been there" stories. As the world

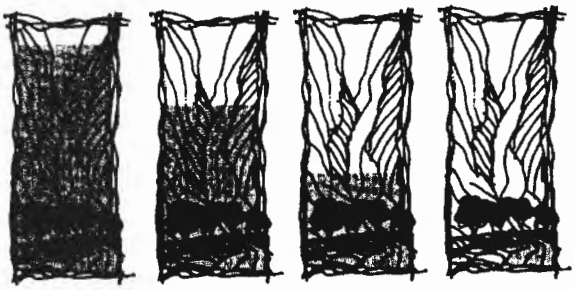
develops places like Glen and Grand Canyon increase in value. They increase in value because they are places of the soul. They are places where we can escape and find that geography of hope that Wallace Stegner speaks of.

The Colorado River system is composed of a composite of special places. An intact landscape, defined by rivers, and shaped by Mother Nature. We have a responsibility to take care of it.

INTRINSIC AND EXTERNAL VALUES: ***The power of restoring Glen Canyon lies in many factors and in our hearts and souls.***

We all come to this discussion on restoring Glen Canyon from different places. We do know that we will never be able to recover the ecosystem that existed in 1869 when Major Powell first laid his eyes on it. There are too many people, exotic species, and encroachment nowadays. What we can do is provide the ability for the natural physical processes of the river to restore a functioning environment that will provide healing powers. No one can predict the outcome. We do know that restoration will begin immediately once the reservoir begins to be drawn down. We do know that right now we still have the building blocks for the biological and physical systems to let the process begin. And we do know that the river and canyons are important to the people of this great nation and to the world. A restored ecosystem will provide an economic opportunity unrivaled in the world.

The issue of restoring Glen Canyon does hold a mighty power over many of us. The opportunity, the need, the time, and the place. Right here, right now we must accept our responsibility.



glen canyon institute
PO Box 1925
Flagstaff, AZ 86002

Public Speaking Announcement

Dr. Richard Ingebretson, president of the *Glen Canyon Institute*, will be speaking in Moab on Thursday evening (7:00 p.m.), May 13, 1999, at the Moab Information Center *("The MIC")* on Main and Center Streets. This speaking event is one day before the River Education Seminar (RES) conducted by Colorado Plateau River Guides and starts on the evening of May 14th, 1999. The RES, titled *"Life on the Rocks,"* follows a geology theme.

Early Water Development on the Colorado River: A Chronology

by Roy Webb

1800s—The pattern of prior appropriation in western water rights is established: "first in time, first in rights."

1905—The Colorado River at flood breaks through a railroad embankment four miles below the Mexican border and flows unchecked for sixteen months. The river floods nearly 300 square miles of the Imperial Valley, and the Salton Sink becomes the Salton Sea.

1909—At the head of the Canyon of Lodore, Julius Stone encounters a crew who are drilling test holes for a dam; the tests are inconclusive and the drill sites abandoned. The engineers had been there since 1907, drilling core holes to test the suitability of the bedrock as a dam site for a massive structure that would turn all of Browns Park into a lake. Surprisingly, the drilling crew failed to find bedrock upon which to anchor the foundations of a dam, and the project was abandoned. There may have been other reasons, however, as recorded in the annual report for the U. S. Reclamation Service (USRS) for that year: "The work has been hampered by high water and by the difficulty, on account of the remoteness of the site, of getting men to carry on the work."

1914-1917—The USRS and Utah Power and Light conduct surveys of the Green River from Green River, Wyoming to Flaming Gorge, as well as in Desolation and Gray Canyons, looking for dam sites.

1921—The USRS becomes the Bureau of Reclamation.

1921, July to December—Even before the Colorado River Compact is signed, the Trimble Survey of the USGS surveys the San Juan River from Bluff, Utah, to Lees Ferry, Arizona. Personnel consists of Kelly Trimble, chief engineer; Robert Allen, survey recorder and representative of Southern California Edison; Hugh Miser, geologist; Bert Loper, head boatman; H. Elwyn Blake, rodman; Hugh Hyde, rodman; and Heber Christensen, cook. Using two small open boats, the party leaves Bluff on July 18, 1921, and reaches the mouth of the San Juan on October 5. There they meet the Chenoweth Party, which has been surveying Cataract Canyon. The Trimble Survey continues on, surveying in Glen Canyon, and reaches Lees Ferry on December 15. Hugh Miser later wrote: "The voyage was attended by strenuous labor and hardships."

1921, September - December: While the Trimble party surveys the San Juan, another party under William Chenoweth surveys Cataract Canyon. Personnel consists of Chenoweth, leader; Frank Stoudt, recorder; Leigh Lint, rodman; Harry C. Tasker, rodman; John Clogston, cook; Ellsworth Kolb, boatman; Sidney Paige, geologist; and E.C. LaRue, hydraulic engineer. The party leaves Green River, Utah in two large Galloway-style boats, the L.A. and the EDISON, and a large

boat they call the "tub," which is later named the STATIC. Ellsworth Kolb rows his brother's boat, the EDITH, which was a veteran of their 1911 film trip. After their outboard motor breaks down at The Confluence, they row the rest of the way. On Sept. 27, at Dark Canyon Rapid, Ellsworth hangs the L.A. on the rocks; then hangs the EDISON on the rocks but gets her off; then flips the STATIC. The L.A. was retrieved the next day. Continuing on, they meet the Trimble party at the mouth of the San Juan on October 5, then go on down Glen Canyon, surveying the side canyons. They reach Lees Ferry in mid-December.

1921, October to December—The US Coast and Geodetic Survey sends a party (the Hough party) to the Colorado River to establish benchmarks on a line from Green River, Utah, to Flagstaff, Arizona. Two parties start from opposite ends, and meet at the Crossing of the Fathers in Glen Canyon on November 11. Part of the time they work with both the Trimble and Chenoweth surveys. The annual report of the USC&GS for 1921 declared: "This line of precise levels is probably the most difficult one in the history of the US Coast and Geodetic Survey. ...Many unusual conditions and difficult situations [such as a frozen river and howling windstorms] had to be met by unusual methods of leveling. At best the work was extremely difficult."

1922, July to September—The USGS and Utah Power and Light conduct a survey of the upper Green River from Flaming Gorge to Green River, Utah. Kelly Trimble is once again in charge. Other personnel are: John Reeside, Jr., geologist; Ralph R. Woolley, hydraulic engineer and recorder; H. L Stoner, engineer for Utah Power and Light; Bert Loper, head boatman; Leigh Lint, rodman and boatman; H. Elwyn Blake, rodman and boatman; John Clogston, cook. All except Woolley and Reeside are veterans of earlier surveys. The purpose of this one is to tie in earlier surveys above the Uintah Basin and in Desolation Canyon. Three boats were specially built for this survey and named the UTAH, COLORADO, and WYOMING. The party leaves Green River, Wyoming, on July 15, and reached Green River, Utah, on September 14. Along the way the party had mapped and surveyed fourteen potential dam sites, including the one later chosen as the site for Flaming Gorge Dam, which is actually in Red Canyon.

1922, November 22—The Colorado River Compact, which divides the water of the Colorado River between the Upper Basin states—Wyoming, Utah, Colorado, New Mexico and Nevada—and the Lower Basin states--Arizona and California, is signed at Santa Fe, New Mexico. Secretary of Commerce and future President Herbert Hoover presides. Lees Ferry, Arizona, is designated as the point of division. Each Basin is allocated half of the river's water, or 7,500,000 acre-feet, for a total of 15,000,000 acre-feet.

1923, August to October:—By 1923 the only remaining unsurveyed stretch of the Colorado was the Grand Canyon. Col. Claude Birdseye, head of the survey, chooses what is probably the most experienced crew available in the country at that time. Leigh Lint and H. Elwyn Blake both had been on previous river surveys, as had Emery Kolb; Lewis Freeman was also an accomplished riverman and a writer as well. He planned to write a book about his experiences on this trip and others. Conspicuous by his absence is Bert Loper, who had hoped to be the head boatman for this survey. Birdseye refuses to hire him, citing his age (Loper was fifty-four) but the real reason was probably the bad blood between La Rue and Loper, resulting from a violent disagreement the two men had in Glen Canyon two years before. Other personnel include Frank Dodge, who—even though he was probably a better boatman than any of them—was too late to get a boatman job and was hired as rodman and camp helper; E. C. La Rue, hydraulic engineer; R. W. Burchard, engineer; Dr. Raymond Moore, geologist; Frank Word, cook (later replaced by Chef Kominsky). This was probably the most comprehensive and best-prepared survey up to this point, and in six weeks spent on the river from Lees Ferry, Arizona, to Needles, California, they study and record the geology (for future dam sites), depth of the channel, speed of the current, the flow of tributaries, and other aspects of the canyon that future dam builders would need to know. Besides the Black Canyon damsite, twenty others are located and mapped within the Grand Canyon. Fortunately, and despite serious efforts in the 1960s, none of these dams were ever built. Besides the scientific work of the survey, the party records a number of interesting firsts. They carry the first typewriter into the canyon as well as a large two-way radio to keep in touch with the outside world. The radio needed a 160-foot antenna to work, and despite warnings that it couldn't work in the deep canyons, work it did, so well that the crew often enjoyed listening to broadcasts in the evenings. Over the radio, they learn of the death of President Warren G. Harding. In his honor, they stay in camp the day of his funeral and name the rapid opposite camp President Harding Rapid.

1928: Boulder Canyon Project Act enacted, authorizing the construction of a large dam in Boulder Canyon (although the dam is actually in Black Canyon).

1928-1935: Construction of Boulder Dam (later renamed Hoover Dam) begins in 1928, and dedicated by President Roosevelt on September 30, 1935. It was the largest public works project of its time. The dam cost $60,000,000 to build and was completed two years ahead of schedule and under budget. The resulting reservoir, named Lake Mead for Elwood Mead, Commissioner of Reclamation, holds back 28.6 million acre-feet of water; the dam generates 4 to 5 billion kilowatt-hours of electricity annually.

Conclusion

The USGS surveys were amazingly successful, with very little damage and no loss of life. The surveys conducted in the 1920s were models of scientific study, and contributed immensely to our understanding of the Colorado River and its drainage basins. There were many other accomplishments,

such as the first radio used in the canyons, the first typewriter, the naming of President Harding Rapid, and other features, besides of course the obvious of being first to choose dam sites. All of the sites later used for dams were chosen by the surveyors of the 1920s.

There were some problems that the surveyors did not foresee, however. For instance, Boulder Dam was not built in Boulder Canyon (which is upstream) but in Black Canyon, through an error by cartographers. Even more importantly, despite the intense scientific efforts put into the surveys, the engineers were wrong on one important fact: the average annual output of the Colorado is considerably less than 15,000,000 acre-feet; this has caused problems allocating the water to the present day.

Incidentally one side benefit of these squabbles over the water of the Colorado River was the first of the so-called Riverbed Cases; the state of Utah sued the United States over who owned the bed of the Green and Colorado rivers; the resulting trial and the extensive testimony collected provide the best historical record of early river travelers.

Further Reading

Rough-Water Man: Elwyn Blake's Colorado River Expeditions. Richard E. Westwood. University Of Nevada Press, 1992.

If We Had A Boat. Roy Webb, University Of Utah Press, 1996.

River Runners Of The Grand Canyon. David Lavender. University Of Arizona Press, 1985.

A River No More: The Colorado River And The West. Philip Fradkin. Alfred Knopf, 1981.

Come to the RES
CPRG's River Education Seminar

May 14 – 16, 1999

"Life on the Rocks"

Listen to the Experts
(cancellations may occur)

Will Bussard
Lynn Jackson
Tamsin McCormick
Rod Scheetz
Jack Schmidt
Gene Stevenson
Rich Valdez

Synopsis of the Bureau of Reclamation in the Colorado River System

Compiled by the Mark Borges and John Weisheit

1869—Major John Powell's first river exploration of the Green and Colorado rivers. Ten men and four boats start, six men and two boats finish.

1871 to 78—Powell's second river trip (including photographic documentation) through the Green and Colorado river basins. Almon Thompson, Grove K. Gilbert and Clarence E. Dutton complete the land reconnaissance for Powell and produce very important publications for science.

1870s—The Midwest was unusually wet and the population of Nebraska, Kansas, Dakota, and Minnesota increased from 1 million to 2.5 million.

1877—Congress passed the Desert Land Act which demanded proof of irrigation before land title could be granted. This favored the large companies (land grabbers) and discouraged private homesteads.

1878—Powell's "Report on the Land of the Arid Regions" was presented to congress. Essentially, it said that there was not enough water to go around and he proposed the following solution: No one person can control the river water, even if that person owns the property that the river runs through. Based on topography, water is to be appropriated for the maximum good to the maximum amount of people. Powell further proposed the "legal organization of nine bon-a-fide settlers of irrigable land into irrigation districts capable of self government. The tract should be continuous and should be split into farms not exceeding 80 acres. On demand, the Surveyer General of the US would provide a survey on a pattern established by the farmers association. After three years of demonstrated irrigation of the lands, the land office shall issue titles to each person in the irrigation district. This title is to include a water right." (Stegner, Beyond the 100th Meridian) Homestead plots, without irrigation (grazing land) are to be 2560 acres.

1879—The government land surveys were consolidated into one office with Clarence King in charge, and called the United States Geological Survey. Powell will direct the USGS in 1881.

1886 to 96—A draught on the plains created a disaster for all the dry land farmers.

1891—Francis Newland lost 1/2 million dollars in a private irrigation project for Truckee Nevada. (See 1902.)

1892—Grand Ditch was built to carry water 16.7 miles from the west side of the Great Divide to the river drainages of the east side. This was the first water transferred out of the

Colorado River basin and set a precedence for future water transfers to basins in NM, UT, AZ, and CA. More water is exported from the Colorado River watershed then any other river basin in the country.

1894—Powell resigns as the head of the USGS due to pressures from Congress to drop his public land reforms.

1894—Congress passed the Carey Act. The Carey Act provided for the federal government to give up to one million acres of land to a state, if those lands were reclaimed and settled.

1896-1910—Large irrigation ditches were being built and those who bought or homesteaded land along these ditches received a real bargain.

1901—The Alamo Canal diverting water from the Colorado river to Imperial Valley had been cut by Chaffey. The canal was 60 miles long.

1902—Congress passed the Newlands Act which created what is now the Bureau of Reclamation to methodically use and conserve the western water for settlement use. Projects were to be financed by a Reclamation fund, which would be filled initially by revenues from sales of federal land in the western states, then paid back gradually through sales of water to farmers. Homesteaders received 160 acres each regardless if it was irrigable land or range land.

Note—From 1910 to 1930 several "reforms" were tacked onto the Reclamation Act. Reforms extending the repayment period to fifty years, setting water prices according to the farmers' "ability to pay," and using hydroelectric revenues to subsidize irrigation costs.

1904—Another canal diverting water from the Colorado River through Mexico to Imperial Valley was built. The River swept away the head gate and the river ran uncontrollably through Imperial Valley and it filled Southern California's Salton Sea.

1909—Laguna Dam, built just north of Yuma AZ, was the first dam to be built on the Colorado River. It was designed to raise the water level of the river just high enough to form a still pool so the water could be siphoned off in to a canal for irrigation. The Indians were the first to divert the lower Colorado River at this point.

1922—Colorado River Compact was signed by delegates from CO, UT, WY, NM, AZ, CA, and NV. 15 million acre-feet (maf) of Colorado River water is divided between the upper basin, the lower basin and Mexico. The upper basin (the dividing mark is 100 feet below the mouth of the Paria River near Lee's Ferry, AZ) receives 7.5 maf; the lower basin receives 7.5 maf; each basin commits 0.73 maf (1.5 maf total) to Mexico; 8.23 maf must exit Glen Canyon Dam each year.

1928—Congress passed the Boulder Canyon Project Act (BCPA). The BCPA consisted of Hoover Dam for electricity and water storage, and the All-American Canal to deliver water to Imperial Valley.

1931 to 36—Hoover Dam was constructed. Standing 726 feet tall, it was the tallest dam ever built at that time. Downstream, Parker Dam was built and its electricity helps to pump water from Lake Havasu to Southern California.

Note—"By 1956, Congress had voted 110 separate authorizations for the Bureau of Reclamation, some encompassing a dozen or more irrigation projects and dams. Of these, 77 were authorized between 1928 and 1956, along with hundreds of projects built by the Army Corps of Engineers in the East and West. In that astonishingly brief 28-year period between the first preparations for Hoover Dam and the passage of the Colorado River Storage Project Act, the most fateful transformation that has ever been visited on any landscape, anywhere, was wrought." (Marc Reisner, Cadillac Desert)

1948—The Upper Colorado River Basin Compact was signed by delegates from CO, UT, WY. and NM. The Upper Colorado River System water was divided by percentage, respectively; 52, 23, 14, and 11%.

Note—After 1956, all dam building projects were presented with a means (hydroelectricity/agriculture) to recoup the initial investment of the dam. The idea of a "Cash Register" dam was born.

1956—Congress authorized Mike Straus's Colorado River Storage Project (CRSP). The CRSP consisted of four major storage dams on the Upper Colorado River System designed for CO, UT, WY, and NM to get their water as divided up by the Upper Colorado River Basin Compact. The four major dams are: Glen Canyon on the main Colorado, Navajo on the San Juan River, Flaming Gorge on the Green River, and the Wayne Aspinall Storage Units (which are three dams called, Blue Mesa, Morrow Point and Crystal) on the Gunnison River.

1957 to 64—Glen Canyon Dam (and powerplant), forming Lake Powell was constructed. Glen Canyon is the largest dam in the Colorado River Storage Project.

1965—Fontenelle Dam, on the Green River in Wyoming, was completed and weeks later it sprang a leak. The water was removed from the reservoir in a controlled manner and the dam was repaired.

1968—Congress passed the Colorado River Basin Project Act which was the most expensive single authorization in history. It authorized the Central Arizona Project (CAP, Hooker Dam in the Gila Wilderness, the aqueduct from Lake Mead to Las Vegas, the Dixie Project in Utah, and the Uintah Unit of the Central Utah Project (CUP). It also authorized the San Miguel, Dallas Creek, West Divide, Dolores, and Animas La Plata projects in CO. CAP is a system of pumps/siphons and canals/ tunnels, transporting water from Lake Havasu to Phoenix and Tucson. CUP is designed to transport water from Strawberry Reservoir to the Great Basin.

1969—Congress passed the National Environmental Policy Act and the Bureau was forced for the first time to make a public assessment of the environmental effects of its new dams.

1970 to 75—The Bureau of Reclamation experimented with cloud seeding to increase western states precipitation. 35 silver iodide generators were placed along the south flank of the San Juan Mountains which increase winter snow fall by 10%.

1973—Congress passed the Endangered Species Act.

1974—Agreement with Mexico signed (Minute 242) which calls for the United states to deliver Mexico water whose salt content in not more than 1000 ppm. A reverse osmosis desalination plant has been constructed at an estimated cost of $293 million. Including the energy cost to run the plant the total cost in 5 years will exceed $ 1 billion. In effect the American public is fixing Mexico's water at $300.00 per acre-foot, meanwhile selling the upstream water at $3.50 per acre-foot.

1980—17 years after its construction, Reservoir Powell filled for the first time. Reservoir Mead filled in six years.

1982—The Bureau of Reclamation started the Glen Canyon Environmental Studies (GCES) program to investigate the dam's effects on downstream environmental and recreational resources.

1983—A very rapid snowmelt led to a largest flood the Colorado River Basin had seen in almost 60 years. Fontenelle Dam was leaking again and as a safety precaution, the water had to be lowered.

1983—The penstocks at Glen Canyon Dam could not keep up with the very rapid run off and Reservoir Powell rose 6 inches/ day. "Plywood splash boards were placed along the top of the spillway gates to hold the water back. Finally, the inevitable happened: the reservoir could no longer hold the in flowing water and the dam's jet tubes and spillways had to be opened. On June 29 the Colorado River at Lee's Ferry was flowing [92,600 cfs] and cavitation in the spillway (eroded holes as big as 20' wide by 40' deep) from the spillway walls. The dam's structural integrity was threatened but the only failure were inside the spillways". (Collier, Schmidt and Webb, Dams and Rivers). Working around the clock, repair to Glen Canyon Dam's spillways were barely completed for the 1984 flood season. Beaches in the first 180 miles of the Grand Canyon suffered net erosion; but beaches farther down gained sediment.

1992—Congress passed the Grand Canyon Protection Act, stipulating that Glen Canyon Dam is to be operated in a manner that protects resources within Grand Canyon.

1992—Yuma desalination plant begins operation at 1/3 capacity.

1996—Glen Canyon Dam spilled 45,000 cfs for eight days. This was the first intentional flood ever released for environmental purposes. When the flood receded, a great deal of clean new sand had been perched well above the normal high-waterm line. The long beautiful beaches were reminiscent of the pre-dam Grand Canyon. Sediment load in the Grand Canyon, derived from the tributaries, will be monitored to determine the optimum time to flood the canyon again.

1997—50,000 major dams have been built and less than 10 free-flowing rivers remain in the West.

References

Bureau of Reclamation Web Page, (usbr.gov).

Wallace Stegner, Beyond the Hundreth Meridian.

Phillip Fradkin, A River No More.

Micheal Collier, Robert Webb, and John Schmidt, Dams and Rivers, a USGS Circular.

Marc Reisner, Cadillac Desert.

Donald Pisani, To Reclaim A Divided West.

Where is the RES?
or
"Life on the Rocks"

The Bureau of Land Management has given CPRG permission to conduct our RES at the Gold Bar Campground on the Potash Highway (Utah Hwy. 279), which is about 11 miles from it's junction with Hwy. 191; that junction is north of Moab and across the Colorado River bridge on your way to Arches National Park.

Participants of the RES can camp at the Gold Bar Campground on Friday, May 14th, Saturday, May 15th and Sunday, May 16th. No dogs and no bottles please! Participants are limited to 100. Look for our registration form in this issue.

- The keynote address on Friday evening, May 14th, is in Moab at the Grand County High School Auditorium on 400 East.

- The teaching stations on Saturday and Sunday are at Gold Bar Campground where the shade is: 1) the upstream tamarisk grove; 2) the railroad cut; and 3) "Culvert Canyon."

Agency Recalcitrance and Evasion Regarding Compliance With the National Environmental Policy Act Relating to Glen Canyon Dam Operation: A Documented Need for Congressional Intervention

By Bob Lippman

Bob teaches environmental law at Northern Arizona University, Flagstaff. Provided is the summary of a well-written 20 page report. For more information contact the Greater Grand Canyon Resource Council; P.O. Box 30605; Flagstaff, AZ 86003.

Although federal construction of Glen Canyon Dam on the Colorado River was completed in 1963, six years prior to the passage of the National Environmental Police Act (NEPA), a number of operational, structural and legal events and implementations occurred after NEPA was enforced, which should have triggered the Environmental Impact Statement (EIS) process requirements of the Act.

These events included a series of lawsuits against the Bureau of Reclamation (BOR), the agency charged with ownership and management of the dam and power plant, challenging the ongoing management and subsequent impacts of the facility as being out of compliance with NEPA. The continual litigation resulted in legally enforceable representations, stipulations and commitments by the agency to actively engage the NEPA/EIS process through the preparation of either a site specific (Glen Canyon) or comprehensive/ system-wide (Colorado River Storage Project) EIS. The BOR did in fact prepare a draft Environmental Assessment (EA) for Glen Canyon Dam in 1976 which succinctly outlined environmental and recreational impacts of operations and identified a spectrum of viable operation scenarios for mitigation of these impacts. The effort, however, was abandoned within one year and the BOR's binding commitments laid in limbo until 1990.

Other events which should have legally engaged the EIS process included documented operational changes involving significantly enhanced peaking operations, power plant upratings, and the Glen Canyon Environmental Studies Program.

After more than a decade of public clamor over lack of NEPA compliance and alarmingly enhanced irreversible environmental and recreational impacts of the dam in Grand Canyon National Park, most notably being the extreme erosion of beaches and riparian habitat, and concern over further impact-enhancing structural and operational changes being both proposed and implemented, the Department of Interior, in direct response to a successful legal challenge against the Western Area Power Administration (WAPA) in issuing its post-1989 power marketing contracts, directed the BOR to begin a two year, site specific EIS process.

The issues presented in light of Interior's recent directive are as follows:

1. Considering a lengthy history of apparent fraud, deceit, contempt of Court, and bad faith evasion of legal responsibilities on the part of BOR in regard to Glen Canyon Dam NEPA compliance, along with the fact that unnecessary, irreversible environmental impacts have been ongoing and accelerating since 1975 when NEPA was legally engaged, the present EIS process is suspect, and interim mitigation and Congressional direction appear mandated;
2. In the absence of Congressional direction, guidance from rulemaking, or detailed judicial orders, the BOR will likely accelerate the present EIS process, considering the Agency's historic developmental mission .and client base, the history of non-compliance with NEPA and failure to consider a full range of management options and priorities, and the employment of a lesser baseline of data on a fast track process which will tend to narrow.the Agency's decision-making options closer to the status quo. It is noted, "however, that a more protracted study would paradoxically present the specter of enhanced, irreversible impacts during the study period, which suggests strongly that interim-protective operations and flow regimes should be implemented; and,
3. Assuming the BOR does properly identify and quantify the relationships between dam operations and environmental degradation and other impacts in a project EIS, and further, identifies alternative operating scenarios for environmental impact mitigation, the Agency is not bound to any implementation of a mitigation strategy or alternative, considering that NEPA itself only requires full consideration of impacts and alternatives without mandating a "correct" environmental decision.

It is thus the conclusion of this review of the record, that expeditious Congressional action and direction are required regarding the mandated scope of Colorado River NEPA compliance, consistent with the record and articulated in a preferred alternative, as well as measures for both interim and permanent management direction within the present EIS process, if any of the impacted resources and values of Grand Canyon National Park are to be preserved at all. More specifically, immediate Congressional direction is needed in the following areas: 1) basing the present site specific EIS on a "preferred alternative" of maximum impact mitigation attainable, 2) returning Glen Canyon Dam towards a base loaded flow regime, 3) mandating the study of technologies and methodologies for restoration and stabilization of the riparian environment in Grand Canyon, 4) interim flow management, 5) Department of Interior (DOI) preparation of a comprehensive environmental impact statement addressing system-wide operations and cumulative/synergistic impacts on the Colorado River from all dams, with a view towards redefining and prioritizing project purposes and values, and rationally integrating Colorado River management to mitigates regarding NEPA compliance, environmental impacts and other relevant aspects.

The tragedy of the Grand Canyon is that even with the presence of Glen Canyon Dam, unnecessary and avoidable environmental and recreational impacts 'have been permitted to accelerate at extreme rates simply because of agency. recalcitrance, evasion and deceit, and that the problem is and always has been to a great extent remediable.

Thoughts on Leadership

by Bob Bond

A starting place for working with leadership on a professional river trip could be helping your staff develop a common definition of leadership.

> *Leadership is the social transaction between leaders and followers.* (Bums)
>
> *Leadership is the process of influencing the activities of an originated group toward goal-setting and goal-achievement.* (Stodgill)
>
> *Leadership is about coping with complexity* (Kotter)

The definitions listed above illustrate a point made by Thomas E. Croniin in Thinking and Learning About Leadership:

> *Almost anything that can he said about leadership can be contradicted with counter examples. Moreover, the whole subject is riddled with paradoxes.* (Not to mention opinion and mystery.)

So what is the Trip Leader or Guide to do when their trip requires something beyond the norm. Something that might be called leadership?

A River Trip Is Leadership Made Visible (adapted from Beyond Leadership)

When I think about my river (or outdoor) experiences, I keep coming back to the fact that leadership was an integral part of those experiences. From the outset leadership traits or qualities were being utilized to make things happen. People came together and brought their personal histories, skills, agendas, etc. with them. A group formed, produced a trip or experience, and then disbanded. What I've observed some of the best guides do, is interpret (translate, clarify, amplify, etc.) that which the guiding environment is offering, if only we take the time to listen. Therein lies the answer to the question of what is the guide to do: Fall back onto our strengths and the river experience while exercising the leadership that is already so naturally a part of the experience.

Traits Of A Successful Leader

Self-aware
Integrity
Empathy
Tenaciousness
Optimism
Service Oriented
Strong Communicator
Competence
Innovative

(This list is meant to be thought provoking, not inclusive.)

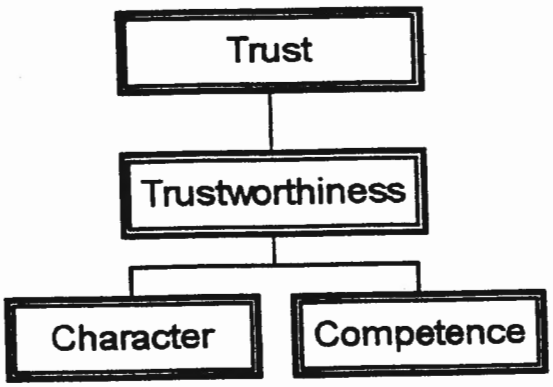
Current leadership theory frequently emphasizes the above traits only in the context of their role in the Leader - Follower relationship where leadership takes place. They are not seen as the foundation of the leadership interaction. I view them as enablers, which a person draws upon while leading. I also view these traits as being integrally linked to the act of guiding or trip leading. They are traits (skills?) we draw upon every day. It is not necessary for a guide, in my opinion, to go looking for leadership beyond the trips they run and the people they work with. Leadership is already there, surrounding them, just waiting for us to study it, learn from it, and utilize it to improve our trips. This does not mean that I feel a guide should not study leadership outside of the work-a-day world of guiding; for myself that has been imperative. Rather, my experience is that making an attempt to understand the underpinning of leadership in the general sense has helped me be more effective as a guide. Which helps to reduce my anxiety as I approach this subject that can daunt the most well-educated person.

Trust, Vision, Power and Initiative: The Building Blocks.

If we view leadership as a social interaction in which leaders and followers engage one another, it is here that we must look for the foundations of leadership.

Trust

In Principle Centered Leadership, Stephen Covey forwards that trust—or the lack of it—is at the root of success or failure in relationships and in the bottom-line results of business, industry, education and government. He goes on the propose that trust is rooted in personal trustworthiness, which springs from two sources; character and competence. (see below)



Vision

Vision can be said to be a sense of what might be. The ability to look to the future and penetrate the clouds that obscure it.

Past years seem safe ones, vanquished ones,
while the future lives in a cloud
formidable from a distance.
The cloud clears as you enter it.
I have learned this, but like everyone,
I learned it late.

Byrle Markham

For the guide, vision is imperative to taking the trip along a track and to a projected end rather than to any end reached by merely going through a series of motions. For the T.L., an aligned vision, with guides working toward common goals, is key to producing a coherent trip. The look to the future will, by necessity, be big picture and detail oriented. Considering the trip arid it's goals as a whole, as well as the experience and needs of individuals, etc.

Power

The ability to bring power (i.e. that which makes things happen) to bear upon a vision is obviously needed for there to be movement beyond that vision. Covey defines three types of power; coercive, utility and legitimate. As leaders and followers interact a choice is made as to what type of power is utilized to bring about the vision, as illustrated by the following figure.

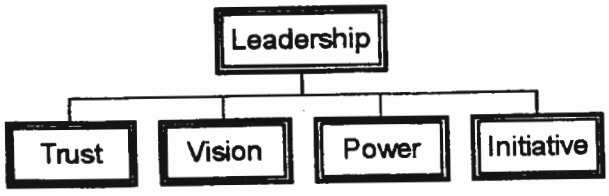


Adapted from Principle Centered Leadership, Covey

Getting to and remaining within a legitimate power base is not easy, but it is here that real trust is utilized and potentials are maximized.

Initiative

The final block in this model of leadership is initiative. We have all been faced by co-workers who have all the other elements but lack initiative. Could this be the single article that determines who is leading and who is following.



Ideas for the Guide

Trip Leader (TL)

Providing leadership for a commercial river trip begins with the T.L. We all know that showing up on time and organized for pre-trip rigging is a plus. Beyond that, sharing a particular resource (such as an article on ancient Pueblo culture) with your co-workers can be thought provoking, spur discussion and help to work toward alignment. Work to establish trip wide standards that can be utilized to enhance the clients experience. Such as: A trip wide emphasis on western water history and issues that allows for variance in guide styles; Clearly understood and agreed upon, minimum levels of interpretation. Work together and build upon the strengths of all the guides. Be proactive by setting an appropriate tone from the start and with your co-workers that sets the stage for effective leadership to be utilized.

Guides

It can be said that the relationship enjoyed by the clients and guides is the bottom line in how a trip will go. Working with leadership only reinforces our understanding of, and commitment to, developing a rapport and building tust with every client as soon as possible. We must also work quickly to communicate our vision of the trip to the clients, by sharing information, and hopefully, develop an environment that considers everyone's needs and motivations. Power, I feel, must be shared. Power in the commercial river arena, put simply, is what the guides have (e.g.: skills, information, respect). Remember that your clients can't enter with you into the social transaction that is leadership if they have no power.

Suggested Reading List

Leadership, James MacGregor Burns
The Seven Habits of Successful People, Stephen Covey
Principle Centered Leadership, Stephen Covey
Leaders, Warren Bennis
Thinking and Learning about Leadership, Thomas Cron in Beyond Leadership, Bennis, Parikhi, and Lessem

The Mentors
of
"Life on the Rocks"

(cancellations may occur)

Christine Beekman
Damian Fagan
Randy Larsen
Rebecca Martin
Matt Robinson
Dusty Simmons
Steve "T-Berry" Young
Kara Dohrenwend
Dave Focardi
Marian Ottinger
Tamsin McCormick
Dennis Silva
John Weisheit
and others.

Otis Reed Marston

Running the Colorado River

An Oral History by Francis P. Farquhar

With many thanks to the staff at the Bancroft Library, University of California at Berkeley, for their permission to publish this oral history.

This is my first installment of a historic profile on Otis "Dock" Marston, which will be presented on a regular basis in the pages of The Confluence. Marston was the premier historian of river history for the Colorado River Basin. Francis P. Farquhar was the premier bibliographer of the Colorado River basin. Both men are now deceased. We can thank these men for their contributions to better understand the history of the Colorado River basin. ***John Weisheit***

Note: Mr. Marston edited this oral history himself and his corrections were incorporated into this manuscript.

A Brief Résumé
Otis Reed Marston

Nickname: "Dock".

Born: Berkeley, California, February 11, 1894.

Education: University of California, BS in Electrical Engineering, 1916; Cornell University, ME in Industrial Engineering, 1917.

Military: U.S. Naval Academy Ensign (T) USN, 1918; Qualified Submarine Commander USN, 1919.

Extracurricular Activities: Swimming Team, UC (swam Golden Gate); Tau Beta Pi; Eta Kappa Nu; Theta Chi.

Professional: Member Berkeley Board of Education; Securities Business, 1934 – 1947; Instructor UC Extension Div., Engineering Economics; Commonwealth Club; Berkeley Rotary Club; Bohemian Club; Sierra Club; Trustee for Conservation.

Publications: Running the Dolores River, 1948, *Colorado Magazine*, October, 1949; Fast Water, a chapter in *This Is Dinosaur,* Wallace Stegner, Editor, Knopf, 1955; River Runners: Fast Water Navigation, *Utah Historical Quarterly*, July 1960; Grand Canyon White Water, *American White Water,* May 1960;

Other: Technical Consultant for the Disney Film, *Ten Who Dared*, 1959.

Date and place of the oral history: Berkeley, March 17, 1964

Farquhar: We are in the library of Francis P. Farquhar at 2930 Avalon Avenue in Berkeley. This is an interview between Francis Farquhar and Otis Marston. Otis, you're commonly known as "Dock," aren't you?

Marston: Well, wherever I'm connected with the Colorado River that's my name.

Farquhar: And that's not "Doc," but "Dock." You're not a doctor?

Marston: "Dock" in order to let people know that I'm not a doctor.

Farquhar: Not a Ph.D or an LL.D. either – just "dock" the boat, is that it?

Marston: That's what I'm looking for, always at the end of a trip, the dock.

Farquhar: Your full name is Otis Reed Marston, then. And here in the room we have the presence of your wife; her name is Margaret Lowell Garthwaite Marston and she's here to verify what you say, or at least to tell me when you're not strictly on the truth.

Marston: That's right, I'll have to be particularly careful.

Farquhar: All right, now where were you born?

Marston: Berkeley, California, a half a block from where I now live. I never traveled.

Farquhar: Except by water.

Marston: Well, there are always the exceptions.

Farquhar: And when were you born?

Marston: February 11, 1894.

Farquhar: And you were brought up here in Berkeley?

Marston: Yes, I lived here in Berkeley up to the time I graduated from the University of California in 1916. Then I went back to Sibley College in Cornell University in industrial engineering and I got an M.E. degree there in 1917. That's an under-graduate degree, incidentally, not a graduate degree.

Farquhar: Just about that time we got into the war – and you lost no time.

Marston: Well, yes I did. They didn't like me very much because my eyesight didn't qualify so I worked for the telephone company in New York for a period of about six months.

Farquhar: Then your eyesight improved, or you persuaded them?

Marston: I persuaded them in this way: I found some eyedrops that contracted the pupils of my eyes fine.

Farquhar: And you got a commission?

Marston: Yes. First I went in as an electrician first class and served for a period of time, taking training, and then I was commissioned in the Naval Reserve. Later, after taking the short course at the United States Naval Academy, I was commissioned in the United States Navy, ensign temporary grade, United States Navy. Then later I went to lieutenant junior grade.

Farquhar: What kind of work were you engaged in then?

Marston: After I got through with the Naval Academy they sent me to the Submarine School at New London and I put in about five months up there and then went into the submarine service serving as the executive officer on the USS H7.

Farquhar: Did you sink any ships?

Marston: No, no. We went to the bottom one time in one of the boats we were on but it was only sixty feet of water and after a while we came up.

Farquhar: Then the war was over and you were out of a job?

Marston: Well, they wanted me to stay in but one of the men in the Navy talked me out of that.

Farquhar: What did you do then?

Marston: Well, I worked for a period of about ten years

straightening out a lot of family affairs – real estate, investments, legal problems of estates, that kind of thing.

Farquhar: That was here in Berkeley and San Francisco?

Marston: Yes.

Farquhar: Dock, let's go back just a little bit: who was your father?

Marston: My father was Captain William Harrington Marston, who got his training and served for a number of years in the windjammers, and then later became a port captain in San Francisco for Welch & Co. who were running a line of windjammers between the Hawaiian Islands and San Francisco carrying sugar.

Farquhar: Was he born in California?

Marston: No, he was born in Maine, as far down in Maine as you can get on the coast - Machias. My mother was born in Maine, too, but she was born up in one of the country towns.

Farquhar: You came from good stock; both of my grandmothers were from Maine, so I can appreciate what good stock is.

Marston: We left there, both of them [laughing].

Farquhar: Well, so did I. [Laughter]

Marston: Well, I did quite a little studying, but I also was on the swimming team the first two years I was there. Then I dropped that activity.

Farquhar: Seems to me I heard something about you swimming the Golden Gate.

Marston: Yes, that was part of the swimming activity.

Farquhar: Swim back?

Marston: No, just one way, that was enough. That was actually a little too much.

Farquhar: Then you graduated in 1916, and Cornell in 1917, and the war and then your ten years of organizing things here. Did you continue in the real estate business?

Marston: To some extent, but things got fairly well smoothed out there so it wasn't a demanding job and therefore I went to work in the investment supervisory work of E.F. Hutton & Co. in San Francisco. I was there with them from 1934 to 1947.

Farquhar: All the time, of course, living in Berkeley. When did you marry Margaret?

Marston: In 1925.

Farquhar: She went to the University:

Marston: Yes, class of 1915.

Farquhar: Seems to me I remember that she was in the same sorority that my wife was in, is that right? [*ΓϕB*]

Marston: May be so, I didn't know her at that time.

Farquhar: Didn't you have an interest in winter sports at one time?

Marston: Back in 1928, 1929 the field of winter sports rather appealed to me and we used to go up and ski around Donner Summit, and we also went up to Yosemite. The nice thing about it then was you could go out a whole weekend and never see a soul out on the slopes. It's changed slightly. [Laughter]

Farquhar: No doubt of that. It seems to me you had a very close connection with the Garthwaites. Didn't your sister marry your wife's brother?

Marston: That's right. At our wedding her brother met my sister, and later they were married.



Otis Reed Marston in September, 1954. Photo by Bill Belknap and courtesy of the Marston Collection at the Huntington Library, San Marino, California.

Farquhar: How many children have you?

Marston: We have three children and ten grandchildren.

Farquhar: That's a pretty good start. You have one son, and your daughters are twins? Are they married?

Marston: Yes, they're both married, and one lives in Sausalito and one lives down in Costa Mesa.

Farquhar: Now, when did you first begin to take an interest in running rivers?

Marston: Neill Wilson talked me into making a trip back in 1942. He said he thought I was crazy enough to make a trip of that sort, so I went down the Grand Canyon in 1942 with Norm Nevills.

Farquhar: That was right after the time that Neill Wilson and I went down the San Juan.

Marston: You started him on the San Juan and he said this man had shown [him] something so he would turn around and show [me] something – which makes you responsible for a lot of difficulties I'm in today [laughing].

Farquhar: Well, I'm responsible for a lot of messes, I guess, but this one turned out a little better than usual.

Marston: Well, I hope so. [Laughter]

Farquhar: That was 1942 – didn't you take your son Garth along with you?

Marston: Yes, he was sixteen at the time. And Neill took his son, Bruce, who was twelve when he started, and at Phantom Ranch he had his thirteenth birthday, and so he ended at the age of thirteen.

Farquhar: That trip really inspired you with the fast water and the great canyons.

Marston: Yes, and obviously the great canyons are just unbelievable in the various features that they offer and all kinds of interests, and here was a way that you could go down into these places, get into the mountains, you might say, without a tremendous amount of effort. The amount of effort involved in making a trip through some of these

canyons has been very much exaggerated by the myth-builders of the rivers.

Farquhar: Wasn't it a fellow named Clyde?

Marston: Clyde Eddy, Down the World's Most Dangerous River, yes, and he's admitted to me since that if he were writing the book again he'd write it differently.

Farquhar: It looked pretty dangerous to him at the time.

Marston: And it was dangerous for the equipment that he had and the skills that he had, it was a dangerous thing.

Farquhar: Isn't it just like a lot of mountain-climbing? It's dangerous if you don't have the right techniques and the right equipment?

Marston: That's exactly it. Plus a little skill and judgment that has to go along with it. Those are the elements.

Farquhar: After that first trip in 1942 with Norm did you keep it up.

Marston: Yes, I made a trip with him again, the San Juan trip, the same one that you made, in 1944. Then in 1945 I went to Cataract Canyon; 1946 went up and did the Snake and the Salmon, just as a comparison, you know. They were always comparing the two rivers. So we took Nevills's boats up there, the same boatmen, and tried it out.

Farquhar: What was your opinion about the relative experiences, both as to enjoyment and as to difficulty?

Marston: Enjoyment – it's very difficult to compare. They're quite different types of river, but you enjoy both of them as being a place where everything is different; the Colorado River is the place over the Idaho rivers. And on the difficulty Cataract Canyon and the Grand Canyon are far more difficult than anything they have in Idaho.

Farquhar: You speak of difficulties: just what are the difficulties?

Marston: Well, of course the major difficulty is in putting a boat through a series of rapids. And then there are the problems of supply and what you do in case of accident, and this type of thing. The Colorado River has a much higher degree of isolation than the streams up in Idaho. But the problem primarily is transportation over the water course – let's put it that way – and your rapids, of course, are the major barriers.

Farquhar: What kind of craft did you go in?

Marston: Well, at those times, everything was oar-powered on both the Colorado River and in Idaho. We used these plywood boats - Nevills's type called a sadiron because they're shaped pretty much like an old-fashioned sadiron. That was before the advent of neoprene that came out of World War II, and before any attempt had ever been made to operate any power craft in any of this heavy water.

Farquhar: The Nevills's type of boat was used almost exclusively for quite a few years there in the forties, wasn't it?

Marston: What Nevills did was to make a success of commercial carrying of passengers through the fast waters along the Colorado River. And he was the first real successful navigator carrying passengers in heavy water on the Colorado River system. And he developed this particular type of boat – two types really, the punts on the San Juan and the sadirons that he used in the heavy waters on the Colorado. And they did a reasonably good job.

Farquhar: As I remember it, Nevills used to say, "You do the thinking and let the river do the work." Is that right?

Marston: Well, yes, that made a good cliché; it sounded good. [Laughter]

Farquhar: And of course all of those boats – I don't suppose that he invented the idea of facing the way that you're going.

Marston: No, on the Colorado River that was first done by Flavell back in 1896, at least in a transit of the Grand Canyon. I'm sure that Galloway had developed that prior to then because Galloway started on the river back in the early nineties, about 1893. And Galloway and Richmond went through the Grand Canyon in 1897 and they were using the technique where the boatman faced the stern. Flavell faced the bow, but he [Galloway] faced downriver.

Farquhar: The earliest attempts, the Powell boats, they rowed against the current.

Marston: No, no – they rowed with the current, the Powell boats and the Brown-Stanton boats, and the Best expedition, all had two oarsmen and then a steersman. And the two oarsmen were rowing downstream, with the current, trying to make way enough so the steering was effective – and the poor oarsmen couldn't see what was happening to them next.

Farquhar: They had a good many upsets, didn't they?

Marston: Well, quite a number, not nearly as many as they should have had, though, let's put it that way. They were lucky.

Farquhar: When you went with Nevills did you have any upsets?

Marston: No, no, I never – I'll tell you, Francis, [laughing] I was upset the first time only last August, when I was going through the Grand Canyon in a seven-foot sport yak. My first upset. (I have had another since then.)

Farquhar: You've probably been through the Grand Canyon now more than any one individual, haven't you?

Marston: Well, wait a minute, I've been through the Grand Canyon more than any man; there's a woman who's been more times than I have. These commercial people, you know, who make two or three runs a year, they get ahead of me.

Farquhar: Who's this woman?

Marston: She calls herself The Woman of the River, Georgie White. I think she's now been around twenty trips, and I've been fifteen.

Farquhar: In all the history of running Grand Canyon, say from Lees Ferry down through Separation Rapids, how many people do you think had been through the Grand Canyon before you began to do it.

Marston: Oh, about eighty. And then in 1949 we tallied a hundred persons. By 1954 the second hundred, and now the number runs just about five hundred.

Farquhar: That's going way through; you don't count me.

Marston: That's right, not the partial trip.

Farquhar: My wife and I went from Lees Ferry down to Bright Angel Creek.

Marston: You'll have to go in now at Bright Angel and go the rest of the way to get in the tally.

Farquhar: I see. Well, the chances for that are getting

slimmer all the time. Now, in all this work you've been interested in the geography and the topography and also the history of the Canyon, haven't you?

Marston: Yes, plus the technique of how they run. And I might go a little further, Francis, to say that I'm interested in what the river does to the people that are there.

Farquhar: That's a very interesting subject. I hope you're writing about that.

Marston: I certainly am, I'm struggling at it.

Farquhar: How's the book coming along?

Marston: Well, it's not doing very well right now because I happen to have a river trip in mind where I'm leaving next Monday to make a transit of Cataract Canyon and I have to see some things down there before they bury it under Lake Powell.

Farquhar: How much of the river has been altered by dams in recent years?

Marston: Everything down through the Grand Canyon now is different because they're controlling the water down through there and therefore you don't have these beautiful floods that used to go. And, of course, the San Juan is completely under control. Now, the Colorado River up above the junction of the Green is relatively the same as it was, but the Green River is controlled to the extent of about one-fifth of its flow by the Flaming Gorge Dam.

Farquhar: That Flaming Gorge Dam is way up in the Uinta Mountains, isn't it?

Marston: That's right, pretty close up to the Wyoming border.

Farquhar: And now the Glen Canyon Dam has completely altered the Grand Canyon.

Marston: Yes, it's an entirely different stream.

Farquhar: I remember when the Hoover Dam was built somebody who'd been running down below said that it wasn't any fun any more, they'd taken all the electricity out of the water.

Marston: It takes the real energy out, let's admit that.

Farquhar: So the days of running the Grand Canyon the way you've done it, beginning back in the days of Powell and contemporaries, they're over now, there's nothing like it anymore.

Marston: That's right.

Farquhar: So this historical work's based on the experience that you have, and you've gotten a great deal from the diaries, haven't you?

Marston: Oh, yes, I have at least one diary of every trip that has been through the Grand Canyon up until the last two or three years when the trips have been rather frequent.

Farquhar: And those diaries tell you a good deal about the characters, you say, of the people.

Marston: Very much so.

Farquhar: Do you think they're invariably truthful?

Marston: They're fairly truthful because most of these diaries were written without any idea of publication. Now, of course, a lot of them reached publication after having some rather severe editing, but some of them are pretty straight. The straightest, I might say – other than the Powell diaries that were published by the Utah Historical Quarterly – the two straightest that are in book form are Stone's trip in 1909 which entailed only very minor editing of his diary, and the Kolb trip, Elsworth Kolb's story which he wrote from his diary telling of his trip in 1911.

Farquhar: Was Powell the first one to go through the Grand Canyon.

Marston: Powell was the first leader of a party, in which six completed through the Grand Canyon; he's the first, there's no question about that.

Farquhar: How about this fellow White. Don't some people think he was the first one?

Marston: Yes, some people think he was. I'll tell you where he went; he went from where the Mancos joined the San Juan and then he traveled across the country to the Little Colorado, and when he talks about "we crossed the Colorado and camped" he meant the Little Colorado. And then he crossed the Little Colorado and came out at Grapevine Wash which is later known as Pierce's Ferry, and then he floated from there down from Pierce's Ferry to Callville where he was picked off a log raft on September 7th or 8th.

Farquhar: He hardly saw anything of the Grand Canyon.

Marston: He didn't see any of it. Well, from Pierce's Ferry he could look up and see the lower end of it, but he wasn't in the Grand Canyon at all.

Farquhar: There are some books and articles about it that are quite emphatic that he did do that. How do you reconcile the two statements?

Marston: Well, I'll tell you, you can sell a book if you put up a logical argument that makes it appear that something happened that people can get a little excited about and it'll make a sale, and so every once in a while somebody comes up with an idea along those lines. But I haven't found anybody who has made an adequate study of the whole thing; the one that came the nearest to it was Robert Brewster Stanton, and his argument, with James Chalfant's editing, came out in the Colorado River Controversies. Now, Stanton missed one of the most important things, and that was the reporting of William J. Beggs, and he never recognized Beggs' reporting, and that reporting goes through and creates a considerable fabric of the myth that White went through the Canyon.

Farquhar: So there's no doubt in your mind that Powell was the leader of the first exploration of the Grand Canyon.

Marston: No question about it at all.

Farquhar: As you look back on it now, what kind of a trip – he made more than one trip, didn't he?

Marston: He only made one trip all the way through the Canyon. His second trip stopped at Kanab Creek when he was fifty-one per cent of the way through the Canyon and he quit because, according to his statements, the water was too high, which would make the rapids below too dangerous, and also the threat of Indians. Both of those were good reasons, but not real reasons.

Farquhar: Isn't it true that the high water is sometimes safer than the low water?

Marston: That's usually true.

Farquhar: What about that time when some men left his expedition and went up into the Kaibab country and were killed.

Marston: There were three men that left that party at what is now called Separation Rapid and they climbed out and were heading for St. George. They were killed out there and there's a question still remaining whether they were killed by the Shivwits Indians or the Mormons. The evidence is very sketchy and there is a nice bit of research for somebody to spend two or three years to find out what the truth is – it'll take just about that length of time, I guess.

Farquhar: How would they find out?

Marston: Well, one of the great things about the Mormon people in that country was that they wrote lots of diaries and so it will take a lot of digging through diaries. That's probably the best way to get it. There's some evidence about it now, but not very much.

Farquhar: How many people actually went through the Grand Canyon in Powell's time? With Powell.

Marston: The entire party that ended, including Powell, was six.

Farquhar: Did they go through in one continuous trip?

Marston: Yes, that first party went all the way from Green River, Wyoming to the mouth of the Virgin, the six.

Farquhar: Powell left before that, didn't he?

Marston: No, he went all the way through. He was in and out on the second trip, in 1871-1872; he didn't make the entire transit from Green River, Wyoming, to Kanab Creek, in 1871-1872, he skipped a couple of places, but they were inconsequential.

Farquhar: In summary, then, we can say that Powell really was the pioneer in going through the Grand Canyon by boat.

Marston: That's right.

Farquhar: Who followed him?

Marston: The second trip through was Robert Brewster Stanton's party in 1890.

Farquhar: That was quite a few years later.

Marston: Oh, well, the way Powell wrote up his trip was enough to scare most people out. It frightened a lot of people, but it didn't frighten Stanton any, he was a spunky little fellow. His second trip he had probably one of the finest crews ever through the canyon, it would stack up very well with some of the best crews of today which are carefully selected.

Farquhar: As I recall, Powell didn't give credit to all the members of his party in his book.

Marston: Well, he didn't mention the members of the second crew, but he just told the whole story as if everything he knew about the river he'd learned on the first trip. He didn't mention the second trip at all, however a lot of people said that he used a lot of material out of the second trip and included that as part of the first trip in his book. But I don't find very much of that; there's some, a little bit, but not very much.

Farquhar: But the actual published report sounds as if there were one trip. Actually there were a few places where he put in things that happened on the second trip.

Marston: That's right. He dictated that report to the Smithsonian in 1874 --it was published in 1875 – and he didn't want to do it anyway and obviously that length of time after his 1869 trip there were many things that he would have forgotten, and which trip they belonged to. He's been rather severely condemned for that, and I can hang him for other things but I don't –

Farquhar: You're going to evaluate a good many of these things in this book that you're writing.

Marston: Yes, I am, very much so.

Farquhar: What is the present status of this book?

Marston: I have it virtually all done in rough form, and right at the moment, after I get through this tape here with you, I'd like to discuss with you the final form to put it in.

Farquhar: Well, it's going to be a monumental and definitive work on the history of river-running and particularly the Grand Canyon. Are you going to cover the upper part of the river?

Marston: Yes, I'll cover important trips. I find that I'm going to cover the river fairly well, everything except the Gila. Where it is not in the Grand Canyon I will not be as specific about it, I will sketch it very quickly.

Farquhar: How about this fellow Adams who used to write to Congress or something?

Marston: Oh, he played around down on the lower river and pushed up to the head of Boulder Canyon and looked at that big basin up above there which is now the mouth of the Virgin and that big part of the lake down there, and then he went up and later when he couldn't get in the Powell party up there at Green River, Wyoming, he jumped over and made a run part way down the Upper Colorado, in which he –

Farquhar: That was called the Grand River then, wasn't it?

Marston: Yes, the Grand. There's been a lot of shifting of the names of that, you know, between the Grand and Blue – they changed around.

Farquhar: As I understand it, the "Colorado" was originally applied to what is now the Little Colorado.

Marston: I believe so.

Farquhar: It just means red river.

Marston: That's right. I think that's true that that was the first application.

Farquhar: And then it moved onto the main river and you had the Grand and the Green uniting to form the Colorado.

Marston: And that "Little Colorado" became the Flax.

Farquhar: And then the political people in Colorado thought that the river must have been named for their state, and of course it was named two hundred years before the state.

Marston: I didn't hear that they thought that it had been named for the state; I just heard that they thought it would make a good plug for the state of Colorado.

Farquhar: Of course they were named for entirely different reasons. The red rocks over in the Garden of the Gods started the name "Colorado" for the state. And the "Little Colorado" with its red mud that came in flood time was quite a different matter.

Marston: I might say we saw a flood down at the mouth of the Little Colorado when we were down there last August and it wasn't red, it was pretty black. [Laughing]

Farquhar: Oh. By he way, we haven't mentioned the fact that my wife, Marjory, and I went through the upper part of the Grand Canyon, and you were my boatman – you and

Margaret were in the boat with me -- and Garth, your son, was Marjory's boatman. We had a pretty good trip.

Marston: Very good, that was a good trip.

Farquhar: And we got good pictures. Now, let's see. Besides this book you've written some articles, haven't you?

Marston: A few. I've avoided articles because while you advised me some time ago that I ought to get a few things into print in order to become known, at the same time I find that the writing articles does take time, so I've tended to avoid them. If anybody comes in and really wants one I'll write it. You take that thing I did for the Utah Historical Quarterly, that took me about a week, and a week of time is a week of time.

Farquhar: You did something for Colorado Magazine one time.

Marston: They took my diary, and that was the first trip ever made down the Dolores River.

Farquhar: And then you wrote a chapter or so for that Dinosaur [This is Dinosaur] book that Wallace Stegner edited.

Marston: That's right, I wrote a chapter describing the use of the rivers up there.

Farquhar: And what is this other magazine?

Marston: American White Water, a little magazine; however they have swung away over into the field of kayaks and that type of thing. I got separated from their type. But they had a series in their magazine on the various canyons and they wanted me to do a thing on the Grand Canyon which I finally did for them. I wrote it for them at first and they didn't like it because it indicated too much danger, so then I did a little mild editing of the thing.

Farquhar: What is your opinion of these people who want to run the river in kayak?

Marston: Oh, a lot of the sections of the river are all right for kayaks. Zee Grant put a kayak through the Grand Canyon, last year when he had --

Farquhar: Weren't some other people coming along behind him to pick him up?

Marston: Yes, and he also had some special pontoons. But there were a couple of kayakers who went through last year on this low water now held back by the dam. And I rather imagine that the Grand Canyon limited to some of the low flows as it is now from by Glen Canyon Dam will make a pretty fair kayak stream.

End of Oral History

Main Topics "Life on the Rocks"

Moab Geology
Geomorphology of Rivers
Paleontology of the Region
Geologic History of the Colorado Plateau
Riparian Ecology and Threats From Exotics
Origin of Mineral Deposits: Uranium, Potash and Placers

Clarence King and the Great Diamond Hoax

by Steve "T-Berry" Young

Introduction

AN EXCERPT FROM THE ARIZONA MINING JOURNAL: Report of Clarence King, United States Geologist. *San Francisco, November 11, 1872. To the Board of Directors of the San Francisco and New York Mining and Commercial Company: I have hastened to San Francisco to lay before you the startling fact that the new diamond fields upon which are based such large investments and such brilliant hopes, are utterly valueless, and your engineer, Mr. Henry Janin, the victims of an unparalleled fraud. Having convinced you verbally that my investigations have been made upon no other than your own ground, I beg, herewith, to give a brief statement of my mode of study, and its unanswerable results. Feeling that so marvelous a deposit as the diamond fields must not exist within the official limits of the geological exploration of the 40th Parallel, unknown and unstudied, I availed myself of the intimate knowledge possessed by the gentlemen of my corps, not only of Colorado and Wyoming, but the trail of every party traveling there, and was enabled to find the spot without difficulty, reaching there on November 2nd.*

After examining the camp ground, water notices and general features of Diamond Mesa, I next traced the boundaries of your claims, and then began to study the distribution and mode of occurrence of the precious stones.

Our first day was devoted to the sandstone table rock, at the head of Ruby Gluch, where about all the stones collected by your parties have been gathered, and had our critical work ended with the close of this one day, we should have left the ground confident believers in the genuineness and value of the fields. My suspicions were, however, aroused early in the second day's work, and at once determined to make an exhaustive series of 'prospects,' of which the following are the results:

MOST RIVER RUNNERS THINK OF JOHN WESLEY POWELL and his regional survey when they think of "the opening of the West". But Powell's survey was only one of four surveys that trampled around the areas west of the One Hundredth Meridian. Names that should ring a bell, in the topic of western surveys, that were as important as Powell's would be, for example, Lewis and Clark and John Fremont. More names might include the not so successful surveys like, John Gunnison and Zebulon Pike.

In the history books, next to Powell's survey, you will see the names of three more great American surveys that occurred around that time Powell busied himself around the Colorado Plateau. They are: 1) Clarence King and his *United States Geological Survey of the Fortieth Parallel*, which surveyed a swath of land north and south of the Union Pacific/Central Pacific rail line from California to western Colorado. 2) *The United States Geological and Geographical Survey of the Territories*, lead by Ferdinand Hayden, which first started in

Nebraska, then into the Yellowstone area, and finally into south-eastern Wyoming, most of Colorado, and eastern Utah. 3) *The Geographical Surveys West of the 100th Meridian* under Lt. George Wheeler, which surveyed the area of southern California to New Mexico, with a little up-river boat excursion into the lower Grand Canyon. Most of the place names we now see applied to the great eye-catching features of the West were documented and created by these National surveys.



Clarence King. From the book *The First One Hundred Years of American Geology;* Yale University Press.

Since King, Powell, Hayden and Wheeler were each vying for appropriations from Congress, things were accomplished on very tight budgets (especially Powell). However, time and money were often wasted by duplicating the efforts of others (especially Wheeler). The National Academy of Sciences advised Congress to consolidate the National surveys into one organization and, in 1879, Congress created the United States Geographical Survey (USGS) as a bureau under the Interior Department. King was appointed as the first director of the USGS; Powell succeeded King in 1881 (King decided to enter into the commercial mining industry).

Before King finished his survey and embarked on his bureaucratic highway with the USGS, an interesting thing happened to King and his geologists/surveyors in 1872. The following story is about how the Diamond Mountain (s) near Dinosaur National Monument got their names, and how Clarence King was at the center of the controversy.

CLARENCE KING AND THE UNITED STATES GEOLOGICAL SURVEY OF THE FORTIETH PARALLEL were well under way studying the marvels of Nevada and Utah when reports of a large diamond field had appeared from somewhere in the western United States—in the year of 1871. Of course the leader of this complex survey realized if a huge diamond field had been located in the land surveyed by his colleagues, what would this say about the thoroughness and quality of the work being done? Also, the scientists in the survey had diverging thoughts—they began to dream about finding the fields and pocketing a couple choice stones to offset their arduous labors and low pay. So, from these outlooks, the King Survey had a desire to investigate this rumor and document the diamond field before the termination of the survey at hand.

It all started sometime in early 1871 when two miners named John Slack and Philip Arnold deposited, for safe keeping into the Bank of California, a large bag of fine-looking stones. Rumors about the two dirty prospectors and their large bag of diamonds spread through San Francisco amazingly quick. After the deposit, the prospectors left town long enough for the most influential business minds to play into the consistently growing rumors about the source of the diamonds. After some time, a group of interested wealthy parties found the miners and coerced them into forming a mining company. All parties involved with this grandiose diamond mine moved slow, of course, to cautiously protect themselves from fraud. Slack and Arnold, making a show of sincerity to their new partners, made a "good faith" trip alone to prove the validity of the diamonds in the field and to bring back more. This so called questionable trip brought back a second sack of fine stones, that were given to the expected principle partners. The partners, upon receipt of the stones, were amazed by their lovely charm. The new prospective partners were so enamored by the diamonds that it was hard to send the stones off to New York for appraisal. In New York, Mr. Tiffany (who founded the store Tiffany's) said the diamonds were of good quality, but not of exceptionable value.

The initial investment by the principle partners was sure to be an excellent moneymaker, if all was as perfect as it seemed to be. So the last hoop before incorporating was for some of the partners to see the site for themselves, with the help of a mining expert by the name of Henry Janin. Henry Janin's reputation was well known for clear and concise judgments, which had made numerous individuals wealthy in California during the Gold Rush. When the team returned from the still secret area this mining expert, who had yet to make a mistake on any assessment, gave his approval by wanting to become a principle partner. With this proof that the site existed, the investors began calling it the "New Golconda" and planned to make San Francisco the diamond capital of the Western World.

July 30, 1872 was the filing date of incorporation for the *San Francisco and New York Mining and Commercial Company*. Under the original agreement the two prospectors would sell their claims to the investors for $600,000 (including another $30,000 for expenses). Stock for the company started at $80,000 for twenty five investors; this $2,000,000 became the start-up money for the operation before the winter of 1872/73. Philip Arnold, who had power of attorney for John Slack, excepted the $630,000 for the two men and soon disappeared. Since it was late in the season and winter was already setting in, the mining company planned to avoid development of the site till spring .

During the summer of 1872, Clarence King and his men gathered the last bits of data needed to complete their survey. The rigors of the land and the problems of field life were not easy, especially when the West was alive with rumors of diamonds. For over a year these men went to bed dreaming of

the day, while surveying, that they would come across a field of diamonds; each of the dreamers imagined filling their pockets full of diamonds. Unfortunately, those dreams shattered in the fall of 1872.

King and his associates perceived the coming end of the Fortieth Parallel survey. King's confidence in his own abilities nagged him. What if this wonderful diamond field was located in the area studied by the Fortieth Parallel survey and they missed it? His men never even found a precious stone let alone a geological area that could support such a thing in the quantity that the rumors lead people to believe. Were they wrong on some of their conclusions about the geology? One thing was sure, if the diamond mine was in the land surveyed by the Fortieth Parallel, King's reputation would be on the level of dirt—in the tailings pile.

Towards the end of the summer King narrowed down the possible areas of the rumored diamond fields. The investors from San Francisco had spent very little time visiting the fields, nor applying for the necessary mineral and water rights to the area. One thing was for sure, their access to the area was by way of the Union and Central Pacific rail line, which ran through Wyoming. Could they be traveling all the way to Arizona by horse, where the geology best supported the idea of diamonds? The amount of time the diamond miners spent in the field was to short to support a long pack trip to Arizona, but King did not rule that possibility out until a meeting with his geologists the following October. The most obvious thought was—the area was within a couple days of riding from the only railroad route across the West at the time.

At the end of the season's field work several of King's geologists were planning to meet with King in San Francisco to discuss the diamond rumors. King had planned the meeting after the work season to keep his men on task. It was on the way to this meeting in San Francisco, in October, that Samuel Emmons and James Gardner boarded the train in Nevada to find several men that could be stereotyped as California diamond financiers. Before learning who they really were Emmons and Gardner learned some clues about the location of the mine from these train passengers. These clues and a thorough knowledge of the area associated with the Fortieth Parallel survey, lead the two men into some conclusions about where the diamond fields could be. Before King even got to the arranged meeting in San Francisco, his other geologists met with Emmons and Gardner and the four pinpointed the area; the two other geologists were A. D. Wilson and James Hague. As it turns out, simultaneously (though King was not at the meeting yet), King and his geologists deduced where the site was according to their knowledge of the area and other clues they had found in Wyoming. When the geologists were reunited with their boss, the two theories were interchanged with the very same conclusions.

Between October 20 and November 10 King, Emmons, Hague and Wilson were away from the comforts of San Francisco trying to find out the truth about the rumors of diamonds. Very quickly the team found the mining claims based on their deductions (in the very north-western corner of Colorado). Wilson was the geologist who spent the most time in the area for the survey and was the reason for finding the actual site so quickly. The icing on the cake was finding the



S. F. Emmons

mineral and water rights notices posted on the trees. The team also noticed a "table shaped rock" marking the center of highest concentration; as you left that site of highest concentration, the odds of diamond recovery were smaller. Normally if diamonds are in an area of high concentration they will wash down side gullies and spread out through natural means. The gullies leaving from the table rock showed no sign of diamonds. The geologists were also baffled as to why rock formations that normally produce diamonds were not to be found in the area. Another question arose as well: Why was it they found a ratio of diamonds to rubies that was consistent throughout the area (Mother Nature is very chaotic)?

Did they stumble on some enterprising new geological erosion patterns never seen before? Up to this point King and his men thought they had found a real diamond field in an odd geological place, but finally they stumbled on the truth. Near the table rock one of the men had started to slowly remove the dirt from a large area. Eventually the scientist noticed a pattern in the dirt. Diamonds would be found at the bottom of a cylindrical dirt anomaly. It was soon figured out that the cylinder shaped area above the diamond in the dirt was from a rod being pushed into the ground to make a hole. Bringing attention to this, the men slowly covered the area away from the planted site and found other refilled holes in the dirt. Slowly and systematically they studied the area and found more clues to support the signs of fraud. As they found more obvious signs of the fraud James Hague stumbled on the biggest and most obvious clue to hoax, a cut diamond was found planted in the soil (a cut diamond is a diamond that has started to under go the human change needed to become jewelry.).

Now enters the sketchy, dark-cloaked bad guy! Up comes riding, to the cold and numb surveyors, J. P. Berry who followed King and crew to the site with eight of his henchmen. J. P. Berry, a mine promoter formally from New York, had the railroad watched all summer to watch for people and/or their trail coming to the mining area. His motive was to sell off the mining rights around this area to other investors. After King and crew told Berry the truth it seemed obvious that Berry didn't really care about the mine's validity. He would sell it anyway and no unsuspecting investor would know about the fraud until after Berry collected his money. As Berry left to bivouac at his camp the geologists needed a plan of action to get King to San Francisco before Berry could start a fraudulent diamond rush to the area during the winter. So that night King rode to the rail line, 45 miles away, in extremely cold weather with one river crossing; he caught the train to San Francisco the next morning.

When King arrived in San Francisco he met with the

owners of the now created diamond company and told them the truth. The truth resulted in yet another trip to the site, before the dead of winter, in sub-zero temperatures, to show how the planting of the diamonds took place. If King's information wasn't enough, soon after, a report came back from England where all the previously collected diamonds had been shipped for sale. This report claimed that the diamonds were worthless and, in fact, had been documented and sold over a year previously to an American who paid $30-35,000 for an enormous amount of worthless, garbage diamonds and rubies.

It took years to pay back stockholders and find the swindlers. By now Philip Arnold was in Kentucky living the good life. He had bought a 3000-acre farm and built a large house with a strong-arm guarded safe that contained over $300,000. It was odd that Arnold stayed visible after the obvious fraud. He was well liked in Kentucky, so it was impossible to find a judge to give an impartial trial. The mining company settled out of court and got back only $150,000. Slack on the other hand was never found and questions arrived as to whether he ever got his share. Maybe he was buried somewhere in a shallow grave, and his money went to buy Arnold's house and other fine things.

The actual site of this hoax is in the very north-western corner of Colorado, north of Brown's Park. Somewhere about 3.5 miles south of the Wyoming border and 7 miles east of the Utah border. The author, though, has read that the Diamond Mountain east of Vernal ,Utah, has the above written history attached to it. So you have a choice of two localities to tell your story from. There is sound proof that the site exists in Colorado. On the train ride east, to access the place of the hoax, they all got off on the west side of the Green River and crossed the river above Red Canyon, which means the site is on the east side of the river. Diamond Mountain, near Vernal, is on the west side of the river.

One other note: The Uintah Mountains, in north-eastern Utah, are also home to numerous peaks named to honor members of the Fortieth Parallel survey, such as, King, Emmons, and Marsh peaks. Also included in this roster are the peaks named for members of the Powell and Hayden surveys.

Resources

The Great Diamond Hoax. The author is now forgotten, but the book was published turn of the century and was one of the investors swindled. The book was located at Idaho State University in Pocatello.

The Diamond Discovery of 1872, USGS Library in Denver, Field Records Library, see #1162-A from NARA RG57, #1113-S. F. Emmons.

Clarence King, A Biography, Thurman Wilkins, and Caroline Lawson Hinkley, published by University of New Mexico Press, Albuquerque.

Great Surveys of the American West, Richard A. Bartlett, published by University of Oklahoma Press.

Unfortunately, everyone who was part of this hoax documented a different story, creating a serious challenge to sort out this information cohesively.

Eddying Out

by Eve Maher

Q. Where do retired river guides go?
A. To the old floats home!

Oh, pulease! O.K., how about,

A. They spend their twilight years traveling and living comfortably on their boatman's pension.

Very funny. The first answer is more realistic.

Q. So where do they go?
A. Well, hopefully, they launch into that "other" world, carrying as much of the river as they can in their back pocket.

Anyway, that's my goal. Dusty Simmons suggested I write a few goodbye thoughts when I told her, "Nope—absolutely no more—my EMT license is expiring and I have another job. I really mean it this time—no more commercial trips. Is she trying to call my bluff? Whatever the case, I jumped at the chance to say a big 'bye' to the river community at large, contemplate out loud, and set the record straight. (Those strawberries were going bad anyway, a guest must have snuck that gorilla suit along and most people did remain clothed.)

How twelve years do fly. It seems like just a couple springs ago it was my turn to be the newbie guide, camping out along the river road, getting the bejeesus scared out of me by the unexpected spectacle of the *Canyonlands by Night* show. Then one day a few seasons later I woke up, and, like so many others I know, realized I had myself a career.

Looking back, I'm stunned by all I learned. For starters, I was forced by various "Tag Hag," river *Divas of Style* to serve a long, arduous apprenticeship in the *Art of Sarong Tying*. Besides the 303 ways a sarong can cover various body parts, I discovered it's usefulness as a sail, a sling, a hammock, a Z-drag component, a beverage drag bag, and as a way to subdue an entire hot and grouchy French family of four. I also trained in sand castle design, studied B.S.ing as a lifestyle, and gathered an extensive array of swimsuits. Somehow along the way the river skills happened too and I became a guide.

For everyone who has chosen to work along the last semi-uncontrolled bit of the Colorado you know the experience of being a part of this river's natural ebb and flow. We've all cowered (admit it) through its temper tantrums, or laughed almost as often as we took a breath during its calm, sweet days. Because of this I came to understand the River as a living being. Subsequently, for a short time, I became superstitious, sacrificing chickens and watching the skies for the right sign that would tell me the river gods were going to smile on me and my run that day. It took some friends suffocating under a river of snow in the La Sal Mountains (miss you Mara) and a few deep, scary swims of my own to realize it's real truth, and

that is, that nature didn't necessarily value our little human life, or the quality of it, more than our little human death. Worrying about all that stuff was up to us. All of us.

So I notice, just now as I move away from guiding professionally, this truth is something that deep down every river person worth the sand in their belly button knows. You bet we pay our respects to the River (why push it?), but when my plan 'A' run at the Big Drops turns into my plan 'B' run and so on down through the entire frickin' alphabet, I'm not praying for benevolence from the rapid as much as I'm grabbing for that thank-you, thank-you, thank-you throw rope from my friend. And it's not just co-workers. It reaches beyond our immediate cliques or company loyalties. You people, working season in and season out, are a life affirming thread running through these canyons. Yes, you drank all my Tanqueray and Tonic, threw banana walnut pancakes in my boat, finagled the best camp, chatted my ear off as I tried to fall asleep next to you, snored through the night, slept through breakfast and took the best/only take-out spot. You've also taken, without hesitation, that 6:30 AM cold spring dive into the drink even though it was MY sleeping bag that got blown in. You've given a tow to boaters you've never met, as they try to row off Reservoir Powell. I've witnessed you picking each other up, dusting each other off, watching each other's back. We've helped dry each other out, which will always work a zillion times better than any mandated drug test. Over the years you've nursed me through hang ups, break ups and rig truck break downs. You grew me up.

Big Linda told me once, years ago, that after 100,000 river miles your ammo can just turns to gold, and that's the boatman's retirement plan. Well, I just checked, and you know what Linda? It's been gold all along.

Thanks everybody.

Photo: Eve in Westwater



Mining Company in Westwater Canyon Pulls Out as Part of Lawsuit Settlement

A press release from ***Friends of Westwater****, Grand Junction, Colorado: March 22, 1999.*

Pursuant to this week's settlement of a lawsuit brought by the U.S. Department of Justice against a mining company, spectacular Westwater Canyon along the Colorado River will be protected from gold mining. This settlement is a triumph for Friends of Westwater Canyon, a Grand Junction Colorado-based river conservation group, which succeeded in its four year effort to halt on-going gold placer mining activities inside of the Westwater Canyon Wilderness Study Area. Westwater Canyon is located on the Colorado River in Utah near the Colorado-Utah border and is managed by the Bureau of Land Management.

The United States Department of Justice, after filing a lawsuit in federal district court in Salt Lake City against Pene Mining Company of Grand Junction in late 1998, announced that it had settled its claims against Pene Mining for trespass, noncompliance with environmental regulations, and on-going impairment of a wilderness study area. The settlement includes the relinquishment of all placer and lode mining claims within the WSA and the immediate removal of mining equipment, backhoe, and trailers. Reclamation of disturbed lands will become the responsibility of the BLM.

Upon hearing the news from its legal counsel, the Western Mining Action Project of Boulder, Colorado, Friends of Westwater President, Greg Trainor, thanked all of those who contributed their time and their money to support this effort. Trainor said: "We could not have done this without the support of the Utah Guides and Outfitters, the Southern Utah Wilderness Alliance, Colorado boaters and outfitter organizations, the Mineral Policy Center, and a host of individuals who contributed to save a very special place." Trainor continued: " This is a great victory for a true grassroots organization."

The settlement also closed a long standing dispute over the legality of the mining claims held by Pene Mining. In 1998 the Department of Interior issued a separate complaint against Pene Mining declaring the mining claims invalid. Friends of Westwater and the Southern Utah Wilderness Alliance were parties to that case. This case, pending before an Administrative Law Judge in Salt Lake City, was filed after a lengthy mineral validity exam concluded there was no economic mineralization at Westwater. Earlier the Interior Department had withdrawn the Westwater WSA from mineral entry for 50 years. The relinquishment of the claims will moot the claims dispute since there are no more mining claims in the area that has been withdrawn from new claims.

The battle regarding Westwater Canyon is not over. Westwater Canyon WSA, part of the Citizens Proposal for Wilderness in Utah and an area recommended by the BLM for wilderness needs to be officially protected. Until that happens, the Friends of Westwater will be working to help the Utah Wilderness Coalition and the Southern Utah Wilderness Alliance to achieve its wilderness goals in Utah.

Trainor concluded: "FOW is not against mining, per se. It

is against mining when conducted in the wrong places, in the wrong way, and without adequate oversight. The fact that mined land reclamation and environmental repair remains for the public to complete at Westwater is one of the problems with the Mining Law of 1872 and the administration of our public lands."

"It was a shame that the federal government was forced to spend resources and money in their multi-year effort to remove uneconomic and illegal mining," noted Roger Flynn, attorney with the Western Mining Action Project in Boulder, Colorado, which represents Friends of Westwater. "However, the BLM should be applauded for recognizing that some places such as Westwater Canyon are more precious than gold.

Unfortunately, the 1872 Mining Law which allowed the filing of the mining claims in the first place is still on the books and continues to hold other special places around the West hostage."

FOW thanks the helping hands:

Dave/Lori: You were there when we photographed the illegal drilling. **Peter:** You convinced the BLM to proceed with a mineral validity examination, confronted the drillers about their drill pads and off-road work, conducted your own mineral validity studies, reviewed the BLM mineral examinations, photographed the mine site from the rim and put together the pictures that told a thousand stories. **High Country News:** You broke the story in 1995 and pictures of that skinny little ex-BLM ranger trying to stop the deletion of 1,800 acres of Westwater from the Utah Wilderness bill. **Utah Guides and Outfitters:** You passed resolutions supporting the protection of Westwater, bought t-shirts, sent money. **"The Rio"** in Moab: You sold more t-shirts. **Colorado River Outfitters Association:** You dedicated conservation funds for protection. **Aimee and Mineral Policy Center:** You gave us direction when we didn't know where to turn and helped us find Western Mining Action Project. **Puck:** Your help with membership lists and maintaining the e-mail lists helped get the word out. **SUWA:** In 1995/1996 your staff kept in touch daily. **Colorado Plateau River Guides:** John, Dusty, Susette, Michele, T-Berry, and Darren you couldn't hold your outrage and THAT kept us going. **FOW Board:** you came to all the meetings and never doubted we would succeed. **Skip:** You got us into the solicitor's office. Go Vols! (Skip and Bruce Hill are alums of Tennessee!) and spent a fortune of your own money in phone calls and copying charges. **Steve:** Thanks for helping Skip with his original report and testimony to the Utah delegation. **Kate Kitchell:** Thanks for the 50-year withdrawal and being fair to all sides. (When you beat your competition, you want them doing their best.) And finally, **Ron Pene:** If it wasn't for you tearing up the slopes and gullys at Westwater, none of these great people would have ever gotten together...

Congratulations FOW!

Questionnaire Summary

1998 Summer Issue, The Confluence

Compiled by John Weisheit
Secretary/Treasurer, CPRG

For those who participated in completing the questionnaire thank you for your time and commitment to help this organization direct it's course. The following is a results summary with commentary.

The number of years that participants have guided:

It would appear that CPRG is mostly comprised of senior guides.

High: 18 years
Low: 3 years
Average: 12 years

The river reaches where we guide the most:

The answers surprisingly resulted in several ties and are thusly recorded.

1. Horsethief, Ruby and Westwater canyons
2. Canyonlands, Grand Canyon and San Juan Canyon
3. Moab Daily and Dolores River
4. Desolation and Gray canyons, Green River Daily, and Labyrinth Canyon
5. Dinosaur National Monument

Other rivers: *Some participants included river reaches that indicate many members actively participate in private trips. It would appear that some professional guiding is done by the membership on the Salt River, Verde River, and the Rio Grande River.*

It has been suggested that we change our name to (for example) *Colorado Plateau Guides* and become an organization for guides that conduct trips both on the river and the land. What is your opinion on this issue?

The majority opinion is to keep CPRG orientated to serve river guides. Comments are as follows.

- Too little to late. The heart of CPRG is the river. The change would seem like an unconvincing political gesture.
- Keep it as it is.
- I think its fine just the way it is.
- I would like to see CPRG focus on the river.
- I prefer to remain a river guides organization with river emphasis.
- No. Keep it an organization of river guides. I think there is too much difference in issues between land and river guides.
- No way. Maintain your river focus. If we get too broad, we get spread too thin.
- If you've got 20 "land" guides knocking down the doors ready to carry the flag—do it. If not, stick to the river focus.
- The difficulty of focusing on two separate issues should be apparent after seeing what we've been going through just dealing with rivers. Are there four or five totally dedicated land guides willing to do the equivalent amount

of work that John, Susette, T-Berry, and one or two others have done? Spreading ourselves too thin will be detrimental in the long run. On the other hand I have no problem seeing letters regarding shared issues in The Confluence.

- I think if people want to be involved and contribute to CPRG, then great! What involves us on the river, involves those on the land! We're all connected as guides.
- I agree. Education of the Plateau can then circulate into a larger audience including jeeps, canyoneers, hikers, pilots, and bikers.

We are moving forward with the concept of hiring a Director to conduct guide training programs; this would include an office for CPRG. What is your opinion about this issue?

The majority opinion is to proceed; perhaps with caution and sound guidance. Comments are as follows.

- As long as it doesn't take money away from The Confluence.
- Makes sense, but charge a nominal fee.
- If the grant money is there and this person can also raise the money—do it. Or, if the demand for guide training can help offset the cost of the Director via fees—sounds good.
- How would CPRG determine this hire process for a director? Where to advertise? What credentials would the applicant have to have? Where would the money come from for salary, rent of office space, office supplies, travel fees? What are the duties of director? I would want to know and the membership would want to know?
- Holy Shit! Where's the money going to come from? I watched the AMGA (American Mt. Guides Assoc.) go from running from an outfitters closet to a place with two full time paid staff-both respected guides, and real office equipment. They did this by getting AMGA board members with deep pockets and a love for climbing to get things off the ground. It was sort of like inviting your favorite rich clients to be board members. Nice folks, pretty much wannabes, but it worked. Then, of course, there were the deep pockets like Yvonne Chouniard & REI that got things going, too. Is it possible to get large national manufacturers to contribute to a regional group? Now, on to the training issue. There are some moderately to completely incompetent people who want to become river guides. Is it OK to send them through a course and call them river guides? It is perfectly possible to pass all the required courses and still be useless to dangerous out there. What if they don't have the head for emergencies? What if they don't have that ability to anticipate a guests needs? What if they are trustafarians who just don't have that down deep Puritan work ethic that comes with the need to make money—not just be someone who does a lot of river trips? Is there a way to quantify that and therefore be able to deny them the "Guide Certification" without it being a popularity contest? One response could be that it is up to the outfitter to decide to hire this person, but what is the purpose of doing the training program in the first place? Is the purpose to actually teach the necessary skills to be a quality guide, or is it to allow outfitters to tell their clients and insurance companies that their guides graduated from the CPRG Bronze River God School and therefore are professionally qualified to interpret their vacation for them, and make sure they are alive at the end. Boy, you think there's a wait list for Westwater, the Yampa, Grand, and etc., now wait till these courses have been around for a while.
- Let's do it. Tom Corcoran would make a good Director.
- Probably a good idea. Economical?
- Good idea
- Sounds fine.
- Yes!

The board of CPRG has endorsed the mission statement of Glen Canyon Institute, which is to restore a free-flowing river through Glen Canyon. What is your opinion on the issue of draining Reservoir Powell?

The majority opinion supports the CPRG board's decision (Fall, 1996) to endorse the mission statement of Glen Canyon Institute (GCI). Comments are as follows.

- Drain it! If we don't endorse the mission, we might have to change the name to Colorado Plateau Reservoir Guides.
- I agree.
- I think that it's appropriate for the organization that has stated in it's mission statement "protecting the rivers of the Colorado Plateau" to endorse the draining of the Powell Reservoir.
- Mo faster—mo betta! Good job CPRG board of directors!
- Of course support the draining of Lake Powell.. The silt, flood control, salinity vs. concrete issues of the Lake itself have barely been addressed as it is, let alone the attention the downstream effects are just starting to receive. If all we can do for the next 50 years is draw attention to these issues we'll at least be ahead of the game when it comes time to actually do something about the dam—which is an inevitable certainty.
- A great experiment.
- Go for it! As long as we can run Cataract Canyon to Hite Marina without trouble.
- Do it. Support GCI.
- It's fine to endorse the mission statement, but let's not spend very much of CPRG's time or money on the cause—that's for Glen Canyon Institute to do.
- I am not convinced that we should drain it.
- I do not endorse draining Powell. I would endorse the study of the possibility and alternatives. I'd like to see an article of what GCI means to achieve by draining Powell. What the problems they think they'll resolve and I'd like to see an article from another point of view. Both saturated in science.

What can we do to improve our journal *The Confluence*?

The members like The Confluence, especially the history articles. We need to purchase high quality software to improve the graphics of our journal, and to better understand and utilize computer technologies. Special features are currently in the making which include a biography of Otis Marston, a synopsis of Desert Waters 98, Desolation Canyon and the San Juan River. Comments are as follows:

- Get a photo scanner and Photo Shop program. It's less expensive than you think (I can't make out anything of the most recent cover photo). I love the historical articles and the simple layout/format.
- I look forward to The Confluence and the historical perspective that some of it's articles provide on different

rivers. Also appreciate the info on the dam and reservoirs.
- Improve photo quality; access a better scanner, printer???? Give the editor a raise.
- Can we get a symbolic relationship with a color magazine? Some of our articles deserve color photos.
- The Confluence is pretty good the way it is. I am fully in favor of maintaining an open door policy on all submissions regarding content. Points of view that are neither vituperative nor false all deserve a hearing. Its good to know what the enemy is thinking.
- I like the historical info.
- Keep John Weisheit as editor and have him write more.
- Do something with those terrible photo reproductions. They're worthless.
- I really enjoy it as it is.
- Great job! You guys are amazing. I would like to do what I can, but am very busy like you. I don't know how you do it.

Would you be interested in helping produce *The Confluence?* What possible contributions could you make? We especially need people to help produce an oral history project; we also need artists.

- Yes. I can provide Colorado Plateau themes about Everett Ruess, Marlboro Adventure Team, and draining Reservoir Powell.
- No—it's a thankless, time-consuming job. Actually, I'd like to see it done on Pagemaker. Maybe I will help with that.
- I'm currently working on oral histories for The Confluence and have an assistant doing a video from the San Juan interp trip of 1998. Possibly for sale Spring 1999.
- Yes, I would be interested in helping produce the confluence. I have a PC with Microsoft Word 6.0.
- Not at this time.
- My grandfather has photos of Glen Canyon in 1955. I could do something with that.

Is there another issue that you would like to address?

- Sure—why don't motorscaters pay a recreation fee at Reservoir Powell? Why don't flightseers pay to fly over CNP or Arches? And why do we pay so much to float the rio?
- Educational influence (Moab Information Center lectures or spring interp) of Navajo, Ute or other Native American influence on the Colorado Plateau. Working with search and rescue for a training opportunity on the San Juan or the Daily.
- How about updates on the river management plan? Perhaps I should get off my ass and get in touch with Dave Wood on that one. What about unionization? Ha Ha Just kidding. What about illegal drug testing?
- I would like the river from 32rd to the Loma launch to be life jacket optional.
- Please feel free to contact me regarding issues in Dinosaur.
- Increased canoe activity on the Green River to The Confluence.

Thanks again for participating in this questionnaire.

1999 Professional Guide Training

Swiftwater Rescue Technician I & II

by The Rescue Company
Head Instructor: Tim Kellahan
Hosted by Sheri Griffith River Expeditions

Swiftwater Rescue Technician I

Prerequisite: Must be 18 years or older. This class is an intensive three-day, 30-hour program. This includes developing self-rescue skills, controlling in water rescues, understanding hazards and obstacles, setting up basic technical rope systems and understanding swiftwater dynamics.

Swiftwater Rescue Technician II

Prerequisite: Swiftwater Rescue Tech I. This class is a 20-hour advanced level program that will include rescue scene management, advanced rope system, stokes litter operations and search and rescue organization.

When: May 7, 8 & 9, 1999—SRT I
May 10 & 11, 1999—SRT II
Where: Moab, UT
Times: 8:00 a.m to 6:00 p.m.
Cost: SRT I—$300.00 ($100.00 deposit)
SRT II—$200.00 ($100.00 deposit)
Registration: Contact Scott Solle at (801) 467-6273 in Salt Lake City or Jeff Brown (435) 259-8229 in Moab.

Westwater River Rescue

By Canyonlands Field Institute
Instructors: Barry Miller and Rachel Schmidt

April 23-25. For experienced boaters (Class III), river researchers and rangers, course starts with a full-day class session in Moab followed by a river trip on Westwater Canyon. Special considerations for rafting high-volume rivers: instream rescues, rigging, swimming rapids, righting flipped rafts, Z-lines, safety talks, rescue scene management. Meals included; boats/logistics provided; 25-hour course certificate.

Fee: $300.00 ($285/CFI members) **Deposit:** $100.00

Canyonlands Field Institute
P.O. Box 68
Moab, UT 84532
1-435-259-7750
1-800-860-5262
Email: CFInfo@canyonlandsfieldinst.org
Web: www.canyonlandsfieldinst.org

Canyonlands Field Institute also provides interpretive courses for guides on a per request basis at reasonable rates and flexible schedules. Please contact CFI for more information.

THE A. G. TURNER INSCRIPTION(S)

By Jim Knipmeyer

After running through Rapid 12 in Cataract Canyon (Belknaps' Canyonlands River Guide), an observant boatman looking back to the right bank might dimly espy a faded black paint inscription reading simply, "A.G. Turner." This is the signature of Alonzo G. Turner, Glen Canyon prospector and miner, and was most likely left during his solo river voyage of 1907. While this inscription has no date (at least none that can be read at the present time), two other reported A. G. Turner inscriptions above and below this one are accompanied by the year date of 1907.

It was the Kolb brothers who, during their movie-making boat trip of 1911, first questioned who A.G. Turner was. In their book Through the Grand Canyon from Wyoming to Mexico, author Ellsworth stated, "At one point in the lower end of Cataract Canyon we saw the name and date A.G. Turner, "07." A few pages farther on, he explained, "A short distance below this [the Dirty Devil River] we saw a tent, and found it occupied by an old-timer named Kimball. Among other things he told us that he had a partner, named Turner, who had made the trip through the canyons above, and arrived at this point in safety. This was the man whose name we had seen on the walls in Cataract Canyon."

This Turner inscription reported by the Kolb brothers, however, is evidently not the one remaining at Mile-206.6. Raymond Cogswell, a member of the 1909 Julius Stone river expedition, mentioned an "A.G. Turner 1907" signature painted in- black at Dark Canyon Rapid. In the Kolbs' individual journals of their 1911 trip, they both relate seeing the Turner name during the same day they portaged Dark Canyon Rapid. This, obviously, is some 24-miles below the one still to be seen today, and fits much better with the book's statement "in the lower end of Cataract Canyon."

Lon Turner (he was always referred to with this shortened version of his first name by people who had known him), according to the epitaph carved onto his gravestone, was from Sharon, Pennsylvania, just inside the Ohio state line and not too many miles south of the shore of Lake Erie. Figuring from his age when he died, he was probably born sometime in. 1854.

In a 1965 newspaper article by Hanksville, Utah, resident and local historian Barbara Ekker, whose family had known Turner, after Cass Hite's arrival in Glen Canyon in the fall of 1883, the news soon spread of gold on the Colorado River and the canyon became alive with prospectors. "Lon Turner was one of these." This is substantiated by fellow prospector and miner Billy Hay, who said, "I was instrumental in practically all of the developments on the Colorado River in the last 30 years where I spent most of my time up to 1914. Messrs. Kimball and Turner, L.M. Chaffin and myself were practically partners all of that time." Thirty years previous to 1914 would have been 1884.

There is also an unsubstantiated report that before going to the Glen Canyon area Turner and Frank Kimball owned a ranch in the present Fruita, Utah, area which they called Sulfa Ranch (this would be where Sulphur Creek enters the Fremont River in the heart of what is today Capitol Reef National Park). It was said to be the first ranch in that area. However, National Park Service records show no mention of settlement or deeds of ownership by either Turner or Kimball.

According to a Wayne County, Utah, history, there was a Benjamin G. Turner family who arrived and settled in the Loa-Lyman area, not too many miles west of Fruita, about 1879, and a Lorenzo Turner who settled in the Blue Valley area, not too many miles to the east, soon after 1883. But both of these families were staunch Mormons, while Alonzo Turner's gravestone epitaph states that he was a member of Knights of Pythias Lodge 398 back in Sharon, Pennsylvania.

Before his 1907 solo trip, Turner made at least one, and possibly two other voyages through the rapids of Cataract Canyon. In a statement made to Colorado River historian Dock Marston in 1956, Louis Chaffin. said that he went through Cataract with Lon Turner looking for gold about 1894. He (Chaffin) had gone in by way of the Spanish Stairs trail and joined Turner, who had evidently come downriver by boat. They then went on down to Moki Bar in Glen Canyon. Chaffin added that Turner was "just looking," prospecting in other words. This story is given credence by Lou Chaffin's buying out of his partners' (Billy Hay, Frank Kimball, and Lon Turner) interests in the Moki Bar in the fall of 1895.

In his testimony during the so-called "River Bed" case in 1929, Chaffin also told of a river trip in the fall of 1904. He and Turner floated from Greenriver, Utah, down to The Confluence, where they cached one of their boats, and then rowed and poled the other up the Colorado to a gold placer prospect near Moab. On their return to Glen Canyon they simply floated back down to The Confluence, picked up the second boat, and went on through Cataract.

According to Chaffin the boats were light, sixteen-footers, decked over at both ends, and fully loaded drew only 6 to 8 inches of water. They never had any serious trouble getting through Cataract. They ran all of the rapids except three, where they portaged their equipment around and then lined the empty boats down with ropes. Chaffin did testify, however, that at one place Turner's boat got on a rock, tipped over, and threw him into the water.

Chaffin described Lon Turner as "a careful fellow, a man with a pretty good head on him. I tried to do as he wanted to do...." This statement would seem to indicate that Turner was the "leader" of the two boats. Chaffin concluded by saying that while Turner did run a couple of the rapids stem foremost "a time or two," most often they ran them 66 pointed the regular way."

By all accounts Turner took life pretty seriously. One time Billy Hay wanted him to go out in a boat on the river so that some of Hay's friends could take pictures. Lon thought that this was a rather foolish reason to go boating on the Colorado and so refused. Hay, then, went out in his boat, and while running the small rapid at the mouth of Trachyte Creek, overturned. Turner went in after him and saved his life.

On the 1907 voyage Turner was by himself, taking freight from the town of Greenriver down to the placer claim locations in Glen Canyon. According to John Hite in a 1912 letter, Lon had seven or eight hundred pounds of supplies and was eighteen days making- the trip. Being alone he ran all of the rapids of Cataract Canyon without any accident whatsoever. But in later years a fellow prospector, Frank Lawler, said he had heard Turner tell of his 1907 run, that it was just luck he had gotten through, and at times he could not control the boat.

In John Hite's letter he also stated that Turner's eighteen-day trip concluded at Hite in Glen Canyon on December 13, which would mean that he left Greenriver on November 26. Turner's only inscription in which he also included a day and month is located about a half-mile below Water Canyon on the Green River, not far above The Confluence. The date is November 27 and was probably made at Turner's evening camp for that day. This would mean a voyage of approximately 116 miles down the calm and slow Green River; a pretty fair distance for two days of travel!

Lon Turner placer mined all through Glen Canyon: Wright Bar, New Year Bar, California Bar, and at the mouth of Red Canyon. Late in 1914 he and Frank Kimball reportedly bought the Red Canyon claim from Bert Loper for "$50 and their claim to California Bar. "During the winter of 1920-21, Frank Lawler said that he "placered a couple of months" with Lon Turner at Red Canyon and they "took out $1,047."

But Turner was not just a gold placer miner on the bars of Glen Canyon. He was also a quartz (gold ore) miner in the nearby Henry Mountains. It is reported by Barbara Ekker that Turner and Kimball started working the Bromide Mine property in the early 1900s. Arthur Chaffin, brother of Louis, said in a 1962 letter to river-runner and historian P.T. Reilly, that he had met Lon at the mouth of Hall's Creek late in 1903, while Turner was picking up a gasoline engine "to take back to the Henrys to run his little stamp mill."

According to Pearl Baker, a Greenriver resident and historian, Turner and Kimball mined up in the Henrys at a claim on what was later known as Turner Peak. She said that they would work this mine during the summer months when it was too hot to work their claim at Red Canyon down on the Colorado River. Baker also related that the two partners said that some of their Henry Mountains ore ran $44 a ton in coarse gold.

Cass Hite, the original Glen Canyon prospector and miner, was a good friend of Turner's. Lon would visit him quite often at Cass' cabin, a short ways up Tickaboo Creek. He would always bring his violin and the two of them would team up for duets "that would make the canyon echo" with music. It was Lon who, during one of his usual visits late in February of 1914, found Cass dead. He and Bert Loper buried him in his garden near the cabin at Tickaboo.

In late 1918 or early 1919, Turner and Kimball sold their property in the Henrys and at Red Canyon. Lon wanted to go to California and moved to near Blyth in 1919. Not long after, however, upon the death of Kimball at Hite, Turner returned to southern Utah to see about the burial of his longtime friend. Another account says that Lon went away to mechanic's school in Phoenix, Arizona, and while he was gone Kimball died at Hite in 1919. Be that as it may, Turner stayed in Wayne County, where he took up a partnership with Arthur Chaffin in a garage business in Bicknell.

But like his California residency (or Phoenix!), this did not last long either. In the winter of 1920 Turner and Frank Lawler returned to the Red Canyon area where they leased some of the old placer claims. By the spring of 1921, however, Lawler had given up mining and begun trapping, and by 1922 Turner was placer mining back on California Bar.

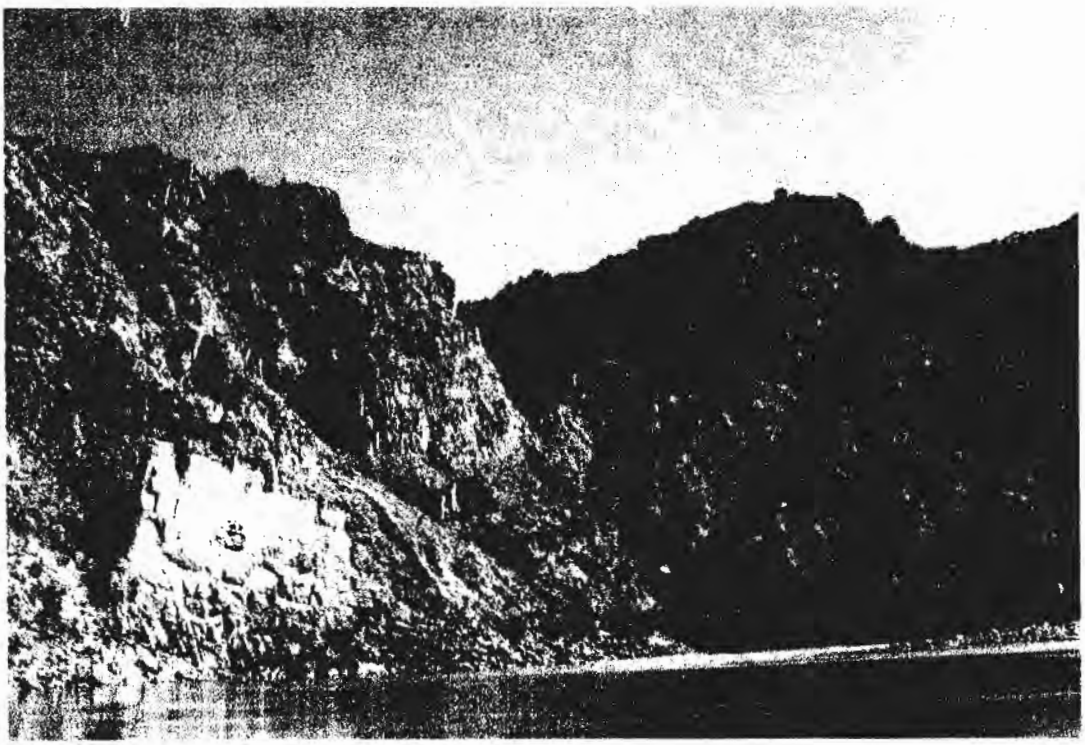
He lived the remaining months of his life in a two-room cobblestone cabin which he and Frank Kimball had built years past. Lon had contracted tuberculosis earlier in life, and now he became quite ill with TB. Doctors could do nothing for him, and in late April of 1923 he was found dead by Arthur Chaffin and Lawrence Lee.

By his own request, Turner was buried there at California Bar in Glen Canyon. According to Billy Hay, one of his old partners, he was laid in a coffin "box" made out of driftwood, dressed in his black suit of clothes ("He looks like he's going to a party," Billy said), and buried in a six-foot deep prospect hole. It was found out later that Turner himself had dug this particular prospect hole months earlier.

Arthur Chaffin cast a hand-mixed cement headstone at Hite, brought it down to California Bar and erected it, setting a fence built of light metal water pipe around the grave. The inscription on the gravestone was also hand-inscribed in the still-soft concrete. The name read: A.G. TUNER (sic). The "r" in his name had been left out, but once the misspelling was noted, it was too late to back up.

The cold, dead waters of Glen Canyon reservoir now bury Alonzo G. Turner's lonely grave, as they do his 1907 inscription near the mouth of Dark Canyon. But his other signatures, in middle Cataract and below Water Canyon on the Green, remain as epitaphs to this longtime prospector, miner, and river runner.

Photo: The A. G. Turner inscription site at Rapid 12 in Cataract Canyon. Looking upstream from the eddy that is formed by the deepest plunge pool in Cataract Canyon (80 – 100 feet). The inscription is written in charcoal on the limestone face in the lower left quadrant of this photo.



"LIFE ON THE ROCKS"
MAY 14 –16, 1999
Hosted by Colorado Plateau River Guides

REGISTRATION FORM

Please complete in full for each person registering. Type or print clearly. Feel free to make photocopies this form.

Name Of Organization/Company You Are Representing:_____

Your Name:_____Age:_____Gender: M F

Mailing Address:_____E-Mail Address:_____

City:_____State:_____Zip:_____

Phone (home): (____)_____(work): (____)_____

Participation in "Life on the Rocks" is limited to 100 guides. The event is rapidly filling. Please send in your registration as soon as possible to insure your participation.

Program fees: $25.00

Make check or money order payable to CPRG

Total due: $_____

Less deposit paid: $_____

Balance Due: $_____

Mail to: CPRG
PO Box 344
Moab, UT 84532-0344
435.259.3598
cprgutah@hotmail.com

Payment: **Method of Payment:**

Experience:
Please describe your river experience if any:_____
_____
Please describe briefly your personal expectations for participating in this event:_____
_____

Health:
VERY IMPORTANT: Please list any current medical conditions, medications, ailments, or other health problems:
_____
Are you allergic to bee stings, certain foods, medications, etc.? What is the reaction?:_____
_____
Are there any foods you absolutely do not eat? Vegetarian? Please describe:_____
_____

Colorado Plateau River Guides is one of the main driving forces to provide a quality educational experiences for commercial guides working on the rivers of the Colorado Plateau. CPRG is dedicated to the protection of rivers on the Colorado Plateau and to the celebration of the unique spirit of the river community. We invite you to become a member of CPRG. Membership falls into two classes: guide membership and general membership. Guide members are constitute the voting portion of CPRG and are eligible for positions on the Board of Directors. General membership is open to anyone who wishes to support CPRG. All members receive The Confluence quarterly, flyers, and notifications concerning issues and events. Membership is $20.00 annually.

There are no dogs or glass containers allowed at this event

A Progress Report
Life on the Rocks
May 14-16, 1999

Note: A tentative schedule of speakers and events as of April 1, 1999 (subject to change).

FRIDAY EVENING: A keynote address by a noted author or scientist (in process).

Quartzite Falls — video and discussion.

Event location: The keynote address will be held in the Grand County High School Auditorium (the fee is still being discussed). The high school is located on 400 East between Hwy 191 and Mill Creek Drive. Time: ?

SATURDAY: 8:00 a.m. registration and welcoming remarks. The stations will be 90 minutes each; (45 minutes for presentation, 30 minutes for mentoring, and 15 minutes allowed for changing stations). Two stations will be done in the morning and one will be done after lunch.

Event Location: Gold Bar Campsite on the Potash Highway (Utah Hwy. 279), 11 miles from it's junction with Hwy. 191; that junction is north of Moab and across the Colorado River bridge on your way to Arches National Park. Bring your own tent and sleeping bag. Food, water and toilets provided. No glass and no dogs please.

9:00-12:00 First two stations.
12:00-1:00 Lunch and raffle for prizes.
1:00-2:30 Last station.
2:45-3:30 Interpreting controversial issues. Diane Allen (NPS).
3:30-4:30 Special needs populations skills training. Dottie Shinpock (S'PLORE).
4:30-5:30 River conservation discussion. Friends of Westwater, and Utah River Council.
5:30-6:15 Set up camp/free time.
6:15-7:15 Dinner and River Trust presentation.
7:15-8:15 Atlas tailings pile discussion. Bill Hedden.
8:30-? Campfire presentation of Buzz Holmstrom's life by Brad Dimock.

Stations:

I. Origin of mineral deposits: Uranium, Potash, Placer.
Expert: Will Bussard
Mentor activity: discussion, sites visited along Colorado Plateau rivers.
Possible mentors: John Weisheit and Matt Robinson

II. Geologic history of the Colorado Plateau. Origin of the layers, faults, etc.
Expert: Gene Stevenson
Mentor activity: rock identification and classification.
Possible mentors: T-Berry and Randy Larsen

III. Moab geology
Expert: Lynn Jackson
Mentor activity: interpretive skills.
Possible mentors: Rebecca Martin or Christine Beekman

SUNDAY: 7:30 a.m.-8:30 a.m. Coffee, breakfast, and orientation of the day's activities. The stations will run on the same schedule as the previous day.

9:00-12:00 First two stations
12:00-1:00 Lunch
1:00-2:30 Last station
2:30-3:30 Leave No Trace training. Rick Ryan (unconfirmed)
3:30-4:00 Evaluations/goodbyes

Stations:

I. Paleontology of the region.
Expert: Donald Burge of C.E.U, James Kirkland, or Rod Scheetz
Mentor activity: interpretive skills.
Possible mentors: Marian Ottinger

II. Riparian ecology and threats from exotics: tamarisk, Russian olive, etc.
Expert: Dr. Rich Valdez of U.S.U.
Mentor activity: plant I.D. hike
Possible mentors: Dennis Silva, Kara Dohrenwend, and Damian Fagan

III. Geomorphology of rivers
Expert: Dr. John Schmidt of U.S.U.
Mentor activity: discuss differences & similarities of the plateaus' rivers/map exercise.
Possible mentors: John Weisheit and Dr. Tamsin McCormick

This event is land based and camping is encouraged at the site. Hiking shoes, hats and daypacks with snacks, sunscreen, and water bottles are necessary for each day. Plan for both rain and hot weather conditions. Along with the BLM's low impact camping regulations, there are no dogs or glass containers allowed at the site.

If you have any questions feel free to call Dusty Simmons at (435) 259-3951, John Weisheit at (435) 259-8077, Tom Corcoran at (435) 259-3527, or Tamsin McCormick at (435) 259-2718.

If you would like to e-mail your comments, please send them to cprgutah@hotmail.com

Be There!

"Frenchy" A Rock Creek Ranch Stone Mason

by Jim Strong

AN EXTREMELY WORRIED MOTHER WALKED slowly along the path following her shadow, which was beginning to fade away. She felt the cool evening air coming from the mountains so she began to draw her shawl closer. Her evening walk was not a happy stroll but a serious walk during which she must think. She hardly saw where she was going as she pondered what she should do. Mrs. Eraud (pronounced Ehroh) had already lost her husband and two sons in wars, and her worry now was for the safety of her last son. It was just before the turn of the century in 1896 and he faced conscription into the army. To her that meant the same fate for him, as for his father and brothers. Eugene Eraud had been born next to where the Swiss, Austrian and Italian Alps come together. As she looked up at the majestic mountains, she paused a short time, then suddenly turned around and walked briskly back. She had made up her mind. Her plan to save her son required drastic action and by her action she could not possibly dream that one-day he would be on the Rock Creek Ranch in Desolation Canyon on the Green River in Utah, a place no map at that time, especially in Europe, would even show.

She did what was almost unthinkable by putting her son all alone aboard a sailing ship bound for California far across the ocean. Her son looked over the railing of the ship and waved good bye to his mother not realizing how she agonized at his departure. As the ship faded into the distance Eugene didn't know he would never see France or his mother again. He was only 16 years old.

He arrived in California in 1896 the same year Utah became a state. His mother had given him instructions to go to a town named Price, in Utah, where he could meet a French family named Bouvier who years ago, in France, had been friends of his mother. Those who knew Eugene are not sure whether he ever met the Bouviers.

It took him nearly five years to work his way over the Sierra Nevada Mountains, across Nevada, and half way through Utah to Price. He earned his livelihood as a sheepherder and along the way while herding sheep he studied rocks, specifically those with valuable minerals, because he found some gold. No wonder it took him five years!

My wife, Marjorie, and I traveled to Castledale, Price, and Wellington, specifically to learn what we could about this 16 year old boy who came from France and had been given the nickname "Frenchy." A nice white-haired lady, Margaret Magnuson the city recorder in Castledale, and her co-worker, Caroline Jorgensen the city secretary, were eager to tell me they remembered Frenchy. They were gracious enough to put me in touch with John Jensen, who had known Frenchy and had been with him when John was a boy. He, along with others, told me what they knew about Frenchy's life as they remembered it.

Rock Creek Ranch is located fifty-four river miles up the Green River from Green River, Utah. The distance is measured in river miles in Buzz Belnap's map of Desolation/ Gray Canyons. The main ranch house was made of local sandstone and is gradually falling down after a fire destroyed the roof years ago. If you look carefully you will notice that the main house rockwork is not as well done as the addition to the house which extends north toward the mountain and which still stands with a dirt roof over it. The addition is made over a dugout cellar and it has stone blocks matched and fitted far better than those of the main house. The edges of the blocks are superbly shaved and edged and fit to such a close tolerance that if you look along a joint line it is as straight today as it was when it was put together in the 1920's. River guides have a chance to show this superb rockwork that is still standing after so many years.

Rockwork on the main ranch building at both Rock Creek and down stream at McPherson's Ranch, is of inferior quality compared with the addition. Likely the same man did the rock work on both main ranch houses judging by the rocks are put together. I have taken people on raft trips passing Rock Creek ranch 216 times and until now never could tell them anything about who did the rockwork of the main house, the additional room, or the rock chicken coop. I could see a difference in the quality of the work, but had no idea why there was a difference, or who did any of the work. The Rock Creek ranch house masons have been a mystery just as who made the petroglyphys we see on the canyon walls. We now know who did such fine work on the additional room at the Rock Creek Ranch house, and who built the rock chicken coop on a ranch situated in such an inaccessible place, far from any town, and in such unknown territory.

A lot of the information I have gathered of what Frenchy did is circumstantial but much more comes from those who were with him and knew what he did. I have found a witness who, by seeing his picture, has confirmed that the mason for the addition and the chicken coop was Frenchy. Lou Downard told me his father learned from the Seamountons, from whom he bought the ranch, that a man called Frenchy had built the ranch house addition and the rock chicken coop. In the early 1920's, when the Seamounton brothers owned Rock Creek Ranch, they got in touch with Frenchy at Rufus Wilberg's, where they bought bulls for the ranch. In their dealings they got Frenchy to agree to build the addition to the main ranch rock house and a rock chicken coop. The chicken coop still stands and no chickens ever had a stronger home. With his love for mountains, deserts and wilderness, places where he could spend time by himself, it would not have been hard to

lure him away to that part of the country to do that bit of work. The question arises though, how did he know how to do rock work if he left France when he was only 16?

There are three possible answers. The first is the most logical. The other two are possible but most likely fit in with the first. The apprenticeship way of teaching a young man a profession was successfully used in Europe during the nineteenth century. It is quite possible that Frenchy was apprenticed at an early age to a stone mason since he lived near the Alps and could have been working with stone before his mother put him aboard the ship for America. In the old country he would certainly see and would have been taught the ways of how to do the best type of rockwork. Or, Frenchy may have worked with rock in the Sierra Nevada mountains while he herded sheep; he could have learned a lot in five years which included learning to find gold. That would certainly have spurred his study of rocks. The third possible answer is Frenchy could have learned the art after he got to Price. According to Fred Wilberg, Frenchy was a very literate person who read much and learned things by himself. And being a loner he could have practiced stone work and no one would have known about it. Fred said Frenchy was a self-taught mineralogist and he spent time prospecting in the mountains he loved. He herded sheep on Buckhorn Flat for the Wilbergs where they had a homestead. He would have plenty of time to learn the different rocks and to practice the art of shaping, edging and fitting rocks. No one I have talked to has suggested that Frenchy would not or could not be the mason on the Rock Creek addition. A cementing fact that Frenchy did the work is that Fred told me Frenchy talked about being over at Rock Creek on the Green River and that he loved the mountains there.

Frenchy was wealthy at one time and did own a ranch according to Edna Wilberg, wife of Rufus Wilberg. To own a ranch would account for two things: 1) From his finding gold he would have money to buy a ranch, but Gold, the magic metal of the ages, has been the making of some men and the downfall of others. 2) From owning a ranch, he would come into contact with ranchers of the area, but owning a ranch doesn't mean you have the ability to be a successful rancher. Apparently he lost, or gave up his ranch, and went to work for Rufus Wilberg on his ranch. The work he did gave him time to be in the mountains, and after herding or rounding up cattle he had time to search for rocks, and continue to do with rocks what he did when he came over the Sierra Nevada's. He prospected, staked some gold claims, and even sold some of his claims. He prospected in the Prickly Pear area east of Castledale and even had a mine there. Frenchy said he wanted Kelley McClanahan to have it but to this day no one can find the mine. Kelley has died without having received any benefit from the mine.

John Downard and his son Manuel Downard, who bought the ranch from the Seamountons, also went to Rufus Wilberg in Castledale to buy bulls for Rock Creek Ranch. On a couple of these trips Lewis "Lou" Downard, John's grandson, went with his dad to the Wilberg Ranch in Castledale. Here he saw



Frenchy and Rufus Wilberg.
From the Cyrus Wilberg Collection.
Courtesy of Linda Wilberg and John and Beverly Jensen

Frenchy and heard him talk. Lou, who lives in Coalville, Utah, identified both Frenchy and Rufus from the picture accompanying this article. Manuel Downard and Luella, Lou's mother and father, took Lou to Rock Creek Ranch when he was only five months old. Lou lived there until he was eighteen. "When I heard him talk," Lou told me, "He sure did talk funny." Frenchy's French accent would certainly command a boy's attention.

I went to the cemetery in Castledale, Utah, with John Jensen who had been the sexton for that cemetery for years. He showed me where both Rufus and Frenchy are buried in the same plot. Now only a white piece of stone marks Frenchy's grave but Fred Wilberg is going to place a gray sandstone headstone where the small white marker now stands. As we stood on the west side of the cemetery John pointed to the northwest up on the mountain so I could see where two significant places are located, Burnt Spring and Pine Creek. Wilberg's cowboys herded the cattle from Joe's Valley to Pine Creek where Frenchy would cook for them. Besides John other young boys from age 9 on up like Gary Blackburn, now of Grantsville, Utah, and Elwood and Dee Miller of Castledale, went on the cattle drives, or herded the cattle, and became acquainted with Frenchy.

The Wilbergs had their headquarters down on the side of the mountain at Pine Creek where they had corrals and kept feed. But Frenchy preferred to stay at Burnt Springs some distance below Pine Creek. He would walk or scoot up to Pine Creek in time to fix the food for the cattlemen. He preferred to

walk up to Pine Creek and never rode a horse up there. He cooked with Dutch ovens over an open fire and had a way of putting the meat, potatoes, and vegetables in the Dutch ovens, then putting on the lids and covering them up with the coals so the meal would be done when the men came in. Frenchy would dig a three-foot deep trench in the ground, and John and the other young boys would have to cut sagebrush, so Frenchy could burn it in the hole and line the bottom with coals. Frenchy and river guides have something in common, because if a river guide could only take one cooking utensil on a trip, he would certainly take a Dutch oven.

When Frenchy spent time in the mountains or in the desert he lived in a tent. And when his supplies were gone he would walk to town for supplies or load up his two horses, like pack horses, with a good supply of what he needed. He lived on venison and pheasants. He would trap the pheasants with chicken wire and a loop. John tells the story that one evening a game warden, one who would arrest "his own mother," came to the camp the herders had in the mountains just as they sat down to eat. Of course all they could do was ask him to join them. After awhile the game warden asked, "Say, what is it we are eating tonight?" No one answered. After a time he repeated the same question adding, "...what is this meat; its taste is familiar." Again no one said anything. After the game warden had asked that same question a couple more times, one of the men at the table spoke up and said, "For Hell sakes Carl, eat your dinner and shut up!" The question was never asked again.

Frenchy had a knack with horses and cattle, but I have yet to find anyone who ever saw him ride a horse. That is strange since at one time he hunted donkeys for the government. When he was not working on the ranch, mostly in the winter, he loved to go out into the desert. He had a bunch of "colts," as he called them, but they were really 10 to 12-year old horses that were gentled and who followed him around like pet dogs. Frenchy was skilled at many things but what seems important is whatever work he did, whether it was ranch work, stone work, carpentry, cooking or herding, all were extremely well done. According to Gary Blackburn, who now lives in Grantsville, Utah, he made a sprayer out of wood to spray the backs of the bulls. You could suck water up into the sprayer which had a plunger and by pushing the plunger the wooden sprayer would send the water out in a spray. He had the bulls gentled so he could go among them just as he did with his "colts." However, Carl Wilberg remembers an incident in which Frenchy wasn't so gentle. The Wilbergs, who had bulls for sale as a part of the ranch business, had two bulls get into a fight. Old "Frenchy" went into the corral with a stick and began whacking each bull on its head. He kept whacking them until he actually made them stop fighting.

Frenchy never married and never owned a home. His home was the desert, or the mountains, which may have reminded him at times of a far distant homeland. As he grew older he had a falling out with Rufus and went to work for By Johansen. By was in the cattle ranching business, so Frenchy worked as a ranch hand. He would be good at that because, although he was not a large man, he was a very strong man. The Johansen home is on the National Register, and today, is marvelously kept up. By built Frenchy a one room log house to live in on the back of his property in Castledale. He had a stove in it with which to cook and warm the place, but eventually things did not go well and he had a falling out with By. Frenchy went back to work for Rufus, who had a ten by ten-foot shack made out of two by fours built for him.

As Frenchy got older, he developed a toxic urinary problem. In February of 1952 Fred's mother, Edna, found Frenchy in distress. She got him into the car and stopped by the school to pick up Fred to help her. By the time she arrived at the school and picked up Fred, Frenchy was semi-conscious. They sped on toward Price, but as they approached the city, his breathing became irregular. As they hurried toward the hospital his breathing slowed and his life gradually ebbed away. The 16 year old boy who had been saved by his mother from death in war, so many years ago, died peacefully far away from his homeland, but close to the mountains and desert in which he had spent much of his life. He left little to remember him by except a legacy of superb rockwork which only those who visit Rock Creek Ranch will see. For river guides, passengers, and anyone else who is privileged to see it, his rockwork has a message; whatever you do, if it is worth doing, it is worth doing well.

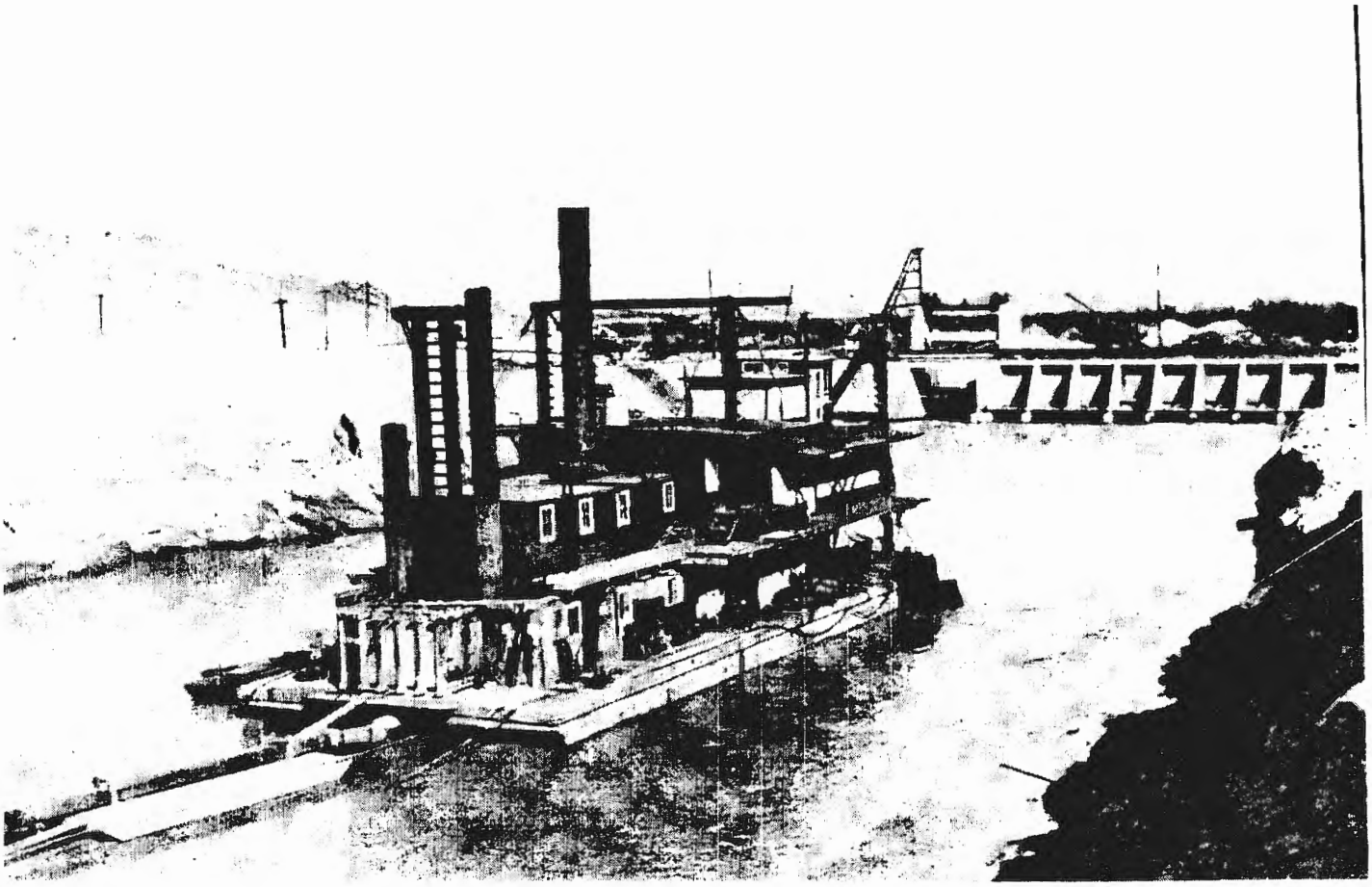


Lou Downard, the grandson of John Downard who was the second owner of the ranch at Rock Creek in Desolation Canyon.

Photo by James Strong

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
435.259.3598
cprgutah@hotmail.com

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED



A suction dredge immediately below Hanlon Heading, Imperial Canal (circa 1916). According to the Fall/Davis Report (U.S. Reclamation Service, 1921) the irrigation works of the Imperial Valley were at jeopardy until a high dam was built to control floods and store silt. The Fall/Davis Report also stated that the silt stored behind that high dam would jeopardize flood control due to the displacement of that silt stored in the reservoir. The beginning of the end would be one century after the construction of that high dam. That high dam is now called Hoover and began to store silt in 1935. Rethinking Western water will become a mandate as we enter into the 21st Century. USGS photo.

The Confluence

The Journal of Colorado Plateau River Guides Volume 6, Number 2, Fall 1999



Of Mice and Men: Huntavirus

Return of the Peregrine Falcon

Kent Frost & Grand Gulch

Rock Shelters

Rivers and Name Changes

Book Review

Poetry

Lost Inscription?

River Bed Case: Decree

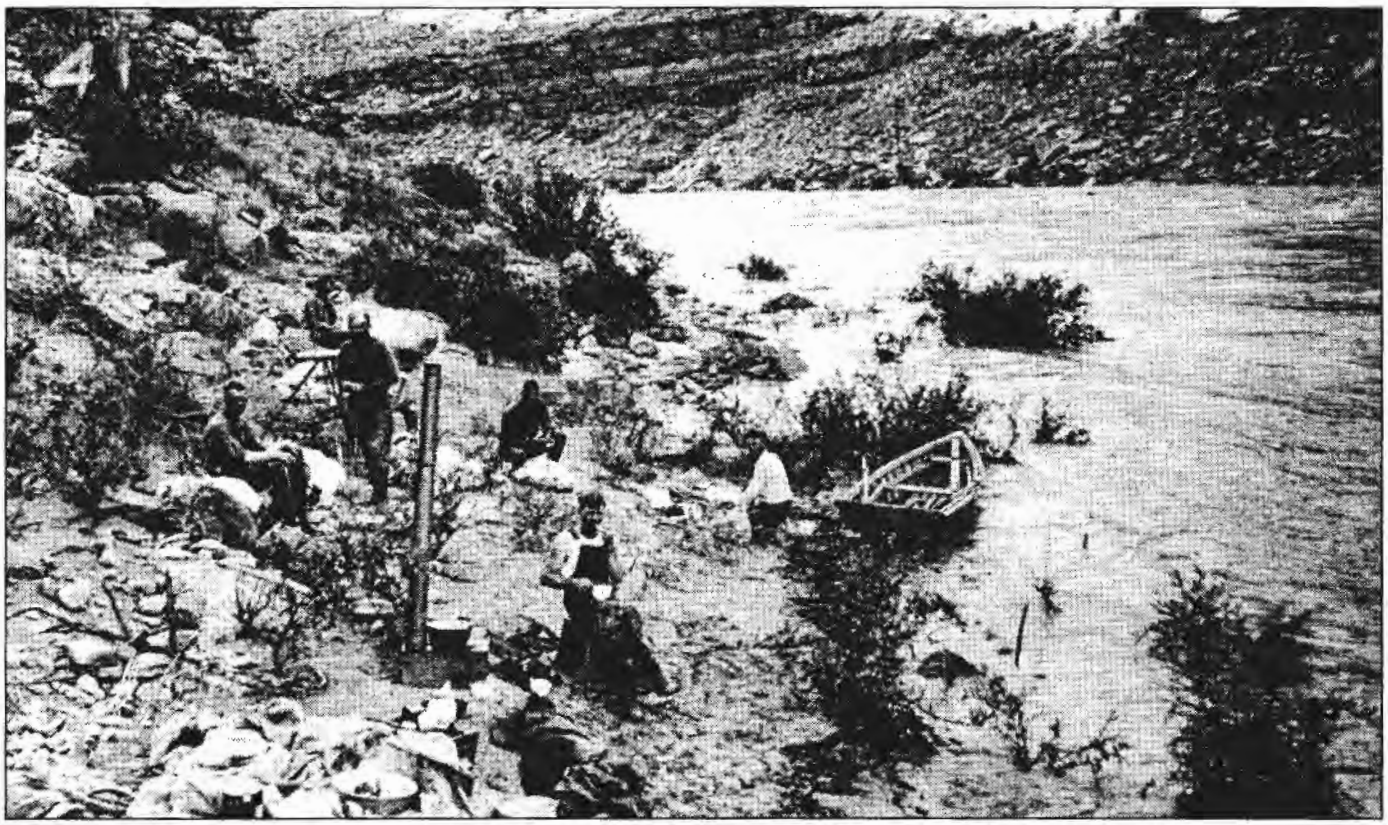
Weeds

San Juan Diary: 1952

Britt Ready and the Cadillacs

Katie Lee

Sand Waves



A camp scene during a summer flood on the USGS San Juan River survey led by Kelly W. Trimble in 1921. The lead boatman, Bert Loper, is sitting next to the camp stove. Photo by Hugh D. Miser. Courtesy of the USGS photo library in Lakewood, Colorado.

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. (CPRG) CPRG is a member of a 501 (c) (3) non-profit organization called Canyon Country Volunteers. CPRG is dedicated to:

- **Protecting the rivers of the Colorado Plateau**
- **Setting the highest standards for the river profession**
- **Providing the best possible river experience**
- **Celebrating the unique spirit of the river community**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau

General Membership is open to those who love the rivers of the Colorado Plateau

Membership dues
$ 20 per year
$100 for 6 years
$195 for a Lifetime
$295 Benefactor

General Meetings and Board of Directors Meetings will be announced

Officers

President	Steve Young (T-Berry)
Vice president	Michele Hill
Secretary/Treasurer	John Weisheit

Directors

Bluff	Clay Hamilton
Grand Junction	Darren Smith
Green River	Shane Edwards
Moab	Dusty Simmons
Vernal	Clark Hatch

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-3598
E-mail: cprgutah@hotmail.com
Faxes accepted: Please call first.

We need articles, oral histories, poetry, stories, and opinions. This journal is composed using Microsoft Publisher. If you use a word processor, we can translate most programs. Otherwise, please send your text typed. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

Managing editor: John Weisheit, jweisheit@hotmail.com
Editor of this issue: John Weisheit
Printing: Times-Independent

ISSN # 1078-425X

DISCLAIMER

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. This forum is open with no restrictions at the present time. If you have an opposing or supporting viewpoint please send your comments to CPRG.

CPRG HAS A NEW PHONE NUMBER AND E-MAIL ADDRESS

Phone: 435.259.3598
E-mail: cprgutah@hotmail.com

SPECIAL THANKS TO:

T-Berry for a Benefactor membership
David Lyle for a Benefactor membership
Gene Stevenson for a Lifetime membership
Rebecca Martin for a Lifetime membership
Gary O'Brien for a Six-year membership
Veronica Egan for a Six-year membership
James Lyle Strong for a Six-year membership
Gary Smith for Six-year membership

RIVER EDUCATION

An outstanding season of river education for guides occurred on the Colorado Plateau like no year before. CPRG members were involved in four river-based seminars and two land–based seminars. **CPRG would like to thank all the cooperating agencies and organizations for their assistance, financial and otherwise:**

Bureau of Land Management, San Juan , Price and Grand Resource areas
Canyonlands Field Institute
Canyonlands Natural History Association
Grand Canyon River Guides
Headwaters Institute
National Park Service, Dinosaur National Monument
National Park Service, Southeast Utah Group
Utah Guides and Outfitters

To all the CPRG members who demonstrated their leadership and commitment to our mission statement: Tom Corcoran, Dave Focardi, Clay Hamilton, Michele Hill, Tamsin McCormick, Dusty Simmons, John Weisheit, Susette Weisheit, and Steve Young.

To all the companies who provided kitchens, food and staff and made the seminars productive: Fat City Smokehouse, OARS, Moki Mac, Tag-A-Long, and Western.

To all the instructors who shared their knowledge and expertise (with our sincerest apologies to those inadvertently omitted): Donald Baars, Gene Stevenson, John Schmidt, Rich Valdez, Rodney Scheetz, William Bussard, Lynn Jackson, Kara Dohrenwend, Damien Fagan, Shawn Duffy, Jake Burnett, Randy Larsen, Diane Allen, Rick Ryan, Skip Edwards, Kent Frost, Brad Dimock, Pamela Hyde, Kevin Pariost, Bill Hedden, Dottie Shinpock, Tamara Naumann, Lee Shropshire, David Whitman, Chad Reid, Barry Davis, Joe Pachak, Nettie Prack, John Balsley, Shanell from CEU, Shana Taner, Steve Platz, Ken Sleight, Eric Brunnemann, Jim Nothnagel, Bob Quist, and George Simmons.

Of Mice and Men

The Hantavirus

By Ken Jenks, P.A.C

What: Sin Nombre Hantavirus was first identified in 1993 in the Four Corners area and has since been blamed for 211 cases of Hantavirus Pulmonary Syndrome (HPS), a very dangerous syndrome with a 40% fatality rate. The time between the day of mouse excreta exposure to the first symptoms is not well defined. Many persons were never able to say when or how they were exposed. One estimate is 4 to 10 days, however, any person who has had a known exposure should remain vigilant for 45 days. The first sign of illness is fever, chills and muscle aches, typically worse in the thighs, back, and shoulders. About half of HPS patients develop headaches, nausea, vomiting, abdominal pain, diarrhea, cough and tiredness. Some develop shortness of breath, dizziness, joint pain, back or chest pain, and sweats. In other words, your typical viral fever symptoms. You can have some reassurance if you have a rash, eye inflammation, sore throat, ankle or facial swelling—none of these symptoms are associated with the disease. The fever lasts 3-5 days, and then all heck breaks loose. HPS develops and the patient deteriorates over 24 hours, most often needing to be placed on a ventilator. When to call for a helicopter is always a difficult decision. It may be almost too late when the patient becomes weak (hypotensive) and the patients lung begin to fill with fluid. At that point, the first aid is transportation and finding the patient the most comfortable breathing position. Profuse bleeding is rare. Other illnesses have similar presentations, particularly heart disease and pneumonias.

How: Mouse excreta that is inhaled, either dry or fresh, is the worst offender. Mouse materials (urine, feces, saliva) can cause disease if rubbed into the eye or any open scratch. There is some possibility that eating or drinking contaminated substances may cause HPS. There is NO evidence of transmission through insects, bites or otherwise, through pets or most other wild animals. In the United States, there has been no documented human to human transmission.

Prevention: Hantavirus is Nature's way of reaffirming what your mother told you: keep a clean camp and don't kill snakes. The Centers for Disease Control (CDC) tells us not to sleep on garbage piles. Sounds good. They do go on to say that one should at the very least use a ground cover, if not a floored tent and/or a cot 12 inches off the ground.

Do not try to "dry clean", raising dust to be inhaled. If you must enter an enclosed/deserted building, air it out first. Mix 1½ cups of bleach with a gallon of water and hand spray the dust, then use gloves to remove the soggy mess. If you are serious about the risk, or if you are decontaminating a known Hanta virus site, contact the local health department or the CDC for respirator recommendations.

When: Maybe this spring/summer. There is some concern if weather remains moist and warm for a few more months (e.g. April, May, June, 1999) that we may have a bad year for Hantavirus. June/July have been the worst months in the four Corners regions. Cold weather forces mice into domiciles, the disease occurs all year long.

Who: Healthy deer mice (Peromyscus maniculatus) are the best known offender, however, in the Four Corners area the brush mouse (Peromyscus boylii) and the pinyon mouse (Peromyscus truei) have shown up with evidence of Hantavirus. The deer mouse tends to be smaller and sometimes redder than the brush mouse, which is incredibly cute. Both have white bellies and bi-colored tails; the deer mouse has a short haired tail about equal to it's body length (total length 4¾ to $7\frac{3}{8}$ inches). Brush mice have longer haired tails often longer than their bodies, total length being $7\frac{1}{8}$ to $9\frac{3}{8}$ inch (like you are going to measure it, right?)

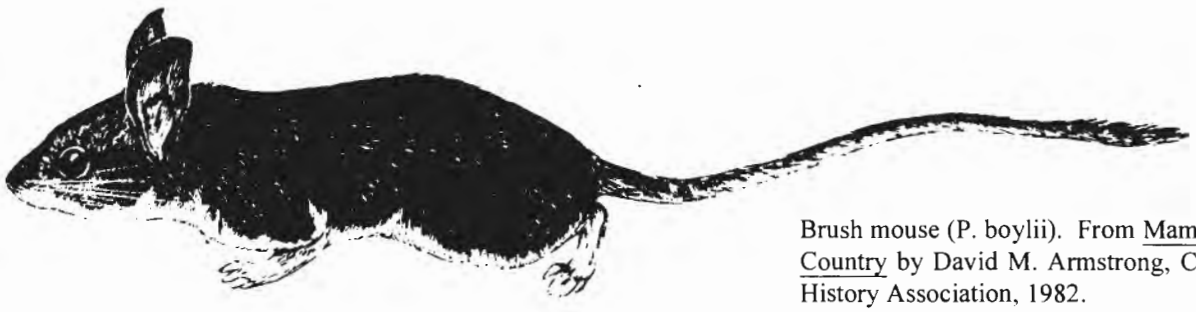
Where: Brush mice like chaparral, deer mice like brushy areas. Particularly P. maniculatus will range from the desert to the Arctic tundra, both with a large range.

More Information:
www.uct.ac.za/microbiology/hanta.html

www.cdc.gov/ncidod/diseases/hanta/hps
Pictures of Peromyscus maniculatus; gives most of the above information plus laboratory and radiology guides for clinicians.

The Audubon Society Nature Guides: Good pictures and fair description of the ecology of Peromyscus.

Arizona Health Department: (602) 230-5890
Colorado Health Department: (303) 692-2700



Brush mouse (P. boylii). From Mammals of the Canyon Country by David M. Armstrong, Canyonlands Natural History Association, 1982.

Return Of The Peregrine

Text and photos by Rick Boretti

One of the finest wildlife sights to me, while rowing down Cataract Canyon, will always be that of a peregrine falcon with wings tucked stooping at around 200 mph towards a duck or passerine (song bird) along the river. There are few sites in nature that compare to watching a peregrine pop a meal or chase down prey. It is a sight that is fairly common to observe along the river corridor today, but was almost a sight that we might have never had the privilege of witnessing again.

A Brief History

The peregrine falcon (Falco peregrinus) had a population crash first noticed in the 1950s. Organochlorine pesticides with DDT and DDE caused this decline. Chemical sprays create a variety of problems for birds of prey as well as other life. These chemicals move upwards through the food chain, increasing in concentration. The peregrine is at the top of the food chain and suffers from poisons not initially intended for them. Among other problems, the pesticides caused eggshell thinning, causing eggs to break or not to hatch. Also adult birds affected by contaminants were not adequately caring for and even killing their young. The decline was drastic enough by 1970 for the peregrine to be listed as endangered. At this point they were extirpated east of the Mississippi and populations had dropped an estimated 90 percent in the West. Peregrines had declined dramatically in other countries as well. The only other time of peregrine decline that I am aware of was in England in World War II when a bounty was placed on the bird as they were eating carrier pigeons used to carry coded messages in the effort to stop Nazi Germany.

Brief Behavior of the Peregrine

The peregrine falcon has a specialized diet consisting mainly of other birds. Bats will occasionally be taken and insects will be caught by young (An unusual observation was recorded of a fledgling stooping on a deer, however the deer survived this attack.). This specialized diet is a reason for the peregrines decline. Chemicals (DDT, DDE) sprayed on plants are eaten by insects that will carry a higher concentration of the toxins. Insectivorous birds eat the insects making concentration levels even higher. The peregrine feeds on these plant- and insect-eating birds, with their high poisonous contents, receiving dangerous levels of the toxins. Even today, over two decades after being banned in the United States, traces of DDT are found in tissues of many organisms, including humans. Other raptors such as the prairie falcon with a more catholic diet eat birds as well as small mammals and were not receiving as high a dose of the toxins. Birds wintering in countries that still use harmful chemicals and marine pollution remain a problem.

Peregrines nest in the spring. This period is accompanied with fantastic courtship displays. Spectacular flight displays appear early in courtship. The birds can be observed doing incredible dives and loops, figure of eight flights, circles, undulated flights, talon-grappling, and other displays. Cooperative hunting by male and female occurs at this time. Watching a pair of falcons chasing down swifts is a common siting. Later in the courtship period the male, called a tiercel or tercel (Latin for *une tierce* or ⅓), which is roughly ⅓ smaller then the female (female peregrines are on average 15% larger than males and juveniles are slightly larger than adults), starts bringing food to its mate. In air transfers of a kill and ledge displays including head bowing, food exchange and beaking (like kissing) occur. During courtship the adult birds give a different call, a creaking type of call often called chipping or chupping.

During incubation the birds are quieter with the female incubating the majority of the time and the male doing the hunting and some incubating. When the nestlings hatch the male is kept busy bringing kills usually to the female who then feeds the young. Peregrines do not build nests but typically use a ledge on a cliff wall. They use what is called a scrape often just a scratch in any dirt or depression on the ledge. Peregrines prefer sheer, inaccessible cliffs for nesting sites. As these sites become full the birds may choose less desirable cliffs and perhaps even other birds old nests in trees, and other so called unusual spots as they have in the past and in other parts of the world. I have observed a nest (called an eyrie) in Tasmania, that had been carbon dated, which had an extended occupancy back 19,000 years. As the nestlings become more adult sized both adults will often drop off food to them trying to stay away from the talons and beaks of their young. Fledgling time is also an exciting time to observe peregines. The young fly quite clumsily at first and improve their flying skills daily. Kills are fed by the adults by food drops, aerial transfer (adults being careful not to get talons snagged with the food) and as fledglings age live birds caught by adults can be dropped to the young to try to make their own kill.

Peregrines in this country sometimes tolerate golden eagles near by but will often chase them away from their territory. Goldens will prey on the young of the falcons. A study in Arizona found peregrines chasing off bald eagles. The peregrines were observed stooping the bald eagles and bopping the birds in the head. Some bald eagles that were hit were later observed dead of concussion. Great horned owls have also been observed to attack or eat peregrine chicks. Peregrines will also eat young of these species if the opportunity presents itself. I have observed adult golden eagles trying to attack fledgling peregrines. However, I have also observed golden eagles and peregrines nesting very close to each other with apparently little conflict.

Peregrine Nesting Chronology

On average egg laying for peregrines around the canyon country is around mid to late April. Hatching for most peregrines is mid to late May and fledging late June and early July. Most birds will be in these ranges, but there will be the occasional birds that will not be in the average. One example would be if a pair has young that fail early on, they may recycle and fledge birds at a later date.

Peregrine Migration

Research on peregrine migration is still on going at the present time. The peregine's Latin name means: to wander. Old and new reports of the birds resting on ships on the ocean exist.

Birds that were radioed in Alaska and Glen Canyon migrated to Florida, Mexico, Central and South America. Among some unusual sightings was a peregrine that was banded below Glen Canyon dam that later turned up in Japan, as did a bird that was banded at Padre Island in Texas.

Search and Detection

Falcons, like all raptors, have incredible eyesight. Birds of prey need to pinpoint their prey to ensure capture. Like many animals birds of prey have depressions in the rear of their eyes called fovea, made of densely arranged light sensitive cells. Diurnal raptors have two fovea in each eye. One contains mostly rod cells, providing black and white, light and shade sensitivity, and is used for detection of movement. The other fovea contain mostly cone cells, which provide color vision for fine examination of an object and to break camouflage techniques. Peregrines can sometimes be observed head bobbing when hunting from a perch. When doing this the birds are using the fovea used for detection with their binocular vision. To transfer the detected object from scan to fine the bird may tilt the head, transferring the image to the inner fovea and giving the false impression of listening. Diurnal raptors have about eight times the density of cells in their eyes than we do. They also have a bony ring that can squeeze and elongate the eyeball. This allows them to have telephoto vision. Their eyes are large to provide detailed information. I once heard a comparison that if our eyes were the same proportion to our bodies they would be the size of basketballs.

Locating and Identifying the Peregrine

Falcons are built for speed and aerobic flight. Falcons wings are long, tapered, pointed wings that allow for sustained, fast, flapping fight. The peregrine has a hooked beak with a killing tooth used to crush or break the neck and head of its food. This is different from many raptors that only use their beak to eat and for preening. If you know the falcons, the only bird around here you may mistake a peregrine with is a prairie falcon. Prairie falcons are similar and also nest on the cliffs in Canyonlands. Some differences to look for are as follows: the prairie has a thinner mustache stripe compared to the thick hood of a peregrine. The adult prairie has a lightly spotted belly compared to the heavily barred belly of the adult peregrine. The prairie also has a dark bar along the underwing. This dark triangle is a distinctive and diagnostic field mark to the prairie falcon. Fledglings of peregrines and prairies are more difficult to tell apart.

Peregrines will often perch near or on top of cliffs. When looking at a cliff there will be streaks of white wash from where the birds perch more often. The streaks of a falcon roost are long and thin lines compared to the thick wash of other raptors. A golden eagle or red tail perch looks more like a bucket of paint thrown at the cliff. A kestrel falcon's wash is not as long as the peregrines or prairie falcons which are similar. By observing different birds and their wash over time you will be able to decipher who is hanging out where. Many times I will hear the peregrines before I see them. The birds have various calls but the distinctive wailing is a good way to find them. The best way to learn this is to watch the birds and learn their calls or listen to bird tapes.

Outlook

Due to the halt of DDT and extensive reintroduction programs, the peregrine falcon has made an amazing comeback. In July 1995 the Fish and Wildlife Service gave notice of intent to delist the peregrines from the endangered list. While the peregrine is still having problems in some parts of the country the bird has recovered remarkably in many areas and on August 26, 1999 Fish and Wildlife Service de-listed the peregrine. This shows that the Endangered Species Act can work and may help save some animals from going extinct. Many animals and plants are still in vital danger and need our protection. Habitat destruction, pollution, pesticides here and in other countries and many other factors still threaten birds such as the northern goshawk and willow flycatcher, to name a few. An alarming decrease of some neotropical birds and species of frogs exists at the present time. Saving birds like the peregrine and other animals probably does more to protect man than a lot of folks realize and is an indication of the health of the environment. These animals show us that, like the canary in the coal mine, we can stop harmful chemicals, pollutants and save habitat, before these things start affecting us, and just as important stop man from destroying the amazing life with which we share the planet.

Photos by Chris Florian





♥ *KENT'S KORNER* ♥

By Susette Weisheit

I first met Kent Frost while preparing for a Guide Interpretive River Trip through Cataract Canyon in 1993. Members of the National Park Service had invited Kent on the trip. Kent and I hit it off immediately, he rode with my husband John and I for most of the trip and I had the opportunity to talk with him about his years of guiding on the Colorado Plateau. I will never forget the scene upon reaching camp that first rainy night. Tents were being erected by all the new guides and seasoned guides alike, as I was throwing my own rain fly over my quickly erected tent, I spotted Kent strolling down the trail. With concern, I approached Kent to inquire if I could help him set up his tent. His expression showed a glint of amusement as he assured me he would find "an little overhang under the cliff for the night." Sure enough the next morning while most of us were getting soaked dismantling our tents, Kent sat visiting with the cooks, dry, happy and sipping his hot beverage. It rained four out of five days and while guides and park personnel struggled to stay dry in all of our high tech fabrics, Kent seemed perfectly happy in his dacron vest and canvas coat topped by a plastic rain poncho.

While on that river trip I realized what a very special life that Kent had created for himself. Kent told us stories of his pen pals; of friend Jim Mike's explanation for Kent's lack of children; of river trips as a guide for Norm Nevills in 1946 and 1947, and the wooden boats they built and used. He told stories of rescuing animals from quicksand; of the tour business he and his wife Fern ran from 1953-77. Stories about the Needles, the Doll House, of naming Beehive Arch, about White Canyon, Katie Lee, Bates Wilson, the BLM, and Utah Parks. He showed us his recycled jacket pockets sewn into his coat to carry matches, cups and papers. He even had some gloves rigged from inside his shirt. He presented me a gift of a water-resistant ditty bag fashioned out of a raincoat arm and some twine. I would find out later that these items were only glimpses into Kent's ingenuity and conservation-minded creations. From that trip onward I've been fascinated by this story telling, canyon man with his soft-spoken good manners and quiet sense of humor. Six years later I find myself attempting to write a book that might bring a sense of this man's life to others and spread his stories to more people. Thanks to the hard work of Marian Krogmann, Kent's longtime friend, passenger and hiking partner, I now have Kent's personal journals on computer. The following is Kent's journal notes on one trip of hundreds, a hike into Grand Gulch at a time when few bothered to enter the canyon, except when necessary to search for stray cows.

I once asked Kent why he stamps a heart on to his metal work. He told me "That's so whoever I give it to will know I put all my heart into it."

♥

EXPLORING GRAND GULCH

JANUARY 1-5, 1958

JANUARY 1 – Left Monticello about 9 a.m. in the new rebuilt Green Jeep for Grand Gulch. About 4 miles out there was a transient oil well workman with a jeep pickup that would not run. So I helped him about an hour and pushed the outfit two miles. Then we took out the gas line and melted the ice and he ran O.K.

Drove over to the oil well site five miles off the highway south of the bridges. Turned off toward Grand Gulch about 4 miles before Red House and went down the road almost 7 miles to the head of a canyon and a cowboy camp, possibly named Collins.

Parked the jeep about 3 o'clock and started walking down the side canyon and came into Grand Gulch about one mile down. Then it was dark so kept walking up Grand Gulch until about 9 p.m. and made camp in the bottom of the wash. I set fire to about 50 feet of logs. I chipped up some ice and melted it for water. This was a very bad camp.

JANUARY 2 – I never slept much last night because of the wet ground to sleep on. The logs were still burning good by morning. Started hiking up the canyon before the sun hit the high rims above. About 3 miles up from camp was some perfectly preserved ruins on a big shelf (*Banister Ruins)*, but I did not try to climb to them, saw several small ruins.

Stopped about 11 o'clock for lunch and to rest. There was an old large mouth pint bottle sticking out of the sandbank about 2 feet below the surface. Perhaps it was washed in there during the floods in the 1890's. Saw several perfectly preserved dwellings and storage houses. Also saw 3 fortresses with the loopholes looking outward. These fortresses were in caves along with dwellings.

There were several places a person could walk out the East Side by rim rocking around.

It was a warm afternoon and the water was running freely and hard to cross which I had to do often. Because I did not want to get my feet wet, I cut up over the high banks.

Today I got real tired. Found a nice dry cave to sleep in with the water running past about 300 feet away. I made camp just as it was getting dark. It took about 30 minutes to drag in enough wood to keep warm with all night. There was a tall spiral just across from my cave on the West Side.

JANUARY 3 – I did not wake up until it was light and had a very good nights sleep. Just started on up the canyon and saw several ruins and two more fortresses. I named one fortress *Rincon Castle.* There were huge sandbanks about 50 feet high and was confused as to which fork to take but the left one turned out to be correct.

My feet were beginning to hurt from so much walking. Passed another rincon and saw a talus slope that went plumb to the top of the West Side of the canyon. Came by a big overhang with some long poles somebody had used to get into the upper story with. Stopped near here for lunch.

Walked on and on with my left knee and right foot hurting. The sagebrush were getting lots bigger and more snow on the

north slopes. Came by a great rincon and falls. Then started looking for a place to camp. But I was tired and the canyon seemed so bleak and inhospitable at this time. Considered several camping places. Then went into a big overhang with some cliff dwellings. There were lots of box elder wood and the creek about 500 feet away so I made a good camp in this cave.

JANUARY 4 – Got up at the first sign of daylight as I knew by the vegetation that I was close to the head of the deep canyon. The water in my cans froze solid about 15 feet away from my campfire. It was a cold night and I was up several times putting more wood on the fire. Started walking before the sun hit the high rims and was it ever cold facing the cold breeze coming down the canyon. Soon came to a nice arch (the first and only one I saw) and just around from it came to the big overhang full of ruins and a fortress that I had visited several times before. So now I know where I am at, about a mile below Kane Gulch.

I decided to hike out Kane Gulch rather than face the 35 miles back down Grand Gulch to Collins Canyon.

Cached my little shovel that I carried all this way at the spot where the big spruce tree log lays across Kane Gulch. There was lots of ice over the waterfalls. A deer, which I had jumped, tried to go up one of these and lost his footing and slid down a 10-foot ice chute. Then he went out the other side of the wash.

Stopped for lunch at the head of the steep canyon and made lunch of corn meal, raisins, and tea. Got to the highway about noon and waited an hour for an ore truck which carried me to Red Canyon Junction. Then I started walking and hiked almost to the Collins turn off (9 miles) when another ore truck hauled me 3 miles. Then it was getting dark. I took a big drink of water from a small reservoir that the cows used for a watering place. Ate some jerky and walked the remaining 6 miles down to the jeep. Got there about 10 p.m. where I heated up a can of soup and went to bed in my sleeping bag. The end of this trip of tired feet. I went home the next day.

Excerpt from The San Juan Country by Dr. Herbert E. Gregory, USGS Professional Paper 188, 1938.

An explanation on the formation of rock shelters

Both the flat-roofed and arch-roofed rock shelters of all sizes and shapes are essentially the work of ground water. In regularly stratified rocks water seeping from the contact of porous and impervious beds has developed recesses by undermining the Dakota (?) sandstone, the Bluff sandstone, and in less degree the sandstone beds in the Cedar Mesa member. In the thick, massive sandstone beds the first stage in the development of cavities is the seepage of water along the surface of some locally impervious lens, with consequent removal of the cement, then the grains from the base of porous, saturated rock. This slight undermining permits grains and thin laminae to fall in response to gravity. As the process continues, shell after shell is detached because the cement has been largely removed by percolating water, reaches the floor as a disintegrated mass that is borne to the mouth of the cave by intermittent run-off. The back walls of many rock shelters are moist and thinly coated with water-loving plants. Some give rise to springs; others are coated with alkali or salt "bloom"; still others, especially those above the local water table, are dry. No field evidence supports the popular notion that the cavities in the walls of canyons have been produced by sand blasts. On the contrary, little wind enters them. Most of the small ones contain leaves, wings of insects, and dust that even a slight breeze would remove. Birds, bats, and rodents live in them, and during severe windstorms the large ones serve as refuges for beasts and men.

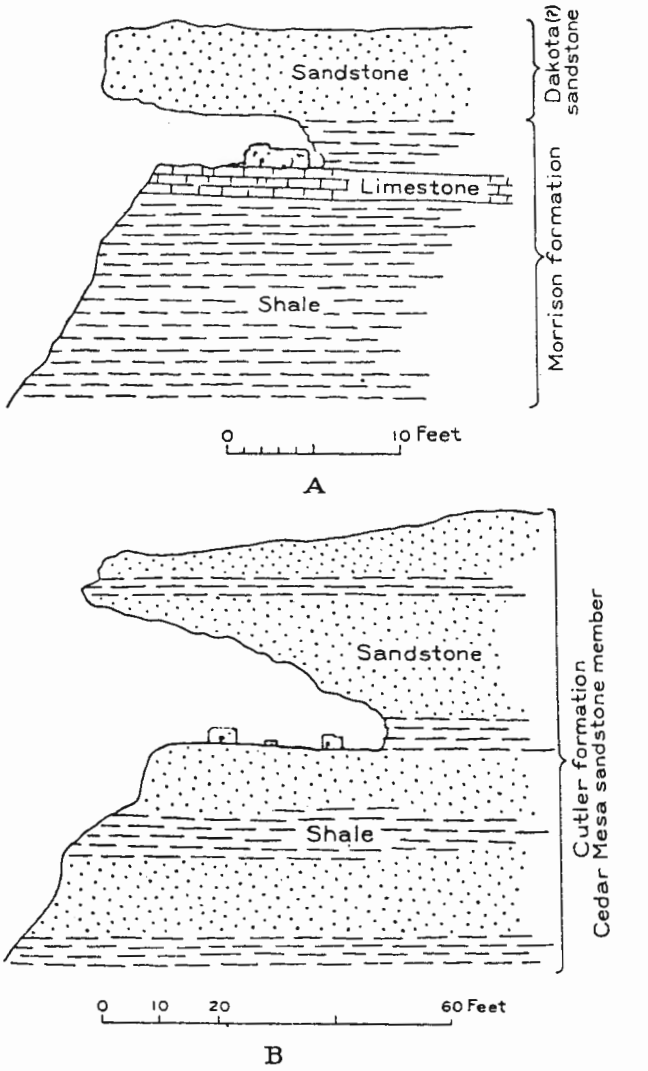


FIGURE 4.—Rock shelters: *A*, At contact of Dakota (?) and Morrison in Cottonwood Canyon; *B*, in thin-bedded Cedar Mesa strata at Cigarette Spring.

Names of Rivers and Their Name Changes

by Jim Strong

QUESTION

I told my passengers, on white water trips through Westwater, Cataract and the Grand Canyon, that during John Wesley Powell's time the Colorado River, from its headwaters in Colorado to the confluence with the Green River, was named The Grand River. From the confluence, all the way to its mouth in the Gulf of California, the river was called the Colorado. At that time I didn't know who changed the names or why they were changed. Historians haven't written much about changing the name of the Grand to the Colorado. My interest was piqued when I tried to find out about the name change of the Colorado and I found almost every history book said the name of the state came from the red Colorado River in Colorado. That seemed reasonable but I had a question. How could the state be named after this river when there was no river in the state named Colorado—when the state was named Colorado in 1876? The trouble was, the mighty river flowing west into Utah, was not named the Grand River until 1921. How did the river's name get changed to the Colorado, 55 years after the state had already been named Colorado? A lot of research, often in areas that seemed not connected with the problem, ultimately provided the needed information.

A BIT OF HISTORY

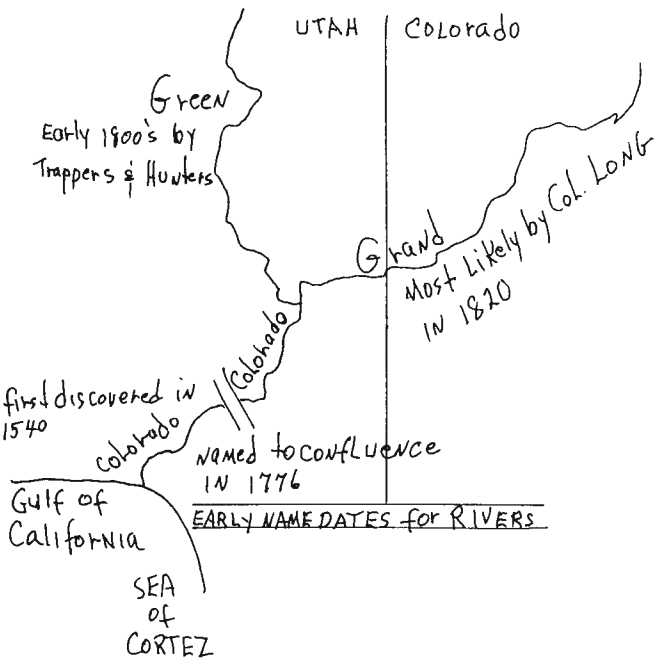
The Louisiana Purchase of 1803 forced negotiations over a more exact boundary between Spain and the U.S. since, in the 1600s and 1700s, Spain drew no boundaries with New Mexico. In 1819 the Adams-Onis Treaty set the border between Spanish and U.S. territory along the Red River of Texas to the 100th Meridian, north on that line to the Arkansas River, west again to the river's source, north to the 42nd Parallel, and thence to the Pacific Ocean. Immediately you think of the Colorado River. The Louisiana Purchase doubled the size of the U.S. and acquired about half of the present-day state of Colorado. After the war with Mexico (1846–1848) the signing of the treaty of Hidalgo Guadalupe made all of present-day Colorado part of the U.S.

The great expedition of Lewis & Clark (1804–1806) was sent to the northwest to find out about the land that was purchased. Less known is the 1806–1807 expedition of Zebulon Montgomery Pike and 18 men sent out to chart the area of Colorado, the southwest, and to find the source of the Red River. People thought the Red River might begin in Colorado but they knew little, if anything, of the present day Colorado River. The Red River was not the red Colorado River, but it was important for the boundary with Spain. Pike's failure to find the source of the Red River caused a second expedition to be sent out and headed by Major (later Colonel) Stephen Long in 1819–1821. This expedition was important as, I believe, Colonel Long named the Grand River and discovered the peak that bears his name (even though Col. Long also failed to find the source of the Red River). Captain Randolph Barnes Marcy and his expedition, sent out in 1830–31, did find the source of the Red River. However it was not the red Colorado River.

A LITTLE HISTORY OF RED RIVERS

While there was no red river named the Colorado in the state of Colorado until 1921, there were other Colorado Rivers. One is in southeast Texas (nearly touching the state of Colorado) and forms part of the boundary between Oklahoma and Texas. There is a Red River in Kentucky, in the Dakotas, and there is a Red River in Louisiana which, according to Captain Marcy, was a "real" Red River. You can find it on maps today in Texas and Louisiana where it ends in the Mississippi Delta. He further suggests that Lt. Pike's map basically assigns the headwaters of the Red River to that of the Canadian River. Doctor James, of Long's expedition, wrote that people arriving from Santa Fe gave him information of a road running almost due east to the point on Pike's map where it struck a branch of the Canadian River. He thought the principal source of the Red River was south of this point in the high plains. Capt. Marcy explains that the stream he camped near, on the 31st of August, was the Rio Jaijo of Humboldt and that it has long been mistaken for the source of the Red River of Natchitoches. Marcy writes,

> "In a region of red clay and sand, where all the streams become nearly the color of arterial blood, it is not surprising that so accurate a topographer as the Baron Humboldt, having learned that a red river rises forty or fifty miles east of Santa Fe and fans to the east, should conjecture it might be the source of the Red River of



Natchitoches."

RED RIVER SEARCH

With so many red rivers, who named the red river in Colorado? Marcy wrote that,

> "The Mexicans and Indians on the borders of Mexico are in the habit of calling any river, the waters of which have a red appearance, 'Rio Colorado,' or Red river, and they have applied the name to the Canadian [river] in common with several others; and as many of the Prairie Indians often visit the Mexicans and some even speak the Spanish language, it is a natural consequence that they should adopt the same nomenclature for rivers, places, etc. Thus if a traveler in New Mexico were to inquire for the head of Red river, he would most undoubtedly be directed to the Canadian, and the same would also be the case in the adjacent Indian Country. These facts will account for the mistake into which Baron Humboldt was led, and it will also account for the error into which Colonel Long and Lieut. Pike have fallen in regard to the sources of the stream which we call Red River."

RIVER NAMES THAT HAVE LASTED

Each group, Indians, Mexican, Spanish, hunters and trappers, who came across rivers and mountains, would logically give them names. Each Indian tribe, who was in the area first, had their own names for the rivers, mountains, and other special places. However, because they didn't have a written language and used names that were often hard to pronounce, Indian names were seldom kept; few Indian names have survived for a river or a mountain. The Spanish, Mexicans, U.S. explorers, settlers, miners, et.al., also gave names to rivers, mountains and places. These names have survived and it is by these names that we recognize them today.

INTEREST AROUSED

My interest was piqued about using the name of the Colorado River for the name of the state when the history books I read never mentioned the Grand River or that its name was changed. Strangely they simply said the state of Colorado was named after the Colorado River which flowed through the state. There are two problems with that: First, there was never a river named the Colorado flowing in the area of the state until the Grand River was changed to the Colorado River as recently as 1921. Second, way back in 1861 the land, which became an U.S. Territory and a state in 1876, was named Colorado, 60 years before there was a river by that name in Colorado. If the territory was named Colorado so long ago, how can it be said that the state was named after the river in the state? If the Grand was named by Colonel Long in 1821, it would be 100 years before the name would be changed. I considered that some light should be shed on how the area got its name, if I could find out who proposed the name for the Territory. I found there were several pieces of history I needed to know, in order to understand the whole story of how the name change came about.

DISCOVERY OF GOLD IN CALIFORNIA AND THE PUSH WEST—SKIRTING COLORADO

The discovery of Gold by James Marshall at Sutter's Mill at California in 1848 began a gold miners exodus to the west but did little to bring people to Colorado. Pioneers skirted the Colorado area for two good reasons: First, the formidable Rocky Mountains stood in the way. There were no roads which could be used by wagons over the high mountains, only trails. Second, the explorers Lt. Pike and Colonel Long had described the land east of the mountains as almost a desert wasteland, where there was nothing of value and the area as an ugly place devoid of good land, or anything man could use. These reasons forced the first wagon train, the Bartleson–Bidwell party and those who followed, to head for California by traveling north of present-day Colorado. Other parties heading for Oregon went northwest from Fort Hall over the Oregon Trail. The Donner Party was bound for California and the Mormons headed for a place of sanctuary in Utah. These parties and other pioneer travelers, from 1832 to 1857, traveled north of Colorado through South Pass, the window through the mighty Wind River and Rocky Mountains. [I use the name Colorado, but remember, the area is not yet named Colorado]. Only native Indians, together with hunters and trappers, ventured into the mountains. With 54 peaks over 14,000 feet high, Colorado is the birthplace of many rivers; some flowing east to the Atlantic Ocean and some flowing west to the Pacific Ocean. At first this was not a place sought out by settlers.

A COMPARISON

The settling of Colorado in the early days, in one way, is comparable to the building of the tunnel under the English Channel. Two companies build the tunnel, each starting from a different end, but they are working toward each other and slowly will come together. In the case of Colorado civilization grew toward the continental divide not from the west but from two other directions, the east and the southwest. The discovery of gold would make the push from the east seem like a mad stampede.

DISCOVERY OF GOLD IN COLORADO

Most important for the development of Colorado was the discovery of gold in 1858. Finding gold in Colorado brought the hordes of miners, prospectors, settlers and all others to the area. The glitter of gold kept them from remembering the description of the land by Lt. Pike, Colonel Long, and others, who described it as a wasteland not fit for man. Beyond this "American Desert" stood those mighty mountains where the minerals were to be found. Settling the area required some form of government to be established in order to foster towns and keep them growing. There was no law and order for the mining camps and the Anglo Saxon Americans, who were in the big majority, wanted laws to protect themselves and their holdings—but there was no law. The Colorado Territory would not be established for three more years and some of the land, which now forms part of the state of Colorado before 1861, was to be found in other territories. Boulder was in Nebraska, Denver was in Kansas, Breckenridge in Utah, and Conejos in New Mexico.

ATTEMPTS MADE TO FORM A TERRITORY

Personal responsibility was accepted, at first, for acquiring land and mining claims. Next came claim clubs which took on the responsibility to see that claims were recorded. For this area, without any law, these clubs provided civil law for residents of the South Platte and Arkansas valleys. Ad hoc judicial bodies were a necessity when there was no legally constituted court. Miners had a mind set for the procedures of self-government. When the rush west began, since gold was first discovered in Kansas Territory, Governor Denver of Kansas appointed county officers. He was too late because, before those officials reached Cherry Creek, those who had come earlier had elected Hiram J. Graham as a delegate to Washington and A. J. Smith as their representative to the Kansas Legislature. Mr. Graham, in Washington, did get a bill introduced in Congress to create a Territory where the miners and farmers were, but the measure failed to pass. In the spring of 1859 a new demand went out for an independent government. A caucus of Denverites assembled in a convention at Auraria, April 15, 1859, to consider the future of their community and proposed a constitutional convention for the creation of the "State of Jefferson."

COLORADO ALMOST BECOMES "JEFFERSON TERRITORY"

By summer uncertainties developed and at the meeting in Denver, June 6, the convention decided to adjourn. As time passed, some thought a Territory would be more adaptable to the region than a state and a gathering was held again on September 5 for a decision. The idea was put to a vote by the people and the Jefferson State proposition was defeated. In October they drew up a constitution for Jefferson Territory and ratified it by popular vote. The residents of Pikes Peak territory, however, were offered a choice between a state constitution and a memorial to Congress requesting territorial status. It seems that, before the vote, word got out that if the area became a state, the citizens would have to pay for almost everything, but if it were made a territory, the federal government would pay the costs for running a territorial government. In the vote statehood was rejected partly on the fear of expenses and the resulting taxation it would take to pay those costs. The National Congress, pushed by the Pike's Peakers, enlarged Colorado Territory by stealing from other Territories. They took a sixty mile wide strip from western Kansas. From Utah Territory, home of the Mormons, they took the Colorado Plateau west of the Continental Divide, which contained what is now Dinosaur National Monument and the prehistoric Mesa Verde National Park, the prehistoric cliff dwellings of the ancient Indians. From Nebraska Territory they took the richest part of South Platte Valley and the future Rocky Mountain National Park below Longs Peak. They got all of New Mexico north of Raton Pass, plus the farmlands of San Luis Valley together with those along Huerfano River below the Spanish Peaks.

NAME JEFFERSON TERRITORY DROPPED

When winter weather shut down the mines, promoters resumed their activity by choosing Beverly D. Williams to be their delegate to Congress, as well as a convention to write a territorial constitution. The voters turned out and registered a 6 to 1 win for the approval of the Territory of Jefferson. R. W. Steele was elected as territorial Governor. On November 7, 1859 the General Assembly of Jefferson Territory met at Denver creating counties, judicial districts, and incorporated Denver City.

COLORADO NEARLY BECOMES "IDAHO"

In December 1860 the people appealed again to Congress for a Territorial Government and a majority vote for the proposition seemed possible. The name Jefferson was dropped because of its unpopular poll tax. Thomas Jefferson was also a slave holding Democrat and most Pike's Peakers resented this, since they were Abraham Lincoln Republicans. Delegates in Washington urged Congress to approve their own version of a territory under several different names, such as: the Ute Indian "Yampa," the Spanish "San Juan," and "Lula" from a miner's sweetheart. However, in 1860, Congress ignored petitions for granting territorial status. So again other politicians took up the fight and statehood advocates convened again. Yet another convention at Central City, in the Territorial area, elected a congress and re-named the area "Idaho Territory." The secession of Texas and the rest of the south in February, 1861, brought about a serious threat of civil war. In addition to the problem of slavery, both for and against, and the location of a transcontinental railroad, the Republicans of the north needed to show peaceful intentions. In the national congress someone proposed the Spanish name "Colorado" for the territory but Senator Gwin of California objected saying,

> I have been cheated out of the name. It is the handsomest name that could be given to any Territory or State." (he wanted it reserved for the Arizunia area which would become Arizona Territory.) "I want it reserved for the Territory of Arizona." (See page 5 for the actual debate in Congress.)

"COLORADO" PROPOSED AND USED

The result of slavery and the threat of civil war caused the quick passage of certain acts. The name "Idaho," for the territory, was debated and ultimately withdrawn. Someone proposed the name Colorado, and Congress accepted that name and passed the resolution. However there were some who were not satisfied and wanted to reconsider the vote.

SENATORS BATTLE OVER "RECONSIDERING" THE VOTE

After the bill had passed Senator Douglas, of Illinois, some days later spoke:

> I move to take up the motion to reconsider the vote passing the bill to organize the Territory of Colorado. I understand the chairman of the committee wishes to have it disposed of this morning.

The motion was agreed to and the Senate proceeded to consider the motion to reconsider the vote passing the bill (S. 366) to provide for a temporary government in the Territory of Colorado. Senator Wade of Ohio said:

I hope that vote will not be reconsidered. That bill, settling, so far as this body is concerned, a very disputable matter, has already passed, and gone to the House of Representatives; and I hope we shall not have it up again. I believe the bill, as it was passed, is satisfactory to most of the Senators; and I hope, therefore, that it will not be reconsidered. Perhaps we had as well have the test on the reconsideration, as on any other question; and on that motion I ask for the yeas and nays.

Senator Douglas:

I regret that the Senator from Ohio has interposed his objection to reconsideration under the peculiar circumstances. I think it is an act of discourtesy that ought not to be sanctioned in this body. It was well known to the Senate that when this bill was pending last week, I laid upon the table a substitute for the bill, and had it printed, and on that I was entitled to the floor, and I was in the act of offering that substitute when we adjourned one day last week. The other day, when I was called out for a very few minutes, it was taken up and passed, I presume, inadvertently....But I do think that, under the state of facts, it was unusual, and if the attention of the Senate had been called to it, they would not have deprived me of my right under the circumstances.

Senator Green (of Missouri),

I hope there will be no reconsideration. The Senator can record his vote on the motion to reconsider just as well as he could on the direct question upon the amendment. Nobody desired to take any advantage of the Senator; nor do I think that there is any necessity for a reconsideration...I hope the bill will be permitted to stand as the judgment of the Senate and that the people of Pike's Peak, numbering sixty thousand, may have a government and protection according to law."

Mr. Douglas,

I can see now very clearly that the motion to reconsider is not to prevail; (The Senators battled back and forth on the bill which had already been passed. The problems are: territory is taken from New Mexico Territory to add to Colorado; New Mexico is a slave state so what happens to the people displaced to Colorado Territory? Most of those who are to be displaced are Mexicans.)

Senator Douglas further clarifies it by saying,

...who live under different laws and usage's entirely incompatible with the laws that we are in the habit of making for our own people....By the laws of New Mexico that is slave territory. Slavery exists there by law today. This is detaching that portion of slave territory, a piece of country occupied by men of Mexican birth and habits, entirely identified with New Mexico, and not with the new Territory of Colorado, and attaching it to the new Territory of Colorado....Is the effect of this bill to abolish slavery in part of the territory thus cut off from New Mexico, and to make it free territory?

Some Senators wanted the territory to elect their officials and others thought the President of the U.S. should appoint them. The obvious thing here was, whichever party was in power wanted the President to appoint the officials and the other party wanted the people in the territory to elect them.

SENATE BATTLE—USE OF COLORADO NAME DISCLOSED

The Senators could not seem to stop talking. Mr. Douglas said on page 765 of the Congressional Record, "I have only a few words to reply to the Senator from Missouri." Those few words numbered 603. Mr. Wade said on page 765, "I do not wish to prolong this debate a moment, sir." However it took him 508 words to stop. The Vice President, "The question is, will the Senate reconsider the vote by which this bill was passed? Upon this question the yeas and nays have been ordered." Mr. Anthony, "Do I understand that the Senator from Illinois desires this to be a test vote and that he waives the question of courtesy?" Mr. Douglas, "I am entirely willing that it shall be a test vote. As it is a compromise, I do not want to disturb it." Mr. Gwyn (California), "I will vote to reconsider, because I have been cheated out of the name. The Territory in which the Colorado river is, through which it runs, I think ought (not) to have the name of Colorado. I think it is the handsomest name that could be given to any Territory or State. I am going to vote to reconsider, in order to strike that name out. That is my objection to the bill. I want to give that name to the Territory of Arizona."

The question being taken by yeas and nays resulted yeas 10, nays 31. The ten who voted to reconsider were: Messrs. Bayard, Crittenden, Douglas, Foot, Gwyn, Kennedy, Latham, Nicholson, Pugh and Wilson.

So the Senate refused to reconsider the vote on the passage of the bill.

COLORADO TERRITORY FINALLY CREATED

Colorado Territory was finally created when, on February 28, 1861 President Buchanan, the 12th President of the U.S. signed the bill into law. The Colorado Territory of 1861 was in the same shape as it is today, a rectangle almost four hundred miles by three hundred miles. The name Colorado was again used for the state when, just 15 years later, the 18th President of the United States, Rutherford B. Hayes, signed the law giving Colorado a place as the 38th state of the United States.

USE OF SPANISH WORD COLORADO

Therefore, back in 1861, the word "Colorado" was first used as it applied to the land of Colorado Territory and the name followed again when the territory became a state. The idea of a name for the Territory after the great river, which

flowed through the area, was misleading since the river was the Grand. The river did flow red in color especially in spring and early summer. Today, above Rifle, it swirls like a huge reddish colored snake and, as it passes Parachute, it often is as red as "arterial blood," to borrow a phrase from Captain Marcy. So we have a problem: back then the land was named Colorado while the river, even though red in color, was named the Grand.

COLORADO – SPANISH & ENGLISH

Those familiar with Spanish understand the name Colorado to be an adjective meaning red and, when written, the noun comes first—Rio Colorado or River Red. English puts the adjective first and is written Colorado River or Red River. With the need for the U.S. to establish its boundaries with Spain, the source of the Red River had been used as a boundary point, and Lt. Pike's expedition had the objective to find the headwaters of that river. He never did find it but ascribed part of the Rio Grande as the headwaters. He went Northwest in a circle but never came within a hundred miles of the Rio Colorado. Colonel Long also did not find the headwaters of the Red River; he knew he was too far west. The 100th meridian, so simply, described the Red River they were looking for in practical terms.

THE GRAND RIVER

John Wesley Powell and the Colorado River are names that are almost inseparable. Often forgotten, however, is the fact that Powell only floated down two of these three great rivers, the Green and the Colorado. His writings name the Grand River but he never floated down it. He and his party started their trip from Green River, Wyoming. The Green River had been named by the hunters and trappers who frequented its drainage from the headwaters at Fremont Peak in the Wind River mountains of Wyoming. He floated down through Wyoming, then into a small portion of Colorado, circled south and came back into Utah. The Green continued on down through Utah and ended where it met the Grand, which flowed 340 miles in Colorado and Utah to meet the Green. From this point on the water of both the Green and the Grand rivers became the Colorado River. It flows down through Cataract Canyon, Glen Canyon, and Grand Canyon all the way to the Gulf of California.

WHO NAMED THE GRAND RIVER?

No one hears the name Grand River anymore; forgotten because its name has been changed. This reddish-colored river, together with its tributaries, was the drainage for the western slopes of the mighty mountains at Colorado. No doubt Colonel Stephen Long first called it the Grand in 1821. I base this on the fact that Colonel Long had the audacity to name the reddish mountain peak, near where the Grand river started, "Long's Peak" after himself. He would see a grand sight when he saw the river, so why not name it—The Grand? Lt. Pike didn't go far enough west and north to see the river, or he might have been inclined to give it a name. I may be a bit harsh with Colonel Long for his "namesake peak" because expedition leaders, sent out to find what we had obtained in the Louisiana Purchase, were notorious for giving names to rivers and mountains they came across. I studied three of the five expeditions sent out to the Colorado area: Lt. Pike (1806-07), Colonel Stephen Long (1820-21), and Captain Marcy (1830-1831). Each explorer assigned names to undiscovered rivers and mountains, but only Colonel Long named a peak after himself. Lt. Pike came no closer than five miles of the mighty peak named for him by John C. Fremont and the trappers and miners perpetuated the name. Pike never climbed the peak and did not name it after himself.

THESE ARE THEY WHO CHANGED A RIVER'S NAME

The Grand was the name used by Powell and others for the river in Colorado until 1921. I was one year old when the name Grand was changed to the Colorado. To my knowledge there is no one alive now who can tell us first hand how the name change happened. However, there are records and minutes which tell us most of what happened. I studied them to find out why and how the name change happened. What I found confirmed the fact that the name change involved politicians and their political machinations. Politicians involved mainly came from six states, but others too were involved. They include the Governor of Utah, the Senate and House of Representatives of Utah, a U.S. Senator from California, a member of the U.S. House of Representatives from North Dakota, the Colorado State Assembly, Senator Bannister of the Colorado Assembly, U.S. House member from Colorado, Edward F. Taylor, others in the U.S. Senate and House, the 15th President of the United States, James Buchanan, and the 29th President, Warren G. Harding. These people provided events which make a lively melodrama as the whole story unfolds.

POLITICAL ACTIVITY STARTS THE NAME CHANGE

Changing the river's name began with a most unlikely person, Charles R. Maybe, Governor of Utah! During the 14th session of the Utah Legislature, on February 18, 1921, the Utah Senate received a communication from the executive office of Governor Charles R. Maybe in Salt Lake City. Senate Journal (page 453) says, "To The Legislature: Introduction of Bills S. C.M. (Senate Commemorative Memorial) No. 6, by Judiciary Committee, A memorial to the President and Congress of the United States; relating to the change of name of the Grand River to that of Colorado River," was read for the first time and referred to the Committee on Revision and Printing.

Immediately questions come up, since there seemed to be no need or reason to change the name. Why would Governor Maybe want to change the name of the Grand to the Colorado? Was he being coerced or doing it on his own? Did he have pressure from anyone in Colorado for the name change because no river in Colorado was named Colorado? Were there others involved who merely suggested it to him or had something to gain from the change? And why was Utah proposing to change a river's name in Colorado to the Colorado when 90 miles of the Grand were in Utah? Was there pressure from those in Arizona to get rid of the name Grand, so it would not compete with or get mixed up with the "Grand Canyon," thus avoiding the competition from the name "Grand" which now existed in Colorado?

The Senate Journal (page 518) tells the progress of the

name change in the Senate S.J.M. (Senate Judiciary Memorial) No. 6 was read for the second time and, on a motion from Senator Dern, was changed to S.C.M. (Senate Commemorative Memorial) No. 6, which then passed on the following roll call: Ayes, 16; nay, 0; absent, 2. Those voting in the affirmative were: Senators Adams, Bradley, Dern, Fuller, Jenson, Jenkins, Jones, Kinney, Knight, Lamph, Peters, Quinney, Smart, Standish, Tebbs. Absent and not voting: Senators Hayward and Southwick. On Motion of Senator Peters, the rules were suspended, S.C.M. No. 6 was read for the third time and placed on its final passage. Final vote: Ayes, 16; nays, 0; absent, 2. (those voting on the motion by senator were the same and the same two senators were absent) S.C.M. No. 6 was transmitted to the House.

Having been passed by the Senate and sent to the House, the House journal (page 390) records the following (February 25, 1921):

> Mr. Speaker, I am instructed to inform Your Honorable Body that the Senate has this day passed S. C.M. No. 6, by the Judiciary Committee, entitled, "A Memorial to the President and Congress of the United States, Relating to the Change of Name of the Grand River to that of Colorado River," and the same is herewith transmitted for your action.
>
> Respectfully,
> Q. B. KELLEY
> Secretary

The House (House Journal page 652) from REPORT OF STANDING COMMITTEE. March 10, 1921

Mr. Speaker:

Your sifting Committee to which was referred S.D. Nos. 15, 55, 56, 64, 68, 69, 71, 92, 101, 106, 112, 116, 122 S.C.M. Nos. 6 and 7 and S.J.R. No. 3 were rejected and returned to the Senate.

The Senate (Senate Journal page 825) from House of Representatives March 10, 1921

Mr. President:

I am instructed to inform your honorable body that the House has this day Killed Senate Joint Memorial No. 6, by Judiciary Committee, entitled, "A Memorial to the President and Congress of the United States, relating to the change of name of the Grand River to that of Colorado River," by adopting the committee's unfavorable report, and the same is herewith returned.

Respectfully,
C. R. BRADFORD
Chief Clerk

This action by the Utah Legislature is little known or the writers of so many volumes on the rivers would have mentioned it. In summary the Senate Memorial No. 6 was introduced February 18, 1921, passed the Senate on February 25, 1921, rejected by the House March 10, 1921, and since the Senate took no further action, the matter died in the 14th session of the Utah Legislature. However, the matter of changing the name of the Grand River to the Colorado River was far from over.

FROM THE UTAH LEGISLATURE TO THE COLORADO ASSEMBLY

After the Utah Legislature defeated the memorial to change the name of the Grand River to the Colorado, the Colorado Legislature acted quickly, as did the U.S. Congress. The following is taken from the Colorado General Assembly. The state of Colorado did not keep any minutes (as did Utah) of the actions of their state assembly. They did, however, keep a record of laws passed and the following is from that record (page 161 chapter 111):

> COLORADO RIVER (S.B. No. 79 by Senator Bannister)
> AN ACT
> CONCERNING THE CHANGE OF THE NAME OF THE GRAND RIVER TO THE COLORADO RIVER
>
> *Be it enacted by the General Assembly of the State of Colorado:*
> **Grand River, name changed to Colorado** Section 1. That the name of the Grand River in Colorado is hereby changed to the Colorado River, by which name said River shall hereafter be known, from its source to where it crosses the western boundary of the State of Colorado.
>
> **Effect:** Section 2. The change of the name of said River shall in no wise affect the rights of this State, or of any County, Municipality, corporation, association or person; and all laws, records surveys, maps and other public or private documents of every kind and nature in which the said River is mentioned or referred to under or by the name of the Grand River, shall hereafter refer to the same River and with the same purport and effect, under and by the name of the Colorado River.
>
> Approved March 24, 1921

NAME CHANGED ONLY IN COLORADO

In their haste to get the Grand River name changed to the Colorado River, the State Assembly of Colorado only changed the name from the river's source to where it crossed the western boundary of the State of Colorado (the underscore in the bill above is mine). As of March 24, 1921 we now have four rivers: the Colorado, from its source to the western border of the State of Colorado, the Grand from Utah's eastern boarder to its confluence with the Green, the Green from its headwaters to its confluence with the Grand, and the Colorado from the confluence of the Green and Grand to the Gulf of Mexico. I suppose the Colorado Assembly did not want to take it upon themselves to rename a river flowing in Utah, especially after the Utah Legislature had rejected the name change just 14 days before on March 10, 1921. Now the scene

shifts to the Congress of the United States where the final action is played out.

U.S. CONGRESSIONAL ACTION STARTED

In the U.S. House of Representatives Mr. Dennison, of Illinois, took up the measure to change the names because Rep. Taylor of Colorado was ill. The Preamble was three times longer then the simple 2 section bill and was deleted. Mr. Dennison ended by saying:

> And inasmuch as the people of Colorado want this name changed, largely for sentimental reasons, and inasmuch as there are no objections, so far as we have been advised, from the people of Utah or from any of the departments of the Federal Government, the committee thought we ought to grant the wishes of the people of Colorado and change the name of the Grand River to the Colorado River.

The one contention came from Mr. Butler of Pennsylvania who said:

> Everything the gentleman says is interesting, but I was wondering how we got the jurisdiction. Congress does not name the rivers. It did not name the Mississippi. I shall certainly vote to change the name of the stream as the gentleman recommends, as it is all right; but I was wondering by what right we could do this.

Mr. Dennison replied:

> I will state to my friend from Pennsylvania that under the Constitution Congress has complete jurisdiction over this river, because it is an interstate navigable river.

He also followed up with the fact that it was an international stream since it "runs across into the Republic of Mexico."

LEAGUE OF THE SOUTHWEST – BOULDER DAM – WESTERN STATES

The beginning of allocating Colorado River water between the upper and lower basin states was brought up during the naming of the Colorado River for the Grand River debate. The following is from the Congressional Record of June 1, 1921, page 1996).

> Mr. ARENTZ: Has the gentleman ever heard of the League of the Southwest?
>
> MR. DENISON: No.
>
> Mr. ARENTZ: The league of the Southwest, I may say, is an organization of the Western States which has to do with the development of the Colorado River, and while we were on the subject of the Colorado River I thought I might mention this subject. The League of the Southwest contemplates the ultimate construction at Boulder Canyon, on the Colorado River, near Las Vegas, a 700 foot dam, which would irrigate approximately 3,000,000 acres in Arizona and Nevada, and develop sufficient power to electrify the Santa Fe and Salt Lake routes for several hundred miles, and to make Los Angeles and other points in Southern California, as well as southern Nevada, an industrial center.
>
> Mr. DENNISON: Well, I think there are great possiblities there and I hope that will be done.

COLORADO NAMED FROM THE RIVER

Dennison continued:

> Congress has on one other occasion changed by law the name of one of the rivers of this country. Sometime during the fifties, I think it was, the name of a river in the State of Minnesota was by act of Congress changed to the name Minnesota River ... The State of Colorado, one of our greatest and most scenic States, was named by Congress from that great river.

U.S. CONGRESSIONAL ACTION

Upon the efforts of Democrat Congressman Edward F. Taylor, a native of Colorado Springs and a congressman from 1909 to 1941, a bill was introduced into the U.S. Congress which would do what the Utah Legislature had just defeated: change the name of the river in Utah which the Colorado Assembly had not done. Congressman Taylor suggested his state's tributary be awarded title to the whole river. It was true, he said, that the Green was a far longer tributary (730) miles compared to the Grand's (340) miles. However, according to him the Grand contributed more water and so deserved to be renamed the Colorado.

SIGNING OF THE BILL

However there apparently was little interest, or reasoning on that account, and certainly no objection in Congress even though the Utah legislature had defeated the bill, because the bill was passed and signed on July 25, 1921 by President Warren G. Harding, 29th president of the United States. He was president for only three years (1921-1923) and signed the bill just over four months from the time the Utah Legislature killed the same proposal. On that date the Colorado river became a fourteen hundred-mile long river beginning in the high mountains of northern Colorado and ending at the Gulf of California in the Sea of Cortez.

REASONING AFTER THE FACTS

The expeditions sent into the Colorado area were looking for the source of the Red River. People knew that river and its blood red color but only Colonel Long went far enough west and north to see another red river—the Rio Colorado. None of these explorers were about to jump into a wooden boat, like Powell, to see where the river went. The Spanish explorers were the first ones to see the Colorado River and gave it that name, they did so because of its color. They didn't travel to find its source, so the name only went as far as the confluence with the Green and Grand. I get the impression from my

studies that, in those early days, the river would have been the Colorado all the way to its headwaters, but no one knew where the headwaters were.

"BIG RED"

In the spring and early summer during the high run-off above Glen Canyon Dam, today as always, the Colorado river is a red river. It is not something that has to be proved, you can see it for yourself. Before the dam the river runners called the river "Big Red" because of its color. Wild and reddish brown, when combined with the Green, its 100,000, 200,000, or even 300,000 cubic feet per second of water roared through Cataract Canyon, Glen Canyon, Grand Canyon and out into the Gulf of California. It roars through Westwater Canyon, slows, and puts some of its sediment on the beaches all the way to Cataract Canyon where it again springs back to life. After roaring through Cataract Canyon the river flows south, then west, and into the north end of Reservoir Powell at Hite. The river flows swiftly to meet the challenge of the reservoirs vast still water. Suddenly and strangely it appears to be drugged. Unceremoniously the river, without confining walls, loses its power and speed. Its waves flatten and gradually, without a whimper, ceases to move. The vast reservoir wins, swallowing up the river which now becomes a part of its still waters. The colorful sediment carried by the river gradually spreads out and soon begins its slow descent to the bottom of the reservoir. As a roaring whitewater river it dies an ignominious death, a victim of the placid reservoir.

THE BEGINNING AND THE END

Mr. Dennison. of the U.S. Congress suggests the Colorado River was finally given that name in 1776. However the Spanish seafaring men, who first saw the red river and sailed upon it from the Gulf of California, no doubt were the ones who called it the Rio Colorado in 1540. The Colorado was deep enough and wide enough for their ships to sail over 300 miles upstream. No dams stopped their ships only the rocky rapids. Today, however, the river has many dams and the water of the river has been made available for irrigating vast farm areas in the United States. What little flows back into the river is so salty that it cannot be used again. A mighty river once entering the ocean with sufficient water for ships to sail upon has now ceased to flow. Today the mouth of the Rio Colorado is just a large dried up patch of earth which sometimes has a thin line of salty water trying to reach the ocean, but more often simply sinks out of sight.

The river begins as tiny rivulets of pure mountain water, gradually they come together and eventually form the mighty Colorado River. Regardless of its greatness along the way it dies an inconceivable death, a death which it was made to form—an ugly, waterless wasteland.

"Hurra! Hurra! Hurra! Grand River came upon us or rather we came upon that very suddenly and to me unexpectedly..."

From the diary of George Bradley, July 16, 1869.

Book Review

Dancing on the Edge: A Veteran River Guide Shares the Transforming Power of the Grand Canyon by Charly Heavenrich

Dancing on the Edge is a fun read with messages about learning those lessons we keep forgetting. The main story line is one familiar to many Confluence readers—your first Grand Canyon trip. Along with tales of hikes, sights, history and geology the author relates tales of visions with a spiritual guru. "Dancing..."could be described as Rod Nash meets James Redfield. It's a great story about taking a river trip, combined with learning how to remember the lessons life teaches us, and how to recognize when a lesson is being taught. Charly is a good writer with a gentle sense of humor that makes reading this book enjoyable, as well as striking chords of recognition with anyone who has been on a river trip. For thirteen dollars at Back of Beyond, its better than a movie ticket.

The above is a brief review provided by Dave Focardi, a nine year guide at Sheri Griffith Expeditions, who calls Charly a friend.



Oh the river in the canyon is sublime
and the rocky walls speak stories of their time
Way down in Cataract
Strong hearts are not an act
On the river in the canyon oh so fine

Oh the lovers of the river, they are so true & fine
In the canyon on the Colorado line
They ride that foamy crest,
They know they are the best
Oh the Boatmen are the very girlie kind?

And in the night time sky
We watch the moon and sigh
and listen to the river sing her songs
She tells us of her loves and cries to the stars above
for the boatmen who have met her deep desire

I will be coming back
to ride the river down
Back to that rocky river gorge
I'll be listening to the oars,
while the quiet of the canyon fills my mind
And as we drift along
I'll heat that sweet sweet sound
as the deepest distant waters start to roar.....

by Amy Stinchecomb, a guest on a Sheri Griffith Expeditions row trip through Cataract at 45,000 cfs this June.

Lost, Misplaced, or Simply Mistaken?

by Jim Knipmeyer

In his testimony in 1929, during the so-called River Bed Case, Walter E. Mendenhall told of a trip that he and his companions made in March and April of 1908 down the Colorado River from Moab, Utah, into Cataract Canyon. They were prospecting the gravel beds as far as they thought it would be safe to go and then still be able to get back upstream. Mendenhall testified that they "went down to what we called the eleventh rapid."

There, under a big shelving rock below the wash which caused the rapid, they found the remains of a camp, and on the underside of the rock, painted in white, an inscription. Mendenhall recalled that it read: "F. H. Wright passed here in 1878. Lost one boat in this rapid." He also added that afterwards he met this F. H. Wright in Prescott, Arizona, and that, like Mendenhall, he was a miner prospecting down the river.

Also in 1929, author, river runner, and movie-maker Clyde Eddy had a book published entitled Down the World's Most Dangerous River. It tells of his boating expedition down through the canyons of the lower Green and Colorado rivers during the summer of 1927. His party traveled from Greenriver, Utah, to Needles, Arizona, and in Cataract Canyon, somewhere between Miles 210 and 207, he described a similiar inscription.

On page 81 Eddy tells how at one place he and guide John Galloway, while working their way back along the rocky shore, discovered what he called "the gruesome record of an otherwise unrecorded disaster that occurred on the river three decades before." Scratched on the surface of a flat rock over looking the river were the words: "Colorado-Pacific Survey Expedition Wrecked Here July 19, 1897." Below the words were crude drawings of three boats, two of them shown broken in half, pinned against rocks in the river.

There is yet a third inscription found in Cataract Canyon at Mile 204.6, right bank, which is remarkably similar to the previous two above. Incised on the side of a large rock boulder overlooking what is sometimes called Capsize Rapid, is the following: "Col. Grand. Canyon. M. & Impt. Co. July. 22, 1891." To the right of the date is a drawing of a boat with "No. 1" printed on its stern and the word "Wrecked" beneath that. Directly below is a separate inscription reading: "G. M. Wright Sep. 16. 1892."

The 1891 inscription was carved by members of the Colorado, Grand Canyon, Mining and Improvement Company, under the auspices of Denver capitalist James S. Best. The party was traveling in two boats from Greenriver, Utah, through Cataract, Glen, and Marble canyons to a reported silver mine near Bright Angel Creek in the Grand Canyon. Near the head of Mile Long Rapid they pinned their number one boat to a rock in mid-river and spent the next few days in an unsuccessful attempt to free it.

The above inscription has been noted and photographed many times up until the present. The first two, however, except for their respective mentions in 1929, have NOT been seen since. The similarity of all three inscriptions is undeniable, but is this merely coincidence or something else?

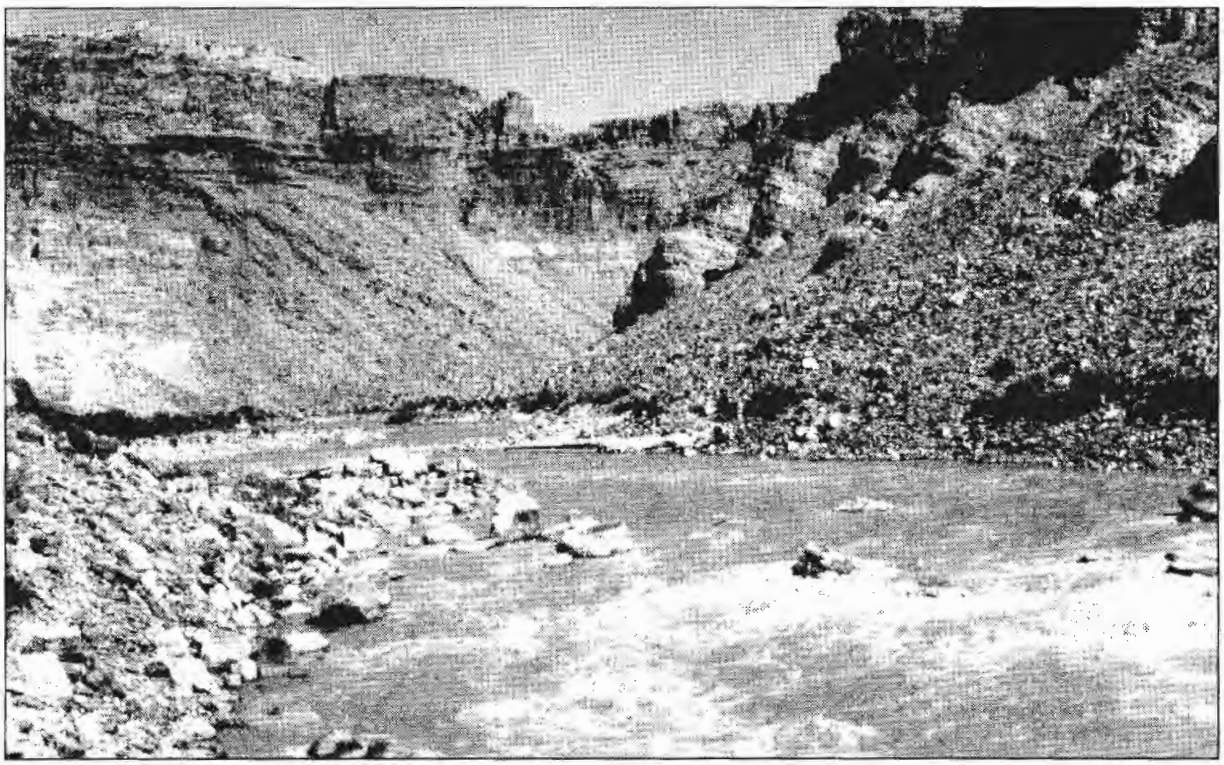
The "eleventh rapid," as reported by Walter E. Mendenhall, would be somewhere about Mile 207, depending on the counting of Cat's rapids during a particular stage of water. None of the rapids in the immediate area are rated as more than a 1 or a 2, and should have presented no obstacle to a boat. Interestingly, in his testimony Mendenhall also stated that after leaving their boats at the eleventh rapid they went afoot on down the river until "about three o'clock," and then returned to their boats. Capsize Rapid and the Best inscription is only a little over two miles downstream. Perhaps they saw the 1891 inscription and, relying on memory twenty-one years later, Mendenhall mistakenly recalled the exact wording and date of the inscription, as well as the nearby reference to a G. M.. Wright.

The location of the inscription reported by Clyde Eddy would also put it in the general vicinity of the other two, though he is not very specific in the description in his book. Interestingly, in his daily diary kept on the river trip, Eddy never mentions such an inscription. John Galloway, as far as is known, did not keep an account of this 1927 trip, and Eddy conveniently states in his book, "We .... decided to say nothing about it to the other members of the party." The expedition camped that night at the head of Mile Long Rapid, near the Best inscription. Eddy could very easily have seen it and upon writing his book, for dramatic purposes or some other reason, changed the wording and location slightly.

So, are these three Cataract Canyon inscriptions in actuality one and the same, or are there two "lost" historic ones? Have these two been "misplaced" and "mistakenly" recorded either unintentionally or intentionally? I believe both of these latter suppositions to be the case; Mendenhall unintentionally and Eddy intentionally.



Rapid at Mile-207, Cataract Canyon. Photo by Jim Knipmeyer.



Head of "Capsize Rapid" (#15) from the Best inscription. Photo by Jim Knipmeyer.

The River Bed Case: The Decree

Transcribed by John Weisheit

The Confluence will continue to publish excerpts from the 1929 testimony of the River Bed Case. A few members have inquired what was the final decree made by Charles Warren, the Special Master of the U.S. Supreme Court which follows:

SUPREME COURT OF THE UNITED STATES.
No. 14 Original—October Term, 1930.

The United States of America, Complainant,
vs.
The State of Utah.

[May 18, 1931]

DECREE

This cause came on to be heard by this Court, upon the exceptions of the parties hereto, to the report of the Special Master.

Now, therefore, for the purpose of carrying into effect the conclusions of the Court, as stated in its opinion, dated April 13, 1931, IT IS ORDERED, ADJUDGED, AND DECREED that:

1. The Bill of Complaint, in so far as it relates to the Green River, is dismissed. The Green River, from a point where the river crosses the township line between townships 23 and 24 South, Range 17 East, Salt Lake Base and Meridian, to the confluence of the Grand (Colorado) River, is now and at all times, on and after January 4, 1896, has been, a navigable river, and the title to the bed thereof vested in the State of Utah upon its admission into the Union on January 4. 1896, except so far as into the Union on January the United States of America may theretofore have made grants thereof. The United States of America is forever enjoined from asserting any estate, right, title, or interest in and to said river bed, or any part thereof, adverse to the State of Utah, or its grantees; and from in any manner disturbing or interfering with the possession use, and enjoyment, thereof by the State of Utah, or its grantees.

2. The Bill of Complaint, in so far as it relates to the Grand (Colorado) River is dismissed. The Grand (Colorado) River, from a point located at the mouth of Castle Creek to the confluence of the Grand (Colorado) River with the Green River, is now and at all times on and after January 4, 1896, has been, a navigable stream, and title to the bed thereof vested in the State of Utah upon its admission into the Union on January 4, 1896, except so far as the United States of America may theretofore have made grants thereof. The United States of America is forever enjoined from asserting any estate right, title, or interest in and to said river bed, or any part thereof, adverse to the State of Utah or its, grantees, and from in any manner disturbing or interfering with the possession, use, and enjoyment thereof by the State of Utah or its grantees.

3. The Bill of Complaint, so far as it relates to the Colorado River, from the confluence of the Green River and the Grand (Colorado) River to Mile 212.15 above Lees Ferry, Arizona, and from Mile 176 above Lees Ferry, Arizona, to the. Utah-Arizona Boundary Line is dismissed. Said stretches of said river and each of therein are now and at all times on and after January 4, 1896, have been navigable and title to the beds of said last-mentioned stretches of river and each of them vested in the State of Utah upon its admission into the Union on January 4, 1896, except so far as the United States of America, may theretofore have made grants thereof. The United States of America is forever enjoined from asserting any estate, right, title, or interest in and to said beds of said last-mentioned stretches of river or in or to any portion of said last-mentioned beds, or either of them, adverse to the State of Utah or its grantees, and from in any manner disturbing or interfering with the possession, use, and enjoyment thereof by the State of Utah or its grantees.

4. The Colorado River from Mile 212.15 above Lees Ferry, Arizona, to Mile 176 above Lees Ferny, Arizona, is not a navigable river, and the title to the bed of said last-mentioned stretch of river is vested in the United States of America, except as to lands heretofore granted, and the State of Utah is forever enjoined from asserting any estate, right, title, or interest in and to said bed of said last-mentioned stretch of river or in and to any part of said last-mentioned bed, adverse to the United States of America, or its grantees; and from in any manner disturbing or interfering with the possession, use, awl enjoyment thereof, by the United States of America, or its grantees.

5. The San Juan River, from the Mouth of Chinle Creek to the Confluence of the San Juan and Colorado Rivers, is not a navigable river, and the title to the river bed is vested in the United States of America, except as to lands heretofore granted, and the State of Utah is forever enjoined from asserting any estate, right, title, or interest in and to said river bed, or any part thereof, adverse to the United States of America, or its grantees; and *from in any* manner disturbing or interfering with the possession, use, and enjoyment thereof, by tile United States of America, or its grantees.

6. The United States of America shall in nowise be prevented from taking any such action in relation to said rivers or any of them, as may be necessary to protect and preserve the navigability of any navigable waters of the United States of America.

7. It is further adjudged and decreed by the Court that each party hereto pay its own costs and that each party hereto pay one-half of the expenses incurred by the Special Master, and also one-half of the amount to be fixed by the Court as the compensation of the Special Master.

A True Copy.
Test: [signed Charles E. Cropley]
Clerk, Supreme Court, U.S.

WEEDS

by Kara Dohrenwend

Noxious weeds, also called invasive exotic species, environmental weeds, or non-natives, are rapidly taking over vast areas of public lands. The simplest definition of a weed is "a plant out of place." If you have a garden you are probably familiar with weeds, their impact on the productivity of your garden, and how difficult it can be to get rid of them. Familiar range weeds include Russian thistle, cheat grass, tamarisk, Russian olive, and knapweed. Some of these plants have beautiful flowers and are often sold as landscaping plants.

Noxious weeds are those that are particularly tenacious and do not eventually stabilize within the native plant mosaic. Plants such as these have become so commonplace that many of us cannot recall that these plants haven't always grown here—and we accept them as "belonging". Jerry Asher, a weed specialist for the BLM in Oregon, estimates that every day noxious weeds are spreading over approximately 7 square miles (roughly twice the size of the incorporated parts of the City of Moab) of public lands in the United States; 25,000 square miles in a year!

The ability of noxious weeds to out compete native species is hardly a "natural" occurrence or an example of "nature doing its thing." Most of the noxious weed species have been introduced by people for ornamental plantings, erosion control, food, or by accident. Although it may appear impossible to do anything about weeds, the prospect of simply living with them is not benign. In the desert the side canyons and springs are particularly important areas where it is possible to thwart the progress of these weed species. In riparian areas the most commonly seen weeds are Russian olives and tamarisk. In some places, such as Desolation Canyon, there are so few of these plants that "it would be relatively easy to remove them before they take over larger areas." As Gary Cramer, a former weed control specialist at the University of Arizona, contends about simply living with weeds along streams and rivers: "This is down in the riparian areas—some of the most valuable areas of the southwest. .... Can we simply accept that the cottonwoods and the willows will be eliminated?"

Over time the cottonwood/willow riparian forest can vanish amongst the olive/tamarisk thickets, although in some places the willows do seem to be making a comeback. Russian olives and tamarisk support approximately one third of the bird species supported by native cottonwood/willow communities. Although some native species eat the olive fruit and may nest in olives or tamarisks, some birds that nest in tamarisk are being found to not reproduce well. For instance, in parts of southern Arizona the endangered southwest willow fly catcher is nesting in tamarisk trees where they have no alternative nesting sites, but researchers are finding their eggs are not hatching. They speculate this may kill the eggs because of the higher ambient temperature during the hot parts of the day in a tamarisk thicket compared to the slightly cooler temperatures in a willow thicket.

In late February the Utah Weed Control Association held their annual conference in Moab. Weed control supervisors from every county in Utah, National Park Service and Bureau of Land Management representatives, Utah State University students and professors, and a few other non-governmental people attended the conference. Although the majority of the weed control methods discussed involved chemical treatments and biological controls the fact that so many people were talking about ways to address the problem was heartening. A common theme of the discussion was the need for more people to be involved in looking for, mapping, and removing weeds in the wild lands of the Colorado Plateau. With more hands at work more environmentally friendly methods might be able to be used to begin to remove them. In the next few issues of *The Confluence* there will be articles about specific weeds and the native plants they are replacing, and how, as river guides, you might be able to help locate and begin to remove these species before they spread further.

Sources:

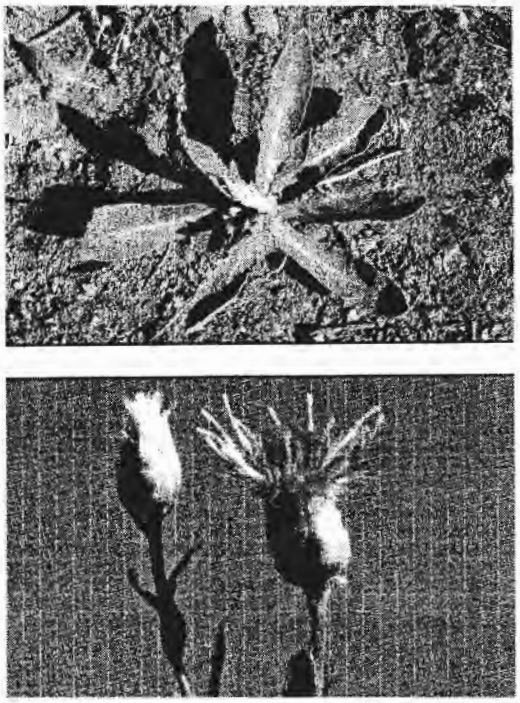
Jerry Asher, Steve Dewey, Curt Johnson, Jim Oliveras, Rich Wallen. Invasive Exotic Plants Destroy Wildland Ecosystem Heath, November 21,1995.

San Juan National Forest Association. Noxious Weeds: Changing the Face of Southwestern Colorado. April 1994, reprinted April 1995.

David Tenenbaum, "Weeds from Hell." Technology Review, Aug.-Sept. 1996. Vol. 99, no 6, p. 32.

Ted Williams. "Killer Weeds." Audubon, March-April 1997. Vol. 99, no. 2, p 24.

James A. Young, "Tumbleweed." Scientific American, March 1991. Vol. 264, no. 3, p 82.



Russian Knapweed. From *Weeds of the West*. Western Society of Weed Science. University of Wyoming.

San Juan and Colorado River Rowboat Expedition

June 10 - 18, 1952

by W. W. Mallory

Special Thanks to William Chenoweth

Foreword

The scientific aspect of this expedition is discussed in a separate report on the subject. This paper is a narrative account of the trip for the benefit of any who find it of interest.

A complete discussion of the San Juan River has been written by Miser in U.S.G.S. Water Supply Paper 538 available in the Geological Library.

A motion picture film documenting the trip is also on file in the library.

To Jack and Frank Frost

Whose experience in planning, organizing and conducting the expedition were evident at all times. Their knowledge of San Juan River navigation and their unconcerned but careful leadership earned them the respect and admiration of the party. The following account records the experiences and reactions of the writer, a first time San Juan tenderfoot, but the reader will realize that the sense of the dramatic emphasized in the text would probably amuse these old hands.

Recognition is also tended to John Duletsky, the other of the three boatmen, all of whose examples were constantly a guide for the "junior boatmen" in the little green boat. The untiring efforts in camp of the rest of the crew completed the success of the expedition.

W. W. Mallory , July 16, 1952

The Diary

Ordinarily the San Juan is a shallow river, but in 1952 the heavy April snows in the Rockies and the unusual warm spell in May nearly doubled its usual quota of June melt water. The Green, the upper Colorado, the Duchesne and the Gunnison Rivers were also in flood. The May melt water crisis in Salt Lake City and vicinity was part of this unusual weather cycle. The San Juan River of June 1952 was therefore a bigger, more powerful San Juan River than anyone on this expedition had run before.

A rowboat expedition down the San Juan and Colorado Rivers from Mexican Hat, southeast Utah, to Lees Ferry, northern Arizona, is conducted yearly by John A. and Frank Frost of Artesia, New Mexico. These men supply the boats, all the equipment and food for a fee. The expedition is open to the general public but is most often patronized by geologists and male vacationers seeking something out of the ordinary.

The interest to Phillips Petroleum Company in the area traversed lies in the Pennsylvanian reefs buried in the Hermosa limestone cliffs, which wall the San Juan River below Mexican Hat. The only possible access for viewing and studying these reefs is by rowboat. In a day of airplanes and automobiles this is refreshing. Since reefs and associated rocks in the subsurface are significant to petroleum exploration, a better understanding was desired of these reefs, and of the Paradox subsurface basin of which they are a part.

The San Juan River is notorious for its fast current, rapid white water stretches, and imposing canyon walls. The trip is considered a feasible one though not without risks. Other river stretches in the Colorado Plateau region, notably Cataract Canyon and the Grand Canyon of the Colorado, are considered dangerous. The point of origin and destination for this expedition are not chosen at random—they are the only two places where the river is accessible. Once in the river at Mexican Hat you are committed to the entire trip to Lees Ferry. No up-river travel is possible since the speed of the current, its swirling rapids and boulder-strewn bed make motor craft unmanageable and rowing unthinkable. (A shallow-draught equipped with an airplane propeller and engine has been used for up-river navigation on the Colorado from Lees Ferry to Music Temple, but it has not been attempted on the San Juan.)

The group was scheduled to meet at Mexican Hat on June 10. I left Bartlesville Saturday morning, June 7, and flew to Salt Lake City. Sunday morning I picked up a car at the agency garage and drove over the Wasatch Range into the Book Cliff country and southward to Moab and Monticello where I spent the night. En route I looked at exposures of the Paradox member and took pictures. From Monticello to Mexican Hat is only 76 miles where the road is poor to bad, and crosses washes subject to flash flood. Comb Ridge, where the road is steep, should be taken easily. As the flexure marking the eastern edge of the Monument Upwarp, where Pennsylvanian and Permian rocks are exposed, it is of special geologic interest. I allowed all day Monday for this trip. A little south of Monticello the road climbs over the south toe of the Abajo Mountains, before dropping down into the valley of the San Juan. From this point in southern Utah there is a magnificent view across the central part of the Colorado Plateau. You can see 80 miles eastward to the San Juan Mountains of southwest Colorado, 70 miles southeast to Shiprock, New Mexico, 50 miles south to the Carrizo Mountains in northern Arizona, and 80 miles southwest to Navajo Mountain near the lower part of the river trip.

At the top of Comb Ridge I parked the car for a better look at the country and its geology and took some pictures. While I was there a man and his little girl pulled up in a truck with a little ten-foot metal boat in the back. I learned he was Bill Stone from Grand Junction, Colorado, and that he was on his way to Slickhorn Gulch to go fishing. I certainly didn't know it then but a few days later I myself was taking this boat down the river to Lees Ferry. I got to Mexican Hat around 1:00 and hung around the Indian trading post awaiting the rest of the party. The man who ran the post was Jim Hunt. We got to talking about this and that and I watched him trade with the Navajos that came in. Every so often a truckload of uranium ore, mined out of the Shinarump near Oljeto Post, rumbled across the bridge. This bridge is a little wooden suspension job and the ore trucks would make a sag in the bridge as they drove across. We learned at Lees Ferry that a few days after we left one of the trucks cracked the bridge. Another bridge

has been planned and is certainly now needed. During the afternoon I drove to the vantage point for viewing the Goosenecks and took some still pictures and movies. During the afternoon the party drifted in. Everybody was in high spirits so we rapidly became acquainted and had a big time over beer. We slept that night on the rocks next to the river near the boats which were ready for launching next morning.

The crew cooked breakfast at Mrs. Nevills' Mexican Hat Lodge. Frost had arranged previously for some of the cars to be driven to Lees Ferry by a New Mexico scoutmaster and some scouts who would arrive in Mexican Hat during the trip. I arranged with Fred Singleton, who measures the river for the government, to ferry mine. His price was $25.00, but considering the population of Mexican Hat I was not in a position to quibble. U. S. Highway 89 crosses the Colorado River at Marble Canyon (one filling station and one motel) on the Navajo Bridge, a steel arch over the Marble Canyon, a deep gorge in the Kaibab limestone. A dirt road from Marble Canyon descends to the edge of the river on the Moenkopi outcrop six miles north at the mouth of the Paria River. This spot is Lees Ferry. The cars were to arrive here a day or so before our scheduled landing; they were to be parked and the keys hidden in prearranged spots.

Loading the boats took some time, and they were not launched until about 11:00. The personnel of the party is listed:

John A. Frost ("Jack", guide and organizer of the expedition), Boatman.
Frank Frost ("Little Jack". "Skipper"), Boatman
John Duletsky (Quiet-water John), Boatman
Phil T., Hayes, Geologist, U.S.G.S., Crew
Paul Meadows, Crew
Bill Chenoweth, Wengerd's field assistant, Crew
Sherman Wengerd, Professor of Geology, University of New Mexico
St. Clair P. Yates (S. P.) Independent operator.
Charles Waller, Rancher
Bud Eader, Waller's office manager
W. W. Mallory, Regional Exploration Geologist, Phillips Petroleum Company
Elaine Frost, Jack's daughter
Jimmie Meadows, Paul's wife
Wayne Milheim

The geologists, Wengerd, Hayes, Chenoweth and Mallory were in the lead boat, with Frank Frost, skipper and boatman. At Mexican Hat the river flows in the basal Rico formation at the bottom of the Mexican Hat syncline, a minor feature on the Monument Upwarp. Downstream the rocks rise rapidly approaching the crest of the upwarp so that in Mendenhall Loop and the Goosenecks the river flows in a spectacular canyon of Hermosa limestone containing the reefs. Wengerd's presence was especially welcome since he was able to point out the reefs. Wengerd had made the trip two years before and is the first to have noticed them and written a paper on the subject. He was anxious this time to establish their trend. He was plotting them on the Geological Survey river map as we passed them. After glancing at this map a few times I noticed a curvilinear pattern made by the reefs and called this to his attention. We were both pleased with Wengerd's success in spotting the reefs and achieving some sort of synthesis. To test our trend theory we predicted at future points in the river where they should appear and enough of them followed our expectations that we became convinced the trend analysis was valid. We landed to study those which were low enough to be accessible. The last reefs visible were on the bend of the river at Honaker Trail where we made our camp for the first night. Here the fishermen caught a string of catfish which we ate for dinner.

June 10 had given us our first taste of boating on the San Juan. A curious aspect is the sizzling noise on the bottom of the boat which is the result of sand and silt striking the bottom as it rolls along in the turbulent current. Riding over three to four foot "sand waves" was a novel experience and showed us that hope of staying dry during the trip was futile. The bailing can was often busy. Sand waves are large, almost stationary waves which occur in rivers carrying a heavy silt load. Pierce (Water Supply Paper 400 pp. 42-43) describes sand waves as follows: "... sand waves are not continuous but follow a rhythmic movement. Their appearance, as seen on the lower San Juan, is as follows: At one moment the stream is running smoothly for a distance of perhaps several hundred yards. Then suddenly a number of waves, usually from six to ten, appear. They reach their full size in a few seconds, flow for perhaps two or three minutes, then suddenly disappear. Often, for perhaps half a minute before disappearing, the crests of the waves go through a combing movement, accompanied by a roaring sound. On first appearance it seems that the wave forms occupy fixed positions, but by watching them closely it is seen that they move slowly upstream. In the narrow parts of the stream the waves may reach nearly the width of the river . . ."

June 11

At 7:00 next morning, a number of us climbed Honaker trail to The Horn, a prominence about half way up the exposed Hermosa section. We shoved off later, resuming our search for reefs. One questionable exposure was seen near mile 95, but from there on no evidence of reefing in the Hermosa was again apparent. We pulled into Johns Canyon at the foot of its fall of discordance and had lunch and a swim. We spent the afternoon running rapids down to Slickhorn Gulch where were to camp for the second night. Jack planned to stop and survey Government Rapids, but Frank, the lead boatman, was drawn into them. By passing through we found out they were navigable.

At the point where Slickhorn Gulch joins the San Juan, Don Danvers of San Antonio was drilling a well perched on the side of the canyon. Danvers and Wengerd have been acquainted for some time. Upon learning of our projected expedition, Danvers planned to give us a reception and barbecue dinner. The reception was to be a surprise. A few miles up from Slickhorn Gulch we heard what sounded like dynamite blasts or peals of thunder. These continued at intervals and there was some conjecture as to whether Danvers was dynamiting the cliff to dam the river and make a waterfall for us to run. It turned out they were giant firecrackers. We in the lead boat were unable to make the landing at the upstream side of Slickhorn Gulch,

and in spite of all efforts we were pulled into Slickhorn Rapid. By extreme effort Frank was able to get us into the back eddy below the rapid and beach the boat. He was one spent boatman.

By previous arrangement Mike Keely in Wengerd's field wagon had taken the provisions for that part of the trip below Slickhorn to the well site. It was the task of the entire expedition to carry boxes full of canned goods down the steepest trail I've seen, for loading into the boats. I don't think this procedure will be repeated. After this task, my back started to give me fits and kept it up at intervals the rest of the trip. The work finished, a number of us went swimming *au naturel* in one of the clear pools in Slickhorn Gulch. The camp for the well had been set up on the bench formed at the top of the Rico. It is reached by car by a road branching off from the Goosenecks view road. From the camp another road winds down the face of the canyon wall to the well site about half way down to river level. This road was costly to build and is an experience to ride on. There are two attitudes to take while en route, some like me, preferred to look out the car window and make plans in case of brake failure; others concentrated on conversation, trusting to fate. The state plans to maintain the road even if the well is abandoned. The statement that the canyon is inaccessible between Mexican Hat and Lees Ferry is now not quite true, as a person can climb up from the river to the well site and can be met by pre-arrangement at this point. Gear is transported only by arduous labor, and launching a boat from this point is virtually impossible. Apparently Stone was unaware of this fact as his light boat had slipped off the truck in the attempt and was lying on its side against the canyon wall.

Danvers had flown in with his wife, his Colorado Springs secretary, his cook, her daughter and other help, accompanied by a grocery box full of Texas steaks, beer, whiskey, four pounds of golden guernsey butter and the latest stories. The menu consisted of barbecued steaks, potatoes, hot home-made rolls, iced tea and homemade pie. The party broke up around 11:00 and we picked our way down the trail by flashlight. I laid my bedroll on a sandbar near our boat with Frank Frost and Phil Hayes. The river rose about a foot during the night, floating the boat and causing it to tug, sometimes violently, on the painter. I was uneasy about the boat and couldn't get to sleep. I tried to pull it up on the beach without success. It was too heavy and the waves too powerful. Sometime during the wee hours I saw Jack Frost checking our boat. He gave me the lugubrious news that John's boat had broken its tether and had floated downstream. Morale in the camp dropped next morning.



The town of Bluff as it appeared in 1921. Photo by Robert Allen from Water Supply Paper 538 by Hugh Miser. USGS photo.

June 12

Keely claimed the lost boat would go clear to Lake Mead. Personally I doubted it. John was sent up to Danvers' camp to ask Wengerd if he would take several of the party back to Mexican Hat where they could pick up their cars and go home. John came back, pretty tired from the climb, to tell us that Danvers party had left. Bill Stone, however, was still there with Mike Keely and upon learning of our predicament, he offered us the use of his boat. The substitution of an untried boat about a third the size of the others in a trip of this sort was a matter which needed some thought. However, it was agreed to take Stone up on his offer. The younger men were asked to-climb the trail and carry the boat down from the well. After reflecting a moment I decided that 35 years is old and contributed by watching from the river level. To my surprise and admiration they got it down, and without damage to the boat. After Frank's experience the previous day in Slickhorn Rapid the gear in the remaining boat, which landed upstream, was carried on foot to the downstream landing. The boat was then run through the rapid and pulled in at the lower landing. Frank Frost chose to row Bill Stone's little green boat and was joined by Mallory and Hayes. It was considered that the little green boat could take four boxes of groceries and three passengers, but it later became evident that this was too great a load. I eyed the heavy-laden boat and tossed in three kapok life preservers before shoving off.

The little green boat took the lead while the party watched to see how it would handle. After taking the sand waves and general turbulence of the next bend in the river, we decided it would be all right. But within the next three miles we hit a rough stretch (no worse than many, however) and the boat failed to respond adequately. It tossed about and filled two-thirds with water, barely keeping us afloat. After an exchange of glances which said: "Now what do we do?" Hayes had the presence to say, "Let's beach it and bail it". Before setting out again we put on the life jackets and headed for the point about a half-mile downstream where the other two boats had put in, presumably to wait for us. We arrived full of our adventures and noted a smug look on Jack Frost's face. When we finally hit a semicolon, Frost asked us to count the boats. It seems that here, about four miles below Slickhorn, the lost boat had become lodged between two rocks near shore. It was undamaged and ready for the rest of the trip. This was the second fortunate coincidence. (The first was the presence of Stone's boat at Slickhorn). We had about decided that the green boat could not be counted on. The groceries from the little boat were moved into the lost boat, the boatmen took over their respective places as before, and Hayes and Mallory were persuaded to take the little green boat downriver. Neither of us were anxious to do it after our other experiences but neither wanted to admit it. We drew straws to see who would row. From about here to the lunch stop we passed through a long stretch of fast water called

Express Train Rapid. I was rowing, and a sorry job it was too. We had absorbed a few basic principles of river navigation but had no very specific ideas on the subject and less experience. We agreed that the oarsman was to make all decisions, but that the passenger was to advise, thereby relieving the oarsman of sole responsibility if he accepted the passengers advice. It was a case of the blind leading the blind but there was solace in companionship. Even without its third passenger, and its grocery load, the boat carried only about six to eight inches of freeboard at the stern. Because of its tiny size it inspired no confidence.

As we approached sand waves four to six feet high and spaced closer than the length of the boat, we found, however, that it bounced like a cork over those large waves except when they reached instability and began to break. In this case they were dangerous because the white water rolling back upstream would not support a load and readily filled the boat. We learned later to distinguish the top of a partially submerged rock far downstream with its dangerous water hole from sand waves or a cross channel chop. The first day, however, we were suckers for everything the river had to throw at us. In one instance we had become overconfident about our success of the last three or four minutes. We were overtaking one of the other boats, having picked up a faster current, and made some flip remark about requesting permission to play through. At this instant the cause of the current became evident and the boat dived sickeningly about three feet over a small waterfall into the hole beyond a submerged rock (The expressions on faces were described later as choice). Waves of cold water filled the boat and slapped us around. Our standard bailing equipment was a three gallon water bucket. We needed it. After that we watched for rocks. Another three or four minutes free for bailing again gave us confidence until we discovered we were being sucked into what we later called a cross channel chop. This feature is composed of two intersecting sets of sand waves caused by a narrowing of the channel on both sides. We eyed the small maelstrom of waves coming at us from every direction, roaring like a bull elephant, and cringed. It was too late to do anything. Phil shouted suggestions for action which I ignored feeling full well there was nothing I could do as we zoomed into the vortex of the waves. The boat slid through practically on even keel, waves closing all around us and we came through like a shot without shipping a drop. From then on, cross channel chops were our dish. Apparently the interference pattern along the center line is so spaced that the boat rides neatly on the nodal points. Episode followed episode of this sort through the rough water of Express Train Rapid until we reached the lunch stop pretty exhausted.

Hayes took the oars after lunch. The river was quieter. In Express Train Rapid the river flows in the Rico and Halgaito, a series of redbeds and limes. The current readily cuts into these rocks causing the overlying Cedar Mesa sandstone to break off and fall into the river at a rate faster than the river can carry it away. Below the lunch stop a gentle west dip brings the Cedar Mesa down to river level. The channel here is fast but relatively clean and smooth. About this time my stomach began sending up distress signals but not so strongly that I couldn't enjoy the opportunity to view scenery. About midafternoon Jack signaled a landing at a small side canyon in the Cedar Mesa. Hayes and Yates took a swim in the clear plunge pool, while Milheim skirted the fall somehow and climbed to the upper level where he reported another plunge pool. During his descent I was certain he was going to slip off the canyon side and drop 40-50 feet.

Toward latter afternoon we approached a point at the end of a straight stretch two and a half miles long (at mile 61) where the river makes a right angle turn. We had been woolgathering and were unprepared for the ensuing commotion. It was too late to row out of the accelerating current toward the undercut bank. The other boats had passed out of sight leaving us with a feeling of being abandoned. With an increasing sense of alarm, we found ourselves being drawn by the current directly into the sidewall of the canyon. We had the feeling of sitting astride a 16-inch shell aimed directly at an RCA Building of Cedar Mesa sandstone, armed only with a pair of flyswatters. At the point where the current impinged on the far wall, a set of sand waves roared with ever increasing volume. Its noise a mile upstream should have warned us. The bow struck the far wall with a blow gentler than we expected and plunged into six foot sand waves that looked like the gaping mouths of whales. We were tossed about at the mercy of the current and acquired a boat full of water before we came out of the turn. I bailed full steam and had the boat in fair shape as we swung into another right angle turn which effectively filled it up again. Two miles down the next straight stretch the other boats had pulled in for the evening camp. We were ready, having had our fill of the green boat and the San Juan River in general. By this time my stomach was tapping out S.O.S.'s; so I hit the sack upon landing and remained until morning. From time to time I wondered "Is this trip necessary?"

June 13

Next morning I felt 0.K. but had no intention of tempting fate. Charley Waller and Paul Meadows said they would like to take a crack at the little green boat as we were having so much fun. Hayes and Mallory refrained from demurring. I found a place in Jack Frost's boat with S. P. Yates and Bud Eader. We passed rapidly out of the shallowing canyon where the Cedar Mesa sandstone dips gently west beneath the Organ Rock member of the Cutler. In this area the river flows on the soft redbeds of the Organ Rock and the banks are low, giving us a magnificent view south of the west margin of Monument Valley. Organ Rock was visible about 12 miles southeast. Monitor Butte loomed up ahead capping the Mesozoic sequence. This open area is known as Piute Farms from some abandoned Indian settlements. We expected quiet water but sand waves loomed up here and there. Our boat was well ahead of the others so Jack headed for a whirlpool to allow the others to catch up. While we revolved in slow circles the other boats caught up and passed us. It was curious to note that while we turned smoothly in our eddy, the other boats passed us at arm's length bucking like runaway horses. I was taking movies of their passage. With our increasing rate of revolution it rapidly became more difficult to keep the camera oriented and I nearly developed a case of spiral neck. As the last boat went by us there was no question that we were in a first rate whirlpool. Revolution had nearly became rotation on an axis and was approaching a dizzy pace. While I was unfeelingly

getting pictures, Jack was frantically rowing to get out of this new monster dreamed up by the river. The task was accomplished by applying four hands to the oars and stroking in rhythm.

We stopped at Clay Gulch near mile 50 for a boatmen's rest and took off around a wide bend flanking Monitor Butte. The boat in third position rowed by "Quiet Water" John Duletsky had fallen a mile or so behind. Jack stopped opposite Copper Canyon to let him catch up. "Quiet Water" John had lived up to his name and was aground about a mile and a half upstream on what is probably the biggest sand bar in the river. By peering through the finder of my camera in reverse, which enlarged the view slightly, I could watch the poor guys tugging and pushing the boat for fifteen or twenty minutes. The term sand bar is misleading because the material is more nearly quicksand and generally swallows a man up to his thighs or waist in short order. Pushing a heavy boat in this stuff is work. If it isn't one thing it's another on the San Juan.

At Copper Canyon I investigated the condition of my camera. Earlier in the morning I was taking pictures of sand waves when one broke into my face and splashed over the camera. Shortly thereafter the winding knobs jammed. There seemed nothing left to do but remove the back of the camera and investigate the trouble. I contemplated doing it at night, but from past experience in attempting to repair devices in the dark I decided to sacrifice the pictures already on the role and investigate the trouble. The repair job was simple. The film had become wet and the emulsion had served as an effective glue to the guide flanges inside the camera. I pried the film loose, dried it, cleaned the flanges, replaced the back and it was good as new. I shed a tear over my ten lost pictures and looked ahead to future shots.

The gentle west dip on the west flank of the Monument upwarp changes at the Nokai structure to about 35° east which brings the Cedar Mesa sandstone up to river level at the crest of the structure. We lunched at Nokai Creek, a tributary on the east flank of Nokai. The steep east and gentle west limbs are typical of structures in this region. Nokai and Rapplee anticline, east of Mexican Hat, are the most spectacular. As we passed through the structure we looked for a possible water line, layed by Skelly, for its well a mile and three-quarters north, but saw no sign of one. Passing out of the west flank of Nokai the river banks change locally from canyon to open valley as one passes from hard to soft rocks. It was in this stretch that we hit a series of sand waves which made Jack's mouth drop open. He said they were the biggest he'd ever seen. They were, perhaps, about eight feet from trough to crest.

The old Zahn gold mining camp is in the Organ Rock lowland. Downstream where the Chinle descends toward the river, the Spencer camp, consisting of an old boiler, is visible. Below Spencer camp the Chinle plain narrows quickly into the Wingate, back around a bend. Hayes and Milheim scaled the sides of the canyon and brought back the news that a similar fall in the Navajo discouraged further exploration. We continued around Great Bend, which by airline is only five miles from Colorado River, and camped on a sandbar at mile 30.5. S. P. Yates had lost his hat this morning and had got too much sun. He crawled into the sack for the night.

June 14

Next morning Hayes and Mallory took another crack at the little green boat. We were briefed carefully by Jack Frost who emphasized that the party would land about eight miles below the camp site to survey Piute Rapid and to decide whether it could be run or should be lined. In lining a boat around a rapid the occupants leave the boat and pick their way along the shore easing the boats along the rapid the best way possible. Hayes took the oars in spite of his feeling green around the gills. Our course was smooth for some time. At this passage we were drawn into a swift current, which took us over a rock and threw us broadside into the hole beyond. The situation developed so quickly that it was upon us before we realized it. The boat was rocked sideways so roughly that Hayes lost hold of both oars and was tossed around the boat. The passenger under such circumstances has two free hands with which to hold on to the gunwales, but the oarsman is otherwise occupied. Hayes was unable to control the boat properly because of the load of water shipped. We made shore and bailed her out. Hayes again resumed rowing but had to work so constantly, and with such exertion, that he got pretty tired. His bad stomach wasn't helping him any either. I took over the oars and immediately prepared to run a series of sand waves. These struck so violently that I was thrown to the deck on my back while the oars tossed about. Hayes was drenched from head to foot and grabbed me to keep me from rolling over the side. We knew then why the Frosts used foot-long pins in their oarlocks. In spite of our rough treatment we never lost an oar. We also appreciated why the oars were metal sheathed at the locks. Even hardwood oars, unprotected, would have been worn dangerously thin by friction on a trip like this one. Hayes bailed us out and we landed to survey Piute Rapid near mile 22. There might be trouble here.

Faulting was visible at this point. This canyon wall became complex and we could look into a wide side valley. Presence of the rapid at this point was probably caused directly or indirectly by structure. The open area had attracted early settlers because at the point where we viewed the rapid there were a number of pictographs etched on the rocks--stick figures of people, horses, spirals and a possible conjugal pair. The Frosts outlined a course through the rapid choosing the middle of three rock strewn channels at the start; then, passing to the right of a large rock around the bend, we should have been out of trouble. Back at the boats we were again briefed and a series of signals reviewed. I didn't think the rapid looked too bad but the extensive preparation lent a serious air which could not be whistled away.

The first job was to row cross-channel as fast as possible to reach mid-river before the current could take us down the side channel. Upstream, from the channel we were aiming for, the current braided and intertwined in such complex fashion that keeping the boat on a given heading was a perplexing problem. We were heading first this way and then that, the current growing even louder and faster, and the booming of the rapid increasing with an ominous tone. We made the middle channel although we bashed our stern into the emergent rock which divided it from the left channel. We bounced successfully over two other rocks, struck a number of submerged deeper ones with our oars and swung round and round in giddy fashion

through the fast stretch of white water. At this point the gradient of the river became so obvious to the eye that it looked like a highway with a downhill slope. Controlling a boat is difficult at such speed when obstacles are so numerous. We were approaching the middle of the S-curve and were congratulating ourselves out loud when Hayes noted two large submerged rocks not far ahead. He advised avoiding them and I headed the bow toward left bank. At this point we saw that Jack was also in the left channel, a fact which strengthened our decision to leave our present channel. The other two boats had disappeared around the bend. We made Jack's channel and from then on things began to happen more rapidly than they could be handled. Jack, we later learned, had relaxed for a moment and had unintentionally been drawn into the wrong channel. Ahead of him were two rocks standing out of water a few feet apart. He struck the left one broadside, cracking the boat, but we managed to push off into the torrent between the two. This delay narrowed the gap between us. We were able to get our boat through the narrow passage, but fleeting relief was ahead. The raceway on which we rode was bearing us down upon him at such a rate that only one or two oar strokes could be taken before we would be upon him. While the occupants of Jack's boat tried to free it from the rock, the current which bore down upon them was capsizing his boat and pinning it against the rock. I plowed into them head on, riding up over their boat and effectively sinking it. With quick presence of mind Jack stood on his boat, lifted our bow with a mighty effort, and pushed it into the raceway on left side of the rock. The occupants of his boat had meanwhile climbed up on the rock for safety. The current took us away so fast that Jack was dragged from his perch out into the torrent. He grabbed an oar, then the side of the boat, while I managed to beach it on a gravel bar downstream.

This was quite a situation. Most of us were enjoying it, but Jack was not too happy considering that the personnel and equipment involved were his responsibility. A lunch stop had been planned below the rapid and Hayes went down to find the other boats and bring back a long line, four new oars and the rest of the men to help us out. After pulling in to shore below the rapid, boats 1 and 2 were concerned with our failure to round the bend. They were convinced of some mishap when they saw several cans of coffee floating down the river. With Hayes downstream for help and Jack's passengers stranded in midstream, Jack and I were the only ones free to work on the situation. The castaways were too far from shore to be reached by the line on my boat and had to be content to wait. Jack was anxious to save his boat before the river should dash it apart or take it away downstream. The men on the rock worked the boat loose and the current took it, barely awash, down to where Jack was standing knee-deep in water. Jack caught it while I swam down to help. Between us we beached it on a gravel bar with the aid of a willow sprout about three feet tall. When help arrived we were able to right the boat, bail it out, unload it, beach it, and dry it and its equipment. The inhabitants of the rock were rescued when the boat had been secured. A rope was made fast upstream from the rock and the free end tossed down on a life jacket. One by one the men put on the jacket, tied the rope around their waists and jumped into the river.

We ate lunch down by the two other boats and took a long and welcome siesta. Hayes, who had been feeling bad all day, slumped on a sand bank. I asked him how he felt, and he said in a dopey voice that all he could see was muddy, swirling water. I knew what he meant because when I closed my eyes all I could see was muddy swirling water. So I kept them open and looked at Baker's Bulletin 865 with Bill Chenoweth and straightened out the Wingate-Kayenta-Navajo section. This of course was just sheer bravado. Yates and Waller were passengers in the overturned boat and all of their gear was soaked. The bedrolls, like everything else, were spread out on snaggly driftwood. Equipment casualties included the loss of Jack's light meter, my geology pick and 5 cans of coffee. Waller's movie camera and films, and Jack's and Yate's still cameras, were in pretty bad shape. Yates had stocked up on cigarettes, and his 20 or so packs lined up on a log to dry, steaming inside their cellophane wrappers, were a sorry sight. Spirits were droopy after this experience but I rather enjoyed it.

The hot wind blowing up the canyon dried out all the gear by late afternoon; so we loaded the boat and ran it down to the lower station. We took a vote whether to camp or keep going. It was about 5:00 and some of us were for camping on the spot. The majority were tired of this location, however, and wanted to go on. We camped about two and a half miles downstream on a nice flat bar at a bend of the river. This was the fifth night or half way, so Waller and I bathed in the river (with soap to make it different), and put on clean khakis. They felt pretty good. Frost's food was excellent and he tossed in some special treats that night. We sat around talking about the wreck.

June 15

Sunday morning we had two bad rapids to take. The majority were in favor of lining them. Mallory and Waller took the little boat to Syncline Rapid. Jack found a little side channel just barely wide enough for the boats and we led them through without incident except hard labor. A gander at Syncline Rapid showed that it would have been foolhardy to run it. Three and a half miles further down was Thirteen-foot Rapid, about a quarter mile long and extending from bank to bank. In order to avoid being swept into the rapid while approaching it the boatmen hugged the left bank and, of necessity, rowed into the whirlpool on the left side. The force of the whirl was so strong that making headway against the current by rowing became impossible. The boats had to be dragged by walking in water, sometimes chest deep, along a weed-grown sandy bank. Jack found a channel and we took one boat down as a test. A rock-and-boulder dam forced us to lift the boats bodily over the dam and down a small rapid into fast water. Once the first boat was through we were assured at least of the possibility of by-passing the rapid although it took most of the entire party to struggle with each boat.

There are structural complications at this rapid also, which locally bring the Chinle down to river level. Below the rapid the channel is in the Wingate and it apparently follows the dip of the formation. The water surface maintained a markedly visible slope, giving the feeling of sliding down a hill, but the channel was fairly clean as in the Cedar Mesa stretch of June 12.

We lunched at a small side canyon at about mile 8 where the boatmen carried the chow up into a cool, green dell

complete with clear pools of flowing water.

After lunch the river continued fast but for the first time began to change in character, decreasing in turbulence as it approached its junction with the Colorado at mile zero. Around 5:00 we merged with the Colorado River, which moved with about the same speed as the San Juan. Though roiling with sediment it was smooth and wide. Passing so momentous a landmark with such ease and quiet seemed strange. For no good reason I rather expected fireworks, brass bands, flashing neon signs. Naturally, my camera was in the other boat at the same time.

It soon became apparent that a different approach to river strategy was necessary here. The Colorado was too broad to allow rapid switching from side to side. What with braiding currents and the speed of the river it would take an oarsman a long time to make the far bank. He would probably strike a cross channel current at the next bend before effecting a landing. It would be necessary from now on to plan each stop ahead so the boatman could be sure to be on the proper side of the river. To miss a stop would be to miss a meal, or even dinner, bed and breakfast.

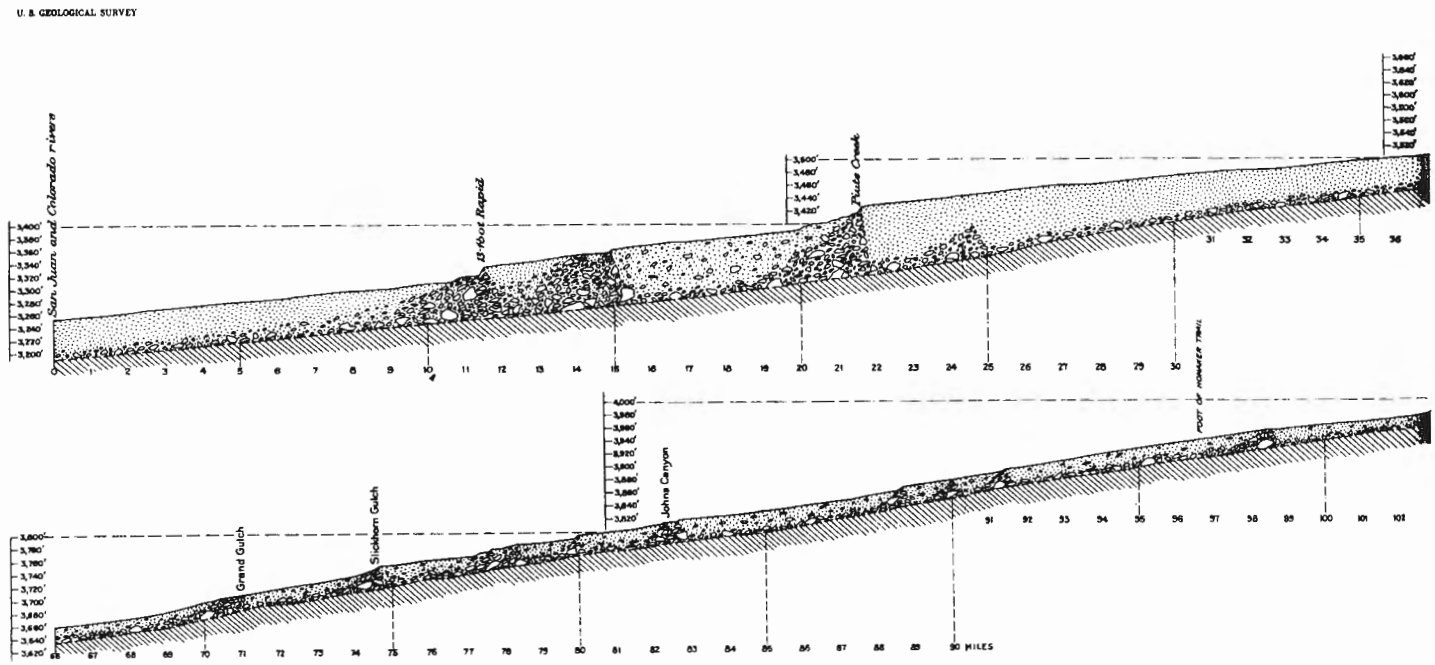
On the Colorado we found waves of moderate size and moderate back eddies for great exchanged, oversize sand waves, whirlpools, which could not be conquered but rather had to be outwitted. In making the landing at Music Temple, Jack left an outpost far enough upstream to warn those of us in the last two boats of the impending landing. We camped that night at the same spot used by Powell in his survey of 1871. As the boats were unloaded a revolting stench came from one of the pails. The fishermen who had become a well knit group, had been harboring a load of warm, dead worms. Public opinion overwhelmed them and consequently worms, bucket and all were consigned to the river.

At dusk everybody but Bud Eader (who may have been feeling ill) walked back to the canyon wall to look at Music Temple, named by Powell in 1871 on his trip. The place is a theater of Navajo sandstone eroded by the retreat of the fall in the tributary creek. The floor is developed on the Kayenta sandstone and the theater itself is a dome in the Navajo with a thin slit at the top and downstream outlet. Even in daytime the Temple is gloomy. Resonance is remarkable. A stone tossed into the clean pool at the base of the fall sounds strangely loud in the sepulchral silence. We lay around on the sand while Jack tried to start us singing. Everybody was bashful about it and nobody would sing up loud enough to get going. Eventually the embarrassment wore off and we ran through the familiar old numbers. Once we got started we did right well. The resonance of the place made it sound like a tile bath and that always brings out the best in the worst singers. The favorite was "Row, Row Your Boat" which Jimmie Meadows organized to a nice degree, and we sounded pretty good. When we ran out of songs, quiet settled over Music Temple ruffled only by occasional remarks and laughter. Then Johnny Duletsky broke out his harmonica and played several pieces to a hushed and receptive audience. John's rendition was top-notch. The effect in this cathedral of the western wilderness was moving.

Coming back from Music Temple we made a remarkable sight looking back from the head of the line. All that could be seen was a narrow cleft forming a deep canyon with a file of moving lights winding over the rocky trail.

The main camp in Aztec canyon was just off the swollen Colorado under an overhanging Navajo sandstone cliff on the undercut bank of the incised meander. Hayes, Edder and I had ferried our gear across to a wide rock platform on the other side of the creek. Again at bedtime John played his harmonica, very softly. The most comfortable concert I can remember.

Next morning we went back again to look at Powell's name carved in the rock and that of others in his party. We signed a sheet of paper and left it in the tin box which serves as a



Profile of San Juan River between Colorado River and mouth of Chinle Creek. Shows possible depth to bedrock and character and inferred distribution of the canyon fill under bed of river. From USGS WSP 538 by Hugh Miser, 1924.

register for the occasional visitors to this lonely spot. This box contains a small notebook and several miscellaneous pieces of paper listing the personnel of previous boat parties. Most of these had been brought down the river by Norman Nevills. (See National Geographic Magazine, August 1947, pp. 149-172.) Their accounts of the trip verified our suspicion that at any season it is an experience. John Duletsky added the history of the Frost expedition of June 1952 for posterity.

June 16

This day was heralded as "Dry-Feet Day". From morning till night on the San Juan we had been partially or totally wet. The high spot of each day was the chance to put on dry shoes at supper. To have dry feet all day was downright luxurious.

Phil Hayes and I took the little green boat after a briefing from Jack. We were to take care to stay on the left bank and watch the back eddy at Mystery Canyon. By and large, navigating the Colorado was a matter of drifting with the current although we had to stay alert in order to observe rocks, whirlpools and the activities of the boats ahead. At Mystery Canyon a large whirl rotating counter-clockwise was the first of several we were to encounter in making a landing. On the right bank the river flowed fast and rough; on the left side the eddy was half the river in diameter. Against the left bank it flowed upstream and then turned out toward the center of the river. On its midstream margin it paralleled the main current. After watching the other boats pick their way warily through these currents we found that the trick is to row into the top of the whirl and not be swept into the main current. The critical area is the point where the whirl divides from the main current and begins its turn to reverse flow. At this point it seems a matter of nip and tuck at any given moment just which current one is in. After getting by this point it is relatively easy to follow the whirlpool around its lower perimeter and back up along the left bank up to the mouth of the tiny tributary canyon.

Mystery Canyon is typical of the many awesome canyons of Glen Canyon. Sheer walls of Navajo sandstone estimated 1000 feet high rise so close together that sometimes there is no room for the outstretched oars of a boat. Furthermore this canyon follows the small meander pattern developed by a meadow stream. Even after you've seen it, you don't believe it. We rowed around a triple S-curve several hundred yards to the upstream end of slack water. At one point a fallen slab made a tunnel so narrow that, as we passed through, the oars were shipped and a man standing in the bow guided the boat through with his hands.

We walked up to the waterfall passing highly weathered ancient steps cut into the rock face leading up to nowhere. The water in the plunge pool was clear and ice cold, but made for swimming.

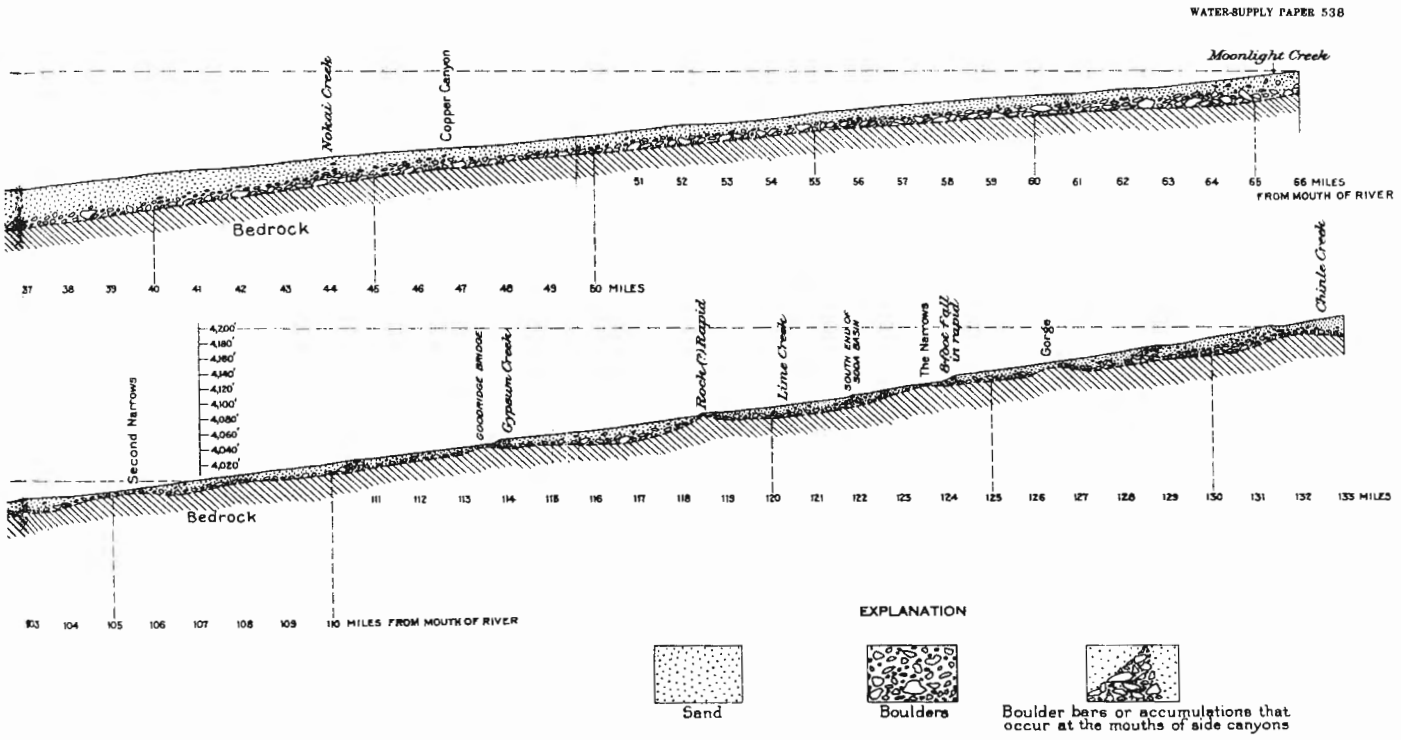
The landing at Aztec or Forbidding Canyon, where we made evening camp, was complicated by a monster whirlpool, perhaps two-thirds of a mile long. It had little subwhirls in it, and navigation was difficult.

June 17

Frost's feature attraction is a day-long hike up Aztec and Bridge Canyon to Rainbow Bridge. I like scenery as well as the next man but six miles up a rocky canyon is a rough haul. The trip was, of course, well worth the effort but by dinner time the majority feeling was to get back on the river and head for Lees Ferry. Atzec Canyon, so named because of the Indian ruins in which we camped, is 70 miles above the destination.

June 18

We shoved off at 8:15 with Lees Ferry in mind. The strenuous episodes of the trip were beginning to tell. The pleasure of drifting with the current was welcome. We were free from the necessity of fencing with whirlpools and free



from the rigors of the San Juan. We watched the Kaiparowits Plateau approach and recede. We saw the Crossing of the Fathers where in 1776 Spanish Padres found a way west. And we counted the miles gliding by. We figured our speed as about eight knots and estimated our arrival at Lees Ferry at around 6:00.

Jack put in for a landing at lunch time, but his crew mutinied. By silent agreement all the other boats continued in midstream. Left far behind, Jack finally shoved off. We rowed around exchanging canned juice, crackers, peanut butter, jam, Spam and cups. I parked in a small convenient eddy under a beetling Navajo precipice to close the gap between Jack's boat and hand them a lunch box. By afternoon the wind became a parching blast. It was blowing upstream, presumably flowing uphill from the Moenkopi plateau onto which Glen Canyon opens at Lees Ferry. I took a dip in the cold river water and was cooled to a teeth-chattering state by the desert wind. Around five o'clock the boats had drifted far apart. Boats 1 and 2 below us were out of sight as also was "Quiet Water" John Duletsky behind us. Bill Chenoweth in boat 2 had the map. It was apparent by the hour that we were approaching the end of Glen Canyon, and we were being careful not to miss the landing. We had been warned of the currents at Lees Ferry and were hugging the right bank, not knowing where the canyon would end. Around a sharp bend the attitude of the Navajo took on a peculiar aspect. The river here flows for a space parallel to the monocline which terminates the plateau into which Glen Canyon is cut. The landing was imminent. Jack appeared suddenly as we round a bend. He signaled a rendezvous near the base of the Navajo and briefed us on landing plans.

By the behavior of the boatmen ahead we could see that the river was especially treacherous on the dipping Triassic. We were frankly nervous at the possibility of being taken by the current in to Marble Canyon from which there is no egress. We thought of comments about Sockdolloger Rapid and Lava Falls in Grand Canyon.

Frank's boat took the lead and for some reason headed into mid-channel instead of hugging right bank. Jack hollered at him but to no avail. We in middle position passed the word and pointed right. He appeared to catch on and started rowing toward the bank. He must have realized his predicament at this point because his oars looked like a Mixmaster in high gear. The rest of us picked our way through whirls and shoals and landed within a stone's throw of the cars. The landing spot was at the point where the road from Marble Canyon Lodge leads down to the river, the first road we'd seen since Mexican Hat. This point was just above the rapid leading into Marble Canyon.

The boats were hastily unloaded and lifted into the trailers while the group was still intact. The boatmen were exhausted. Instead of feeling elated at having successfully completed the trip, the group was edgy and strained. After the confusion of mounting the boats, the gang assembled at Marble Canyon Lodge and streaked off to a steak dinner at Cliff Dweller Cafe. The tension of the landing was forgotten over beer and all tongues wagged at once.

The End

Britt Ready and the Vegas Cadillacs

By Earl Perry

"**One critically important aspect of our wilderness sojourns** is to hold space for the Wild Man," said the men's council wilderness retreat co-facilitator.

"What?" A gray, balding ex-boatman.

"You know. To establish a place of safety so the personal unique Wild Man in each of us can manifest. It's important in male development, and our culture just doesn't do much at all for the Wild Man. It puts us at terrible risk as a society, you know."

"You know, son, I don't reckon I think much a this. I used to work with the Wild Man. Down in Grand Canyon. He was 5'9" tall, and he weighed 200 pounds. He had a merry look, white straw cowboy hat, real nice-looking guy. Except when he got drunk, an' then he looked snake-mean. He could take a 20-horse Merc longshaft in each hand and walk up the beach curling them. Alternately. I saw him do it."

"A what?"

"An outboard motor. We used them on the pontoon rafts we were running down there. Weighs about 125 pounds."

"Well, I didn't mean some *person*. I meant our symbolic, *internal* Wild Man."

"Well, I meant a symbolic, *internal* Wild Man who went *external* pretty goddam often, and his name was Britt Ready. He was in his mid-20s; an older guy. We were about 19. Now the thing about the Wild Man, as I see it, son, you got it reversed. You want to hold a safe space for the Wild Man to manifest, an' I don't. I think you're nuts. You want him to wait his turn until you pass him the Talking Stick. He comes out, he says 'Woof,' he goes back in, curls around 3 times, and goes back to sleep. You want the Wild Man to play nice, and, when I worked with the Wild Man, he sure didn't. Except when he was sober; then he'd give you his last cigarette if you'd run out. But when he was drunk, he was an operations problem and a management problem."

"Well, it seems to me," said the men's council wilderness retreat co-facilitator, "That unless we hold a cultural space for the Wild Man avatar, we shortchange our maleness, we imperil the core of our manhood, and we run the risk of repression. Socially speaking, we need to merge the Wild Man and the Warrior."

"Well, Ol' Britt Ready had done a masterful job of that, and it didn't seem so social to *me*. Take that time he walked up behind this giant cowboy in a bar, probably close to 6'6", and tapped him on the shoulder, and started his punch from right down around his knees. And by the time that guy got his face turned around, Ol' Ready's fist had accelerated right up to speed. Broke his jaw in 5 places. Put him in the hospital for 3 months. No warning, no nothing, just wake up in the hospital with the beginnings of a morphine habit and no solid food for 3 months."

"What it seemed to me, son, the Wild Man and the Warrior were both miscible in whiskey, and you had to hold a safe space for *you* when you worked with them. This business about holding a safe space for the Wild Man, he doesn't like it

safe, and he doesn't confine real well. What I was saying, from an operations perspective, you work with the Wild Man, you have to have immediate access to a heavy-caliber pistol. And from a management perspective, you have to be the only guy he doesn't want to receive death from."

"Oh, I see. You think the Wild Man exemplifies the Death Wish. And of course that's exactly where you're wrong. He's what connects us to the elemental life forces. *Life* forces. Not death. And as for that stuff about guns, the true Warrior has mastered and channeled his violence. He's focussed it and directed it into life-giving, healing directions."

"Son, this is jist crazy. True Warrior, false Warrior; all that matters is whichever Warrior you're facing right here, right now. It's not a society problem, it's a *you* problem, then. You can distribute violence, you can broadcast it, but when you receive it, it's always real personal. I tell you what. Let's just assume that there's such a thing as your basic virtual talking stick. Let's just postulate that, ok?"

"A virtual talking stick? I'm not sure I see the point. I could go get our *real* talking stick, if you want."

"Nope. A virtual talking stick. Got it?"

"Yes."

"No. You don't got it, I got it. The virtual talking stick. I'm talking now. I keep talking until you get the virtual talking stick. Right?"

"Oh, I see."

"Yup. I'm telling a story."

The men's council wilderness retreat co-facilitator settled himself. Lots of men had shared with him. He had been to story-telling conferences. You want audience, he could *do* audience.

"We'd mostly finished a Grand Canyon trip, had a lot of trouble with low water from the head of Hance Rapids to past Crystal, and reached Separation Canyon with an 8-boat trip, and there wasn't enough gas to get across Lake Mead. They gave Britt Ready the gas that could be spared, and of course some whiskey and plenty of money, and sent him off down the lake all night, running an empty. The next day we lashed up the remaining 7 boats, making a barge 63 feet wide and 33 feet long. As the most junior members on the crew, Leachman and I got to run it. All the boatmen fired up their engines and left 'em roaring and headed for the duffel pile and the whiskey."

"Now this was the era when whitewater training was Ted Hatch saying "Soap Creek Rapid's down here a ways. See you in camp." Or Earl Staley: "God dammit, Perry, she'll turn if you turn her." There were two ways to run a largebarge like that one: try to steer with the center motor, or try to steer by varying the speeds of the outer motors. That's what Mark and I did, and in a kind of ponderous way, a stately way, we turned her all right. We steered that largebarge into the Vishnu Schist cliff on the right at full speed. There it stopped, but like a 17-year-old trying to lose his virginity with a willing unready woman, it just kept battering and battering against that cliff. Whole lot of irritated drunk boatmen having to run back, shut down them Mercury outboards. Had to interrupt their drinking for a few minutes, and they weren't happy about it. So the way they fixed the problem and made sure it didn't happen again, they told us, 'God dammit, don't run the goddam boats into the cliffs, for Christ's sake.' Eventually we got that largebarge and all 90 people going downlake."

"Ready was coming uplake in a hardhull, with a lot of gas and whiskey. When he met us he had been drinking for about 15 hours. By the time we reached Temple Bar, it was dark. None of the experienced hands much wanted to deal with Ready, so they told Leachman and me he was riding with us, and headed toward Vegas at about 95 miles an hour. There in the dark was Leachman's 1956 red Buick Roadmaster convertible. Massive. A little portly. Dignity. But strangely enough, with some of the lines of a crouched mountain lion about the rear fenders. And 4 cruiserline ventiports, which we had to research to learn was the real name a them fake exhaust dumps on the old Buicks. I'll tell you, that car was much loved. It was a *car*. We got Ol' Ready in it. He had one of his bottles. He was still sucking on it; it hadn't quite started sucking on him."

"'Stop. The car,' says Ready."

"Leachman stopped the car. Ready had now been drinking for more than 24 hours. He had American Indian blood, so it was cumulative."

"What?" said the co-facilitator. "What kind of derogatory stereotype is that about Native Americans?"

"Medically true," said the ex-boatman. "Their livers don't metabolize it. True clear down to the 1/16 hybridization level. But anyway, you're forgetting something."

"What?" said the co-facilitator.

"I have the virtual talking stick, and you don't. So anyway, Ready says, 'Gotta call. Call girl. Friend? LaVonetta. Thermop'lis Wyoming. Call." He staggers off into a roadside casino, the El Esleasmo."

"Leachman and I considered making the break. We were plenty scared. Terrified. But we were nice boys, raised as the sons of scientists from Los Alamos, and you don't just drive off and *leave* somebody. It would be impolite. After a while Ready comes out and deviates across the parking lot of the El Esleasmo. He's forgotten the girl in Thermopolis Wyoming, and he's hit the jackpot and forgotten that too. He's a shower of silver. Every pocket, every clothes crease, he's raining quarters. He's trying to hit his mouth with the butt end of a cigarette. He clinks as he staggers. We are waiting by the car."

"Ready says, 'Fight. I. Want fight? Me. Fight.' He sways happily and floats some blocky fists around, anticipating. He has just the muscles you'd expect on somebody who picks up his side of an 1100-pound raft with one hand and walks up the beach carrying it like you'd walk away from baggage claim with a suitcase."

"We say, 'Naw. We aren't gonna fight you, Britt.'"

"'Please. Fight. I. Please?'"

"'Nope. We don't wanna fight you, Britt, an' we aren't gonna.'"

"He considers this for a while. He swings at the right rear window of Leachman's Buick. He runs his fist through that window, to the shoulder. Some quarters splash down. In a moment, some blood splashes down. Pretty soon the arm is pretty well covered with it, from shoulder to hand. Leachman and I look at the arm and at each other."

"But wasn't he hurt?" asked the men's council member. "Didn't you do any first aid? This could have been a very

serious situation."

"No. And no. And yes. No he wasn't hurt, not nearly enough, he was jist bleeding. Kept it up most of the night too. And no, we knew plenty of first aid, and we didn't care to use it. That was a real nice car's window he'd broke. And yes, it was plenty serious, but not because of Ready's arm. Or at least, not directly."

"Well, we get on in to Vegas at a nice safe-and-sane 65, which was all Leachman ever drove that car for all the 100,000 miles he put on it. We found the others. Hatch decided he better get us some rooms before we ate."

"So we drive to the Cacadoro and there we are, out in the parking lot, and there's Hatch in the lobby, red hair and freckles, serious look and serious voice, he's the Boss, you understand, trying to get some rooms for his crew."

"Now Ol' Ready hated the rich. Purely hated 'em. Claimed all the Indians like he claimed to be and probably was, based on his liver, they all hated 'em. So he's out in the parking lot, under the mercury vapor looking pretty harsh and violet-silver except for his bloody arm, which looked a kind of black-red like Mimbres ware, an' he's peeing on Cadillacs. 'Rich. Fuckin. Fuckin' rich. Fucks.' Saved it a bit, like a dog, so's he could mark as many as possible, but then, he *had* quite a bit to save; he'd been drinking about 26 hours by then. Nothing but Cadillacs would do. Of course, Mercedes and BMWs hadn't been invented then, so this was reasonable. On his premises, at least. So here's this clerk looking at Ted Hatch being calm and respectable, and looking out past Hatch's big sloping shoulder through the glass doors, and here's this madman that jist got out of Hatch's rig, tilting and slopping around the parking lot, dick in his bloody hand, peeing on Cadillac tires and shaking little freckles of blood off onto their windshields. And quarters, too; they're still sprinkling down with the piss droplets and bloodspots."

"'No room at the inn,' says the clerk in a strangled voice. So we go on and on, looking for places and trying to get Ready to pee on Cadillacs out of the lightpools, or at least out of the clerks' vision, while Hatch goes in and does respectable for us."

"Finally Hatch gets us rooms. Ready's been drinking about 28 hours now. It's time for food. Somebody decides on pizza. Massey, who was more of a Wild Man than Ready was, starts to get angry. 'You know I can't stand pizza.' Which was ironic since once he made the river too hot to hold him, a pizza truck was his life. While it lasted. We go anyway. Pizza – it's a *decision*."

"Well, we get into the parking lot and Ready is still muttering, 'Fight. I. Me?' Everybody says disgustedly, 'Ready, we ain't gonna fight you,' everybody except Massey. His eyes are starting to glitter. But anyway we head for the entrance."

"Ready totters over behind Hatch. Hatch is a big man, somewhere between 200 and 250 pounds. Ready bearhugs him from behind and lifts him off the ground. Hatch says mildly and precisely, 'Britt, what do you think you are doing?'"

"It goes slomo. It's like when a big freight gets under way. Clankings through the couplings, and the slowest, most imperceptible acceleration. Well, that's Ready, with Hatch suspended in the air. He starts staggering backward, slowly, pace by pace moving quicker and quicker, starting vertical or tilted a little back, then tilting more and more, faster, until he falls backward in one straight unit like a tree going down, Hatch right on top of him. Near a quarter-ton hits the asphalt, and the cars nearby shake. There's a noise from the quarters. Hatch gets up and dusts himself off. There's some blood on his shirt, but not too much. Ready gets up, unhurt but a little unfocussed. Whatever he'd been planning to do with Hatch has slipped his mind. Somebody points: 'Hey. Britt. Over there. A Cadillac.' Ready arcs off in that direction, scrabbling at his zipper, and we go in to eat, except for Massey, who won't touch it and is coldly furious; and Staley, who's looking at a couple of women with improbable hair and trying to borrow a twenty. Leachman and me, we're willow wands among the oaks."

"But son, there's a happy ending. Ol' Ready left the river, or it left him, but he quit drinking. Become a hairdresser up in Thermopolis and did well for himself. Had a nasty divorce, but he reared some kids, an' at least one of them and maybe more is a gentleman, which could be not as many of us can say about our kids as would like to. So I'm real glad nobody had to shoot him. Hell, I'm real glad *I* didn't have to shoot him. We talk every 5 or 10 years. Journey to the East kind of thing, you know?"

"Shooting him would have solved *nothing*," said the men's council wilderness retreat co-facilitator angrily, "You didn't need to shoot him."

"Son, you go down to the weight room and curl 125 pounds in each hand, alternately, while you're talking to them gals in spandex, and when you can do that, you come back here and you tell me you don't need to shoot somebody like that when he's drunk and he wants to feel face bones splintering under his hand. You do that and I'll give some thought to listening to you. Hell, if you're a normal human being, you not only need to shoot them, you need to make sure that first shot tags a nerve plexus."

"That kind of thinking just perpetuates it," said the co-facilitator tightly.

"Look, son, that kind of thinking doesn't perpetuate it, it just *is*. And sometimes it's up to you to stop it. Sometimes the owner can stop it. Or God does. Anyway, it stopped for Britt. I'm real glad I didn't shoot Britt, I'm real glad nobody did, but I'm even gladder that he never got a fist on my jaw. The fact is, there's a Gresham's Law of Warriors."

"This is so totally archaic. You know that? *Totally* archaic."

"Right. Totally. I take it you want the virtual talking stick?"

"Well, yes, I do. I can't begin to tell you how *wrong* you are about all this."

"I expect you can't. But you're going to try manfully and fail to tell me, aren't you? About how wrong it is?"

"*I* have the virtual talking stick now," said the men's council wilderness retreat co-facilitator.

"Ho," said the ex-boatman. "Fair's fair."

Copyright (c) 1999 Earl Perry

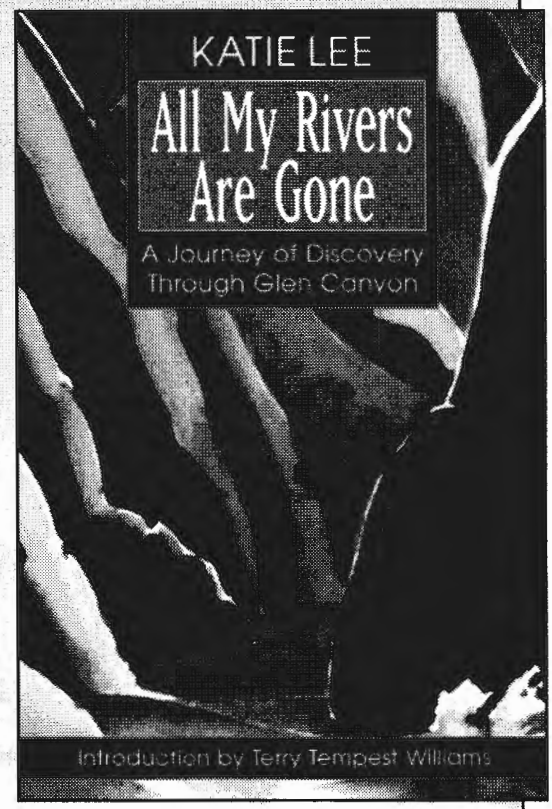
All My Rivers Are Gone

A Journey of Discovery Through Glen Canyon

KATIE LEE

Introduction by Terry Tempest Williams

Recounting her years as a river-runner, guide, and explorer in Glen Canyon—the most beautiful place on earth—Katie Lee lovingly recreates this singular landscape now lost under 500 feet of water.



"*All My Rivers Are Gone* is an exciting trip to a magical place. It is a must for all those who care about rivers and our environment."

—**Dan Beard**, former Commissioner, U.S. Bureau of Reclamation (1993–95)

"Read this book and learn what we have lost in the drowning of Glen Canyon; read this book and be inspired to fight for its restoration."

—**David R. Brower**

"This is Katie Lee's love song to her river and canyon, lyrical, earthy, and compelling—and utterly authentic."

—**Charles Wilkinson**, author of *Fire on the Plateau* and *The Eagle Bird*

"A delightful combination of autobiography and folklore, an important contribution to Glen Canyon history. ... Her book brings Glen Canyon alive again."

—*Albuquerque Journal*

6 x 9 ❦ 288 pages ❦ $32.00 cloth ❦ $20.00 paperback ❦ postpaid

Katydid Books and Music
Box 395
Jerome, Arizona 86331

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
435.259.3598
cprgutah@hotmail.com

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED

An excerpt by Hugh Miser discussing the phenomenon of sand waves. From USGS Water Supply Paper 538, 1924.

The sand waves take their name from the fact that sand forms a large part of the load of debris transported by the river along its bed at such times. They are produced by a peculiar method by which the debris is transported. This and other methods of transportation are described by [Grove K.] Gilbert in the following concise statements:

Some particles of the bed load slide, many roll, the multitude make short skips or leaps, the process being called saltation. Saltation grades into suspension. ...

When the conditions are such that the bed load is small, the bed is molded into hills, called dunes, which travel downstream. Their mode of advance is like that of eolian dunes, the current eroding their upstream faces and depositing the eroded material on the downstream faces. With any progressive change of conditions tending to increase the load, the dunes eventually disappear and the debris surface becomes smooth. The smooth phase is in turn succeeded by a second rhythmic phase, in which a system of hills travels upstream. These are called antidunes, and their movement is accomplished by erosion on the downstream face and deposition on the upstream face. Both rhythms of debris movement are initiated by rhythms of water movement.

The dune phase is accompanied by comparatively small down-stream-moving waves. The smooth phase has no waves, or only small ones. During this phase, by wading the river, I found the smooth bed to be composed of compact sand. The sand waves appear when the river passes from the smooth to the antidune phase.

R. C. Pierce [WSP 400, 1916], who has studied the sand waves of San Juan River at and near the Goodridge Bridge, describes them as follows:

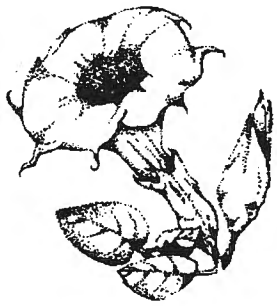
On the wide, shallow sections of San Juan River sand waves may usually be seen below the riffles at medium stages. In the deeper sections they appear at their best development on rapidly rising stages. In the immediate vicinity of the gaging station, so far as observed, the sand waves appear on rapidly rising stages between gage heights of approximately 4 and 7 feet. With the rise of stage beyond this range the movement is drowned out. Three miles above the gaging station, where the river is wider, sand waves usually may be seen at any stage from about 4 to 10 feet. That section of the river was not visited at stages higher than 10 feet, and it is not known whether the sand waves continue or are drowned out, as in the vicinity of the station.

The usual length of sand waves, crest to crest, on the deeper sections of the river is 15 to 20 feet, and the height, trough to crest, is about 3 feet. However, waves of a height of at least 6 feet were observed. The sand waves are not continuous, but follow a rhythmic movement. Their appearance, as seen on the lower San Juan, is as follows: At one moment the stream is running smoothly for a distance of perhaps several hundred yards. Then suddenly a number of waves, usually from 6 to 10, appear. They reach their full size in a few seconds, flow for perhaps two or three minutes, then suddenly disappear. Often, for perhaps half a minute before disappearing, the crests of the waves go through a combing movement, accompanied by a roaring sound. On first appearance it seems that the wave forms occupy fixed positions, but by watching them closely it is seen that they move slowly upstream. In the narrow parts of the stream the waves may reach nearly the width of the river, but in the wider parts they occupy smaller proportional widths. Usually they are at right angles to the axis of the stream, but at some places, particularly in the wider parts of the river, they may suddenly assume a diagonal position, moving rather rapidly across the stream in the direction toward which the upstream side of the wave has turned.

In the experiments made by Gilbert at Berkeley he found that the water surface closely paralleled the surface of the antidunes. In natural streams this is not always the case. The writer was informed by Prof. H. E. Gregory, of Yale University, that in swimming down through a short section of the San Juan he found that in going over the crest of the antidunes he could touch bottom with his feet and at the same time keep his head above water, but that in the trough of a wave he had to go down more than arm's length below the surface to touch bottom. From this it would seem that where the antidune movement is well developed and where there is a considerable depth of water the undulations of the sand surface are not closely followed by the water surface, but that the effect is partly smoothed out in being transmitted to the top. It might be proper to infer from this that at high stages the antidune movement may still go on, although no indication of it reaches the surface. This inference must be qualified by the fact that at high stages more of the bed load is picked up and carried in suspension, thus necessitating a lowering of the bed and the movement of new debris.

The Confluence

The Journal of Colorado Plateau River Guides | Volume 6, Number 3, Winter 1999



New Board Members

River Education Seminars

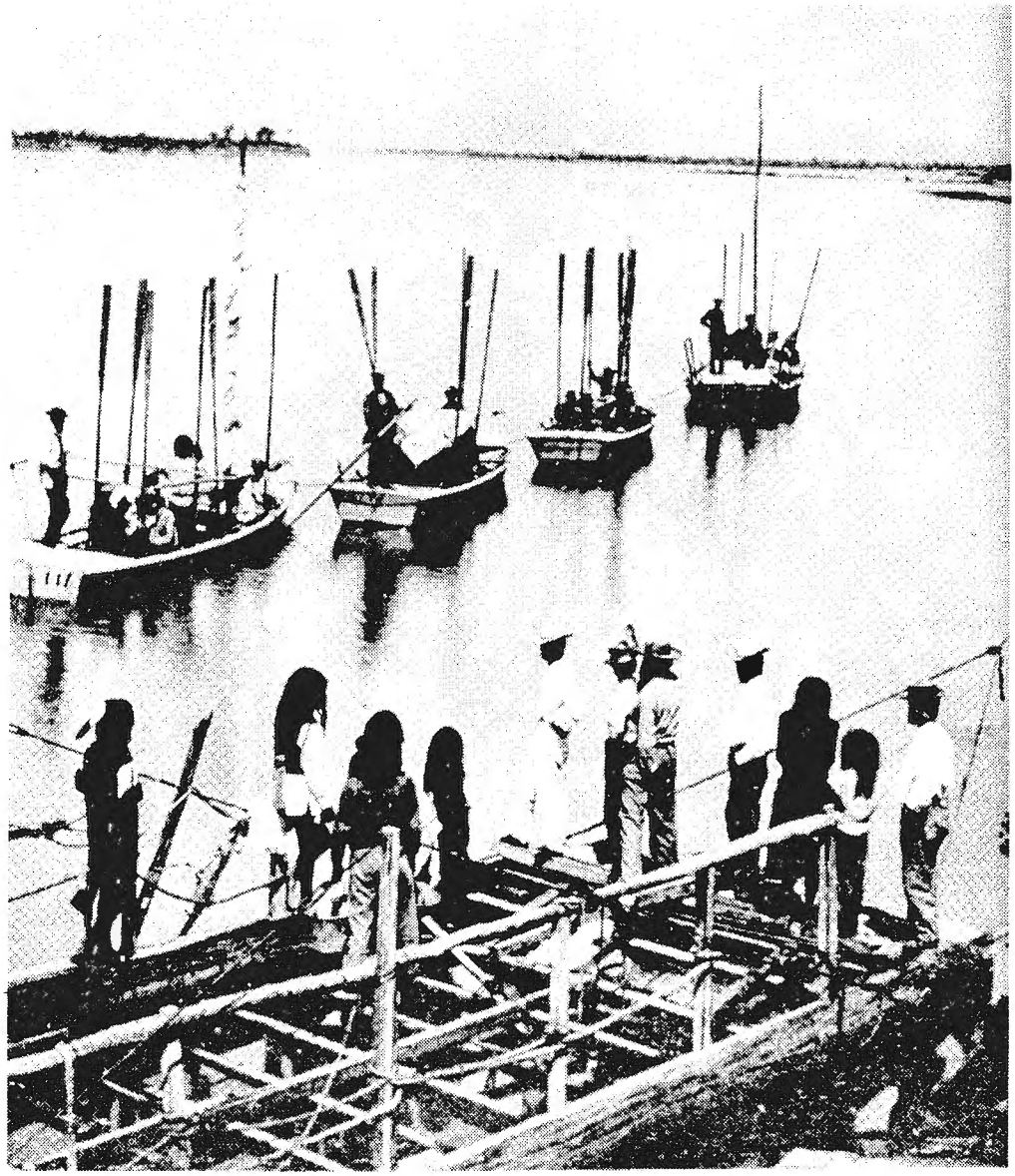
Letters and Comment

Neverland

Grove K. Gilbert
Diary of the Wheeler Expedition

F. G. Faatz

Westwater Canyon
Precambrian Geology



George Wheeler's Grand Canyon Expedition starting from Camp Mojave to Diamond Creek, Colorado River. Timothy O'Sullivan photo, 1871. Courtesy of National Archives

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. (CPRG), which is a member of a 501 (c) (3) non-profit organization called Canyon Country Volunteers. CPRG is dedicated to:

- **Protecting the rivers of the Colorado Plateau**
- **Setting the highest standards for the river profession**
- **Providing the best possible river experience**
- **Celebrating the unique spirit of the river community**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau

General Membership is open to those who love the rivers of the Colorado Plateau

Membership dues
$ 20 per year
$100 for 6 years
$195 for life
$295 Benefactor

General Meetings and Board Meetings will be announced

Officers

President	Dusty Simmons
Vice president	Dave Focardi
Secretary/Treasurer	John Weisheit

Directors

Bluff	Clay Hamilton
Grand Junction	Darren Smith
Green River	Shane Edwards
Moab	Eric Thompson
Vernal	Herm Hoops

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-3598
Email: cprgutah@hotmail.com
Faxes accepted: Please call first.

We need articles, oral histories, poetry, stories, and opinions. This journal is composed using Microsoft Publisher. If you use a word processor, we can translate most programs. Otherwise, please send your text typed. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

Managing editor: John Weisheit (jweisheit@hotmail.com)
Editor of this issue: John Weisheit

ISSN # 1078-425X

Disclaimer

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. This forum is open with no restrictions at the present time. If you have an opposing or supporting viewpoint please send your comments to CPRG.

New Officers for CPRG

The CPRG board met at the America Outdoor convention in Salt Lake City this last December. It has been a struggle to get nominations for the officers of CPRG. T-Berry's term was over last year and he carried an additional year as president because no one stepped forward—until now. That guide is Dusty Simmons and she would like to fill the role as our president; Dusty currently works at Tag-A-Long Expeditions. For vice-president Dave Focardi has stepped forward to replace Michele Hill; Dave is a guide at Sheri Griffith Expedition. For Vernal director, Herme Hoopes will replace Clark Hatch. For the Moab director, Eric Thompson will replace Dusty Simmons. Our sincerest thanks to all for serving past and present.

If guide members object to this ad hoc leadership please act by March 1, 2000, provide nominations and we will do an election. If you are interested in serving on the CPRG board in the future, or known someone who would, please let us know. We have many goals and objectives waiting for leadership.

River Education Seminars and River Trips

River Trips (guides only)

San Juan	April 17 – 21
Westwater	April 24 – 27
Cataract	May 1 – 4
Dinosaur	May 1 – 5

(RES) River Education Seminar (for everybody)

May 5 – 6, "Boats and Boaters." A land-based river history seminar at the J. W. Powell River History Museum, Green River, Utah.

Remembering Glen Canyon in Word, Song and Film

May 7, a special public event to restore Glen Canyon
Moab, Utah; Grand County High School Auditorium

Wilderness Medicine and First Aid Courses

Please contact these providers:

Wilderness Medical Institute; PO Box 9; Pitkin, CO 81241; 970.641.3572; www.wildernessmed.com

Canyonlands Field Institute; PO Box 68; Moab, UT 84532; 435.259.7750; www.canyonlandsfieldinst.org

From the Members

Dear John,

As always, I enjoyed reading the most current issue of The Confluence, Volume 6, Number 2, Fall 1999. I found the article by Jim Strong, regarding the names of our regional rivers, particularly interesting.

As you know John, Canyonlands Natural History Association (CNHA) has been involved in the development of Plateau Journal, a regional publication dedicated to the interpretation of the Colorado Plateau. While I was serving on the editorial board of that publication, a question arose that has haunted me ever after. The question is that of the Rio Colorado—Red River place name.

Mr. Strong mentioned several times in his article that the source of this place name was from the Spanish term for red river. While I could never debate the "Big Red" nature of the river we now call Colorado, especially in the spring runoff, the Spanish translation for red river would be 'rio rojo' not 'rio colorado.' Colorado is in fact an adjective that means colored, it does not translate to red.

Upon consultation with linguist Louis Robledo of Brigham Young University, an even more interesting twist emerged when he said 'Rio Colorado' could be translated to mean either 'colored river' or 'river of changing colors.' While language, and specifically place names, are not an exact science, I felt that these translations more correctly describe the character of the river I have enjoyed so much while living here in Moab. Day to day, hour to hour the color and mood of the river seems to change. To me, this is so much more than 'red river.'

Thinking not only about the uniqueness of the changing colors of the Colorado River, but also of the vast array of colors to we see from the red rocks of Moab to the summits of the Rockies, I really value the rich linguistic depth of the term 'Colorado.' In some ways, I find comfort that a culture which some may define as simplistic, seems to be more adept in describing the natural world around them than we are today.

Sincerely,
Brad Wallis
Executive Director, CNHA

Trespassing on the Indian Nation

From a renewal notice by Darren Smith, the CPRG Grand Junction director.

> In the name of professionalism stop supporting trespassing into the Indian Nation. It does not support our mission.

Darren brought this topic up at our board meeting in Salt Lake City and we all agreed that the guides need to set a good example of professionalism by honoring tribal lands according to the wishes of the tribal council (s). To not would indeed be a compromise of our mission statement (see preceding page, first column). We ask all guides to please not camp or lead hikes on the Indian Nations without the permission of the tribal government.

There is also the issue of trespassing on private land while conducting a river trip, for example: Rock Creek in Desolation Canyon, in the vicinity of Moab, Green River, and from Grand Junction to Westwater, to name but a few.

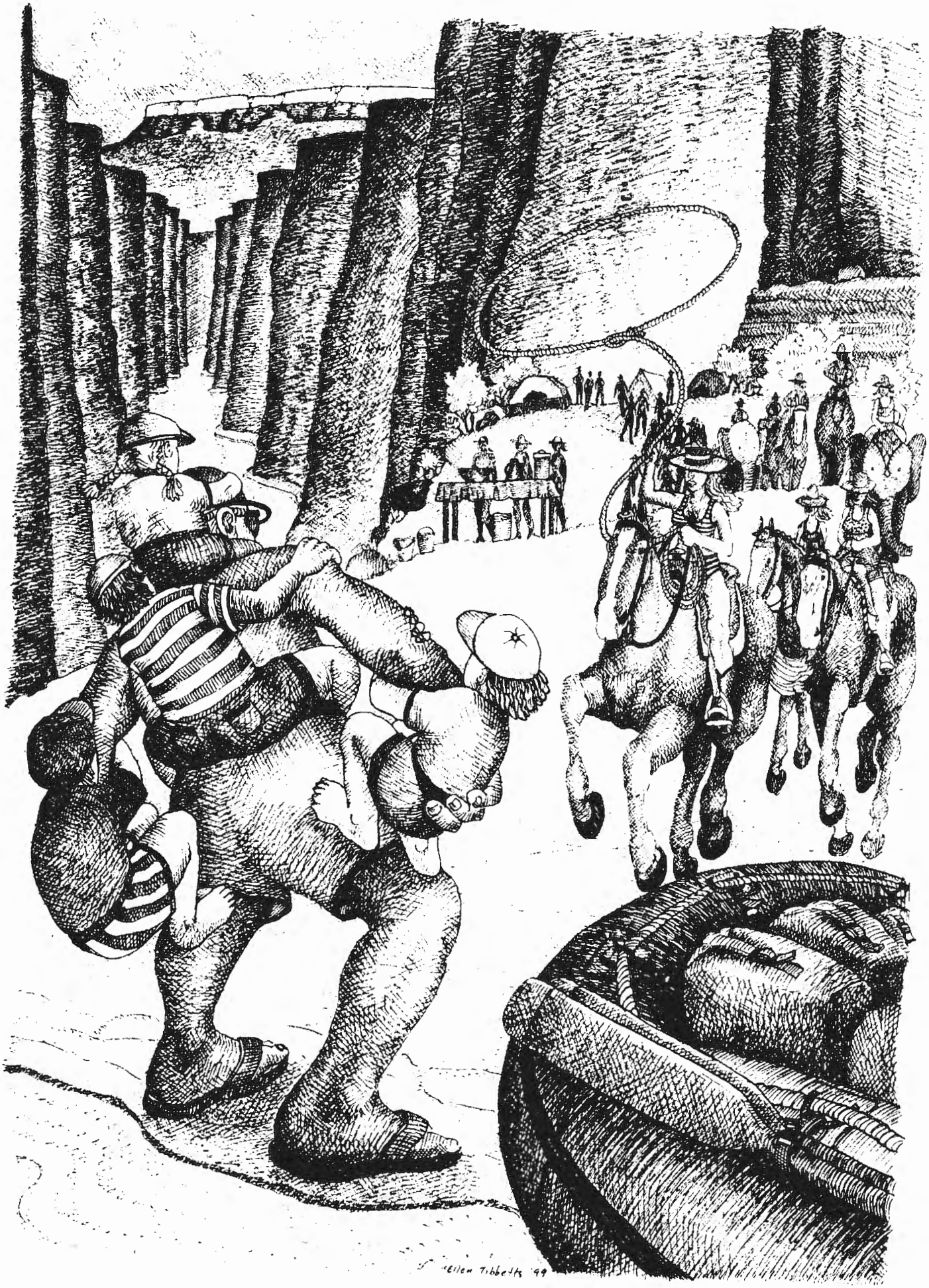
Be a professional and know the boundaries of our public lands where camping and hiking is allowed by law.

A Good Deal for Guides
Rigging Straps

Strap size		Heavy web Linal cam	Light web Ancra cam
2 feet		$3.25	$2.50
3		$3.50	$2.70
4		$3.75	$2.90
6		$4.25	$3.30
8		$4.75	$3.90
9		$5.00	$4.10
10		$5.50	$4.30
12		$6.00	$5.10
15		$6.75	$6.20
20		$8.00	$7.80
Loop	4 feet	$6.35	$5.15
	8	$6.75	$5.75
	20	$8.40	$8.20

Moab Climb, Inc
550 North Main, Suite B
Moab, UT 84532
Phone: 435.259.2725; Fax: 435.259.4825
Email: catalog@climbmoab.com

- Colors: black, red, blue, white, green (ask for others).
- Five day completion time.
- Payment due when ordering unless arrangements have been made.
- Checks and credit cards accepted


Ellen Tibbetts '99

Neverland

Sometimes it's hard
To be a boatman....

by Earl Perry
drawing by Ellen Tibbetts

It was a microkid river trip, and the toddlers were mobbing me. Swarms of toddlers. I felt like a male lowland gorilla with offspring draped all over him. Up in the camp, away from the beach area, were the single mommies: judges and attorneys, doctors, executives, engineers. Power women. In my delusion I thought they had sent their young down to the beach to get them out of the way while they broke camp. But the single mommies knew their business. The flood of the toddlers was to soften me up.

It worked. Draped with leis and lianas and garlands of kids, orchids and bromeliads of kids, feeling the way a tree does when the painted buntings hold a conventicle in it, I had a surge of sentiment. It was as if a Rakshasa had suddenly mastered me; I was dumbfounded to find my mouth open, and hear the fatal words slip out:

> You know, sometimes I feel like having a long-term committed relationship.

It didn't seem very loud, but then it didn't need to *be* very loud.

The toddlers continued:

> Westle Ian. Big westle now!
>
> Shoulder-wide. Kaila-wild-couch-bouncer wide on shoulders, Ur-rul!
>
> Url. Horsey-ride. Horsey.
>
> Earth Creature! Earth Creature. Roar! Get the Earth Creature!

The toddlers continued, but the single mommies did not. In an instant, their ears had pricked up. They milled about for only a moment. Soon they headed my way.

> *Hell,* I thought, hoisting a squealing toddler upside down by her ankle, *I can Einstein them easily enough.* I braced myself for the recoil, and called, *I'm sorry. I just don't feel the way I used to. I need more time. I need more space. I need more space-and-time.*

One of the younger single mommies flared off. But imagine my horror when the older, more experienced single mommies kept coming. Eyes wide, ears flapped forward, they were screaming,

> Long-term committed relationship!

For the first time, I felt a spasm of ... unease. Almost, of fright. Einsteining had never failed to stop them before. I parted the screen of toddlers and called,

> Actually, my feelings have changed. Friendship. I'm really only interested in Friendship.
>
> *That ought to stop them,* I told myself, *Right in their tracks.* But I was wrong, very wrong. On they came. Part of our sandcastle was collapsing from the vibrations set up by the thunder of their feet. *Friendship,* I shouted desperately. *Platonic Friendship.*

On they came, trumpeting,

> Long-term committed relationship!

It was appalling, but beautiful; so must it be when the waters of the bay recede, and the tsunami gathers itself out in the open ocean, and rolls in toward the unravaged shore.

I knew terror.

> *My god! Friendship didn't work. O my god!*

I fell back a few steps, wading through the clinging mass of toddlers adhering to my shins and thighs. Too late I realized it was a La Brea Tar Pit of toddlers. Flight was impossible.

I reloaded and screamed,

> Sex. Meaningless, impersonal sex. That's all I want. That's all I care about. I'm too shallow for you. Back furies, back harridans, back viragos, back succubae, back potential committed life-partners willing to hold space for one another's soul quests. Nothing but meaningless sex.

Most of them dropped. But incredibly, two came on, screaming their battle cry:

He'll change, I know he'll change, once he realizes how much he loves me.

The blood froze in my veins, and where my hair isn't tried to stand on end. They were almost on top of me. They were so close I could see their breasts heaving. One last chance: panic-stricken, I loaded and locked on my last round.

I screamed,

Meaningless, impersonal sex, and I won't use condoms. Never have!

+++++++++

The last two were down. The one within arm's reach was my favorite. I had talked with her a lot; she was humorous and direct. She did yoga and rode a mountain bike. I saw the breasts welling tautly from the sleek bathing suit. I saw the long singing curves of her thighs, leading upward....

I sat down, shaking from adrenaline and the backwash of terror. There was sadness.

I could touch her, I thought. *She's that close. Just sort of reach out. I mean, it's a trap, an obvious trap, any fool can see that. It Looks like a trap. It Smells like a trap. It smells ... good. It's just that I wonder, how does this kind of trap Feel?*

I steeled myself. I turned to the toddlers and said,

Tiger hunting. Hana, you're the mahout.

I set her on my neck and shoulders, explained that a well-trained elephant was guided by the pressure of the knees only, and emplaced a whole row of heavily-armed toddlers in the howdah on my back. I lumbered off on all fours into the tamarisk jungles of the Colorado River, trying to keep the toddlers balanced, hunting the shadowy and elusive chasm tiger, *Felis tigris abyssus*.

Boy, I told myself as I left the single mommies behind, *You're gettin' half a step slow for this kind of work. Don't never try that move again.* I looked back. I saw my favorite of the single mommies, again. She looked ... good. She looked ... very good. I caught myself wondering, *How does this kind of trap ... Taste?* but then the jungle of the river swallowed me.

Copyright © 1999 Earl Perry

Announcing!

International Day of Action!

Join the world rally against dams

In the United States
A rendezvous and rally at Glen Canyon Dam

Tuesday, March 14, 2000, at high noon
Carl Hayden Visitor Center parking lot

Hear presentations by

David Brower
Richard Hass
Katie Lee
Martin Litton
Ken Sleight
and many others

Sponsored by

Glen Canyon Action Network

A peoples movement to restore the integrity of the Colorado River watershed

See the GCAN web page at www.drainit.org

Glen Canyon Action Network
PO Box 466
Moab, UT 84532
(435) 259-1063
email: info@drainit.org



For info on the international scene contact:
International River Network
1847 Berkeley Way
Berkeley, CA 94703 USA
(510) 848-1155
fax: (510) 848-1008
email: irn@irn.org
web page: www.irn.org

The Diary of Grove Karl Gilbert

The George M. Wheeler River Expedition of 1871

by George Simmons

When George Simmons presented this manuscript to CPRG we almost fell dead. This is a very significant piece of literature that has, to our knowledge, never been published. The trip occurred in the fall of 1871, before John Wesley Powell's second expedition through the Grand Canyon. This is one of three factors which led to the decision by Powell to abandon the rest of his expedition at Kanab Creek in 1872.

Lt. George M. Wheeler was in charge of the expedition in which Grove K. Gilbert was the geologist. This is the third expedition to reach Diamond Creek; Wheeler rowed, towed and portaged boats upstream from Camp Mojave. The first expedition was by saddle in 1858 with Lt. Joseph C. Ives in charge; John Strong Newberry was the geologist. The second was by boat in 1869 with John Wesley Powell in charge.

This is the document which has the type locality for Redwall Limestone. Grove K. Gilbert is considered by many geologists to be amongst the finest. See The Confluence Volume 3, Issue 2, Spring 1996. The document also has many other significant entries which we will allow the reader to discover for himself. Enjoy!

Thursday September 14, 1871 Camp Mohave

Started on horseback to find a quartz mill eight miles below camp and had a delightful ride over the bottom land, the best of which is cultivated by the Indians and made to produce corn, melons, squash, and beans. Cottonwood, true willow, screw bean, muskeet [mesquite] and a similar acacia with constricted pods abound, and a climbing milkweed. The Indians came trooping on their way to sit for their picture. On the west shore the range seems granitic with one or two volcanoes. On the east, hills of granite and metasedimentary rocks are covered by lava (collected) east of Boundary Cone.

The gravel at the edge of the mesa near the Boundary Cone is composed of this lava in large part but shows much quartzite and some gneiss and granite. Near the Post there is very little lava, much quartzite and some altered limestone.

The mesas are terraced in three steps below the Post, the terraces not differing greatly in height and sloping riverward thusly [sketch omitted]

Failed to find the mill.

Friday, September 15, 1871

Camp Mohave all day, making preparations for river trip. Solar observations.

We are to depart tomorrow for the upper Colorado. [tables of river depth and solar observations not included]

Saturday, September 16, 1871

Section [sketch omitted] of the Cañon of the Colorado on the high mesa west of the Little Colorado, from p. 42 [Geology report from the Lt. Joseph C. Ives Expedition of 1857 and 1858].

Turned over to be forwarded from Camp Mohave [presumably to Peach Springs].

saddle and circingle
water bridle
1 picket pin and rope
1 pair spurs
1 pair saddle bags
1 halter and strap
1 blanket and cheval

Saturday, September 16, 1871

We started our boats from Mohave today at 11:35 A.M. after having posed for a stereograph. "The Commodore," Mason has been discharged, and one James hired in place. As I write we approach Hardyville and I doubt not our camp will be made there. Our party consists of

Barge
- 1 boatmen
- 2 soldiers
- 5 Indians including Askut [or Asquit]
- 8

Boat No. 1
- Lt. Wheeler
- Loring
- Roberts
- 1 soldier
- McGeary
- 3 Indians
- 8

Boat No. 3
- Hamel
- Richardson
- Hecox
- Gilbert
- 2 soldiers
- 3 Indians
- 9

Boat No. 2
- Dr. Hoffmann
- O'Sullivan
- Pfifer
- 1 soldier
- Salmon
- 3 Indians
- 8

[This list totals 33 and omits one of the boatmen either James, who is mentioned above as replacing Mason, or Thomas Hoagland. One of these two men is the boatman listed as being on the "barge"]

Where we touch the south spur of Dead Mountain—Spirit Mountain—it shows a volcanic conglomerate roughly homogenous and showing no lamination. Erodes in grotesque but not bold forms. O'Sullivan photographed these from Mohave. The front line of hills in the picture is laminated coarse sand like that near Desert Springs.

Camped at Hardyville mill. Salmon's boat behind.

Sunday, September 17, 1871

Before breakfast examined a wash from the Black Mountains. The 24 first boulders gave

1 white quartzite
1 vein quartz (volcanic?)
1 (volcanic) tufa
1 basalt
1 lava like that (collected) below Mohave
3 lava (or quartzite) dark gray and homogenous
7 other lavas

This showing corroborates my impression of yesterday that the Black Mountain with Rhine [?] Valley Needles and castles is volcanic or rather lava over an axis of metamorphic rock as at Boundary Cone.

Today we pass in Pyramid Cañon through a cut gap in granite—gneisssoid and feldspathic.

I think on reconsideration that the spur of Dead Mountain we passed yesterday is granite. Mount Newberry may be set down as granitic. All the rocks adjacent to the river are granite, but the washes from the east bring lavas in some part basalt but mainly the typical Black Mountain lava. Also some quartzite as last night. Pyramid Cañon seems to be named from an obelisk of granite traversed by some whitish veins, said to be auriferous. Seen from the water it has somewhat this phiz [sketch omitted].

Above the cañon we camp. Found a large fragment of olla [Spanish for round earthen pot] or other earthen vessel of the Mukhoves [Mohaves].

Monday, September 18, 1871

From Camp 2 near Mount Newberry [Named after Dr. John Strong Newberry, naturalist of the Ives Expedition; Gilbert had previously worked for Newberry during the Ohio Geological Survey] to Camp 3 above Cottonwood Wash. Camps 1, 2, and 3 are in Arizona all. Mount Newberry and less confidently Dead or Spirit Mountain are of granite. The Black Mountains as every wash on the west side today has demonstrated is volcanic in its chief characters or rather in the chief part of its surface. The pinto surface and battlements are concordant features.

Looking forward toward Painted Cañon I see a number of black volcanic buttes, overlying everything except perhaps the mesas. Mount Davis is one of them.

The mesas rise in terraces as in Mojave Valley. The steps having the greatest height near the foot of the valley. This may be due to the more level character of a deposit from more sluggish water or a mere appearance referable to unequal erosion. The slope riverward would give the appearance if the erosion was regularly arranged in diminuendo.

Yesterday and today favorable winds and a deal of sailing. Gulls of small size. Ducks or geese in air.

Camped at dusk with the barge, the others being ahead. After supper and during a swim received orders to follow on and after a smart pull in the dark, reached Mr. Wheeler, etc., and finished the Stars at 11:40.

Tuesday, September 19, 1871

Remained half a day in Camp 3 which is just below Painted Cañon and then moved on. Painted Cañon is not a very startling affair in point or size but well deserves its name. Its variegated lavas are umber, ocher, black, and reddish. Not brilliant colors but in good contrast. Mount Davis just above has a covering and probably a mass of basalt (collected), and several buttes on the opposite side of the river have a similar appearance. They form isolated foot-hills to the mountain range.

Mount Davis has for a background the Black Mountains. Not near so black as it and plainly of volcanic surface.

Fine exhibitions of cemented gravel mesa in the vicinity of round island. Bold bluffs facing the stream 50 feet high.

The rocks through which Painted Cañon runs rise little or none above the gravel mesa.

The consolidated gravel was upheaved probably in common with the volcanic activity forming the Painted Cañon range. The shore profile is somewhat thus [sketch omitted].

Wednesday September 20, 1871

At dusk last night we had on our left a bold Basalt hill--one of the Mount Davis suite and from camp we could see another. The Opal Mountains look like granite, but I have not seen the wash yet to ascertain. Much of our way we have on one or other shore a bold, even overhanging bluff of gravel or river deposit standing often 100 feet high.

12 to 2 o'clock we passed a beautiful volcanic mountain in Arizona, a mountain banded with umber or vandyke brown, and orange lavas and piled up in turrets and of symmetrical verticality.

We camp at Eldorado Cañon. A five-stamp mill with 4 pans and 2 settlers and all accessories stands essentially in ruins, that is it is keeping itself and everybody (inclusive) that comes along packs what he fancies.

Rations for 14 Indians

½ cup flour morning and night each
⅓ cup coffee morning and evening all
⅓ cup sugar morning and evening all
6 lbs. Bacon morning all

Grove Karl Gilbert, 1843 – 1918



Geologist of the U.S. Geological Survey, 1879-1918. Gilbert, who had been a member of both the Wheeler and Powell surveys, was a close friend and advisor to John Wesley Powell. Gilbert served as Chief Geologist from 1889 to 1892. Gilbert was described as "An authority in many fields and yet one who never assumed authority; a leader in science and yet one who never assumed leadership; neither power or glory did he seek, but the satisfaction of contributing his share to the sum of human knowledge."

2 crackers morning all
Dried beef q. s. m. [q. s. m is Latin for *quantum sufficito* or whatever suffices]

Thursday, September 21, 1871

This morning the main party goes ahead and leaves me with a side party consisting of

T. H. O'Sullivan
Frank Hecox
[George] Salmon
[Johnathan] W. Grinnel
Arthur Keegan
3 Indians

Rations for 7 days; to connect above Callville.

The mail carrier from Mohave to Salt Lake via Callville weekly passes Eldorado Cañon and we left letters conspicuous on his trail.

Table Mountain the flattest of the flat volcanic mountains. Everything looks volcanic ahead---red and brown and black over a purplish gray.

We make camp several miles up the cañon but don't know whether we have passed Roaring Rapid. Cool water and clear in a pool separated from the river. But the river is of the color of red clay and thicker than the Missouri itself.

Our photos today are Cabinet—

Gibraltar from below. The gate of the Black Cañon.
Gibraltar from above, looking toward Cottonwood Valley

Stereo—

Gibraltar from below gate of the Black Cañon.

The wind was of great service today carrying us along gaily except at three or four rapids. Contra. it interfered with photography and kept O'Sullivan in a perpetual state of profanity.

I am a little disappointed in the Black Cañon as I had based my ideas on Ives' view of the entrance [drawing by F. W. Egloffstein from sketch by Lt. Ives, Part I General Report, Plate V facing p. 80] of which I cannot find the original. Gibraltar affords data for half of that picture but the other side is wanting. The points are comparatively few where it is impossible to land a boat on one side or the other of the river. As a rule one side is accessible and the other not. There is no mile in which the cliff cannot be scaled on both sides.

Geologically the cañon is an eroded channel through lava umbrous red and brown or burnt umber and burnt Sienna in surface color, but gray on fracture. In a few places near the foot of the cañon there is interstratified ochre-yellow volcanic conglomerate (conspicuous at the left view of the gate). The lavas too are conglomerate in structure.

Friday, September 22, 1871

Had a glimpse of 2 [desert] sheep while at breakfast. We all rushed for our guns, though they were far beyond range, and they disappeared . Two Indians started out and obtained a shot that did the sheep no harm [four pages of sketches omitted].

Dead Mountain	S 13° E
Davis Mountain	S *33° E*
Table Mountain	S *65°* E
distance *5* miles to	N *55°* E
Gibraltar	S 22° E
Camp Big Horn	N 20° W
½ mile distant	
A Table Mountain highest	N 10° W
point 15 miles	
Acute point	N 16° W
in range 25 miles	
Acute point in range	
12 miles	N 60° E

These are magnetic bearings from a peak near Camp Big Horn.

Everything appears volcanic except distant mountains at the north and perhaps the Opal Mountains. The lava I start on bears many boulders of granite and gneiss.

Cistern (barometer) at Camp	29.330 in.
Aneroid at Camp	29.120 in.
Aneroid on hill	27.900 in.
	1.220 in.

Corresponding to 1,325 feet the height of the hill above camp.

This gives Gibraltar about 700 feet. Table Mountain must rise above camp 2250 feet and a few other points 1750 feet, but the buttes will not average higher than the one climbed and the general height of the visible walls of the cañon is but little over 1000 feet. The butte opposite camp is about 900 feet. Above camp the walls are low for a space.

Below high water mark the surface of the rock is blackened.

Above Camp Bighorn and thence to Camp 2 the immediate walls are low and the view from the river is more extended. Looking ahead from Camp 2 we see walls closing in again and the portal is so impressive that we camp so as to photograph it in the morning.

Approaching this camp and for two miles below, the walls are of a peculiar old lava or young plutonic rock, highly feldspathic and with the feldspar in large crystals. It is divided by parallel curved joints into sub-vertical strata a few inches thick and decomposed on the surface. Fragments of this imbedded in later lava I have alluded to above as granite and gneiss but the identification now seems doubtful and the case requires examination.

Rapids are caused on this river chiefly by washes; not entirely however. A notable example is afforded by Roaring Rapid. A wash here comes from the Nevada shore and carries a great amount of large boulders

athwart the current. At some time these have been so far removed as to carve a deep channel above so that slack water prevails above the present dam. Other rapids are at narrow points in the gorge where the walls are falling in and so obstructing its water.

Saturday, September 23, 1871

From Camp 2 to Camp Keg (3) of the Black Cañon Series.

Most of the day was spent in photographing but we managed to get a few miles ahead toward night. The cañon in this part is in better accord with the idea I had conceived. The walls are not so steep as fancy (and Ives) had pictured them nor are they so high but they are for considerable distances unclimbable and we found camping ground so scarce that our search for it was prolonged into the darkness. While supper was cooking a mysterious object appeared floating down the stream. Opinion was divided as to whether it was an Indian or a box and it was hailed and shot at in the division of sentiment. Finally after a brisk excitement of ten minutes it was overhauled and found to be an empty barrel of bacon discarded by the Main Party above us. Thus ends the second Battle of the Kegs.

The general section along here is [sketch omitted].

1. Gneissoid lava (?) described above
2. Red lava
3. Brown lava

Sunday, September 24, 1871

In the deepest and blackest part of the Black Cañon from Camp Keg (3) to Camp Snug (4) a distance of not over 3 or 4 miles. O'Sullivan took photos at Camp Keg and again further up at a point where a side cañon gives the impression that the main cañon is narrower than it is. Here we found a large pool that we made use of for reflections. Took a ghost picture.

Rock all volcanic in the walls but the washes from Arizona bring pale granite and the bars show limestone.

Overtook the larger party and let—them go ahead again today.

Monday, September 25, 1871

From Camp Snug (4) to Camp 5 at the head of Black Cañon, passing two camp fires of the other boat parties at different places. On the way we took some views including one looking up. At the head of the cañon [we took] photos of the entrance, of a table mountain and of camp.

The cañon holds its features to the end, but is higher than below. For today's march it is all lava of the beds 2 and 3 [red and brown lava]. The Table Mountain has several hundred feet of basalt above, the talus of which lies against yellow and red soft beds, probably of volcanic ashes.

Hecox climbed the mountain back of camp today and observed with large Aneroid

Hill	27.320
Camp	28.920
	950/ 1.600

This gives 1725 feet as the height of the wall at the entrance of Black Cañon. The Table Mountain is 200 feet higher and the mountain climbed is overlooked by higher [Mountain?] at the south. The highest wall in the cañon is not over 2000 feet and probably not so much.

Sand worn rocks. This afternoon I examined the best exhibition I have seen of rock worn by blown sand—on the talus of the cañon wall near camp. The rock is sub-homogenous lava and lava breccia, and is worn in such manner as to give an appearance of solution influenced by grain in the stone. The surfaces all bear relation however to the position in which the boulders lie, being deepest on the windward side and diverging where the air currents divide.

The foreground of the Table Mountain view has red and yellow soft crumbling lavas.

Names of Indians in the Boat Picture

Eul - l - táw
Tah - wáh - gah
It´z - l - quáh - rah
Eelitá
Taw´aga
Itsiqúara

older than No. 3 and probably synchronous with No. 2 [the red and brown lavas].

Tuesday, September 26, .1871

	Magnetic [bearing]
Acute peak in range, 10 miles	S 75° E
Acute peak in range, 15 miles	N 8° W
Spring Mountain Peak	N 60° W
Table Mountain	E N E

The gravel that underlies Fortification Rock and Table Mountain, is newer than Black Cañon lavas and older than the basalt of those peaks. The river bluffs above are of more recent gravels. Think the lower (red) bed of Table Mountain is lava—the yellow above gravel. The same beds north of the river bear the same relation to the basalt that forms the Table Mountain there.

At Fortification Rock were pictured the Butte itself the sculptured gravel opposite and some sand-worn rocks. We left the spot at about 1 P.M. and to Vegas Wash—2 or 3 miles—had to tow up a steep hill made by the debris from the wash. The slack water above this dam gave us easy work nearly to Callville, a distance of ten miles(?). All the way the banks show gravel bluffs of coarse and fine material, half consolidated so as to give rough semi-castellated forms.

Wednesday, September 27, 1871

Our camp last night was at Callville, a deserted city of a dozen houses, all roofless. Two are squarely built with mortar, the rest of loose stone. Lots are fenced in with

stone.

Left letters for mail riders who meet here.

O'Sullivan's hand so sore that we make no pictures here.

Just above Callville is the head of the valley we spent yesterday in. Here is the greatest exhibition of gravel we have seen not less than 700 feet high and. lying north of the river principally. A mile above Callville carries us up a very steep rift and. brings us in still water to Camp Layover at another mile.

Layover Camp (11) is in Boulder Cañon a mile from its mouth where the sides are steep but not high. Hamel rehearses his woes and exhibits his sores and I help him make a section of the river at a point where it can be little broader in high water [section measurements omitted].

Thursday, September, 28, 1871

From Layover Camp (11) to the head of Boulder Cañon. Boulder Cañon is identical in style with Black Cañon but much shorter. Gneiss and other metamorphic rocks are distinctly developed in it. Rock salt and incrusting salt occur in its banks. The section next page expresses my present view of the sequence of rocks:

1. is granite or at least ancient plutonic rock upheaving.

2. a series of metamorphic rocks chiefly gneiss [sketch omitted].

3. and 4 are unconformable with 2 and are red and brown lavas gray to purple in fracture.

5. is a later volcanic (3) product showing at the head of the cañon and in the valley above soft and pale yellow and capped near the Cañon Range by

6. a red basalt

All the rocks within the cañon are pale ocher in sheltered places and black to umber on projecting surfaces. This remark refers to the appearance at a distance and cannot be applied to the details of the surface.

Friday, September 29, 1871

From Camp Dust at head of Boulder Cañon to Camp one mile below mouth of Virgin River. At Camp Dust we were overwelmed with fine and coarse sand all evening until late at night. In the morning I found some sand worn rocks as at the head of Black Cañon.

On further examination it looks as though 6 [above] might be identical with 4. A still more recent sediment is a red water laid conglomerate seen only near the mountain where it dips west toward it. This bed may be equivalent to other beds in the open valley and separated by convulsion from them. Leaving the mountain slope we strike on the north bank an amygdaloidal basalt not rising to any height near the river and probably coeval with the low butte that rises a mile and a half northwest from our evening camp. In the evening I visit with Lt. Wheeler a salt well near the butte and a [sketch map omitted] mile from camp. The sand worn pebbles on the mesa are very interesting and serve to account for markings that have puzzled me heretofore because I could only suppose them due to peculiar atmospheric conditions. The effect could hardly be produced when meteoric decomposition wasrapid or rain frequent.

Notes on well [sketch and part of description omitted].

The upper surface of this gravel is covered by pebbles curiously wrought by blown sand. Carnelians too are common.

The strata at the sides were evidently formed continuously with water at a high level and have been undermined by a subterranean current induced by the subsequent drainage. The walls are of undisturbed. gravel and as steep as it will lie.

Water salt almost as the ocean. Felt but did not taste alkali. It is possibly derived from the Virgin River but not, probably. Water with a free outlet does not force its way through sand beds. Some water we saw trickling through gravel on the river bank probably comes from this stream, and it is probably merely a course along bedrock of water accumulated in the gravel mesa. The salt is derived from all of the sand of the region.

Saturday, September 30, 1871

This morning paid another visit (from Camp Virgin River) to the Salt Well with Richardson to sketch and Hecox to read barometer (stupidly). Whatever may be his result I record it as evident from inspection that the water of the well is not lower nor much higher than that of the river and that the depth of the open hole is not far from 45 feet at the low (river) side.

Mojaves and Piutes last night talked, laughed and gambled with each other in our camp. Today after we were well under way Eelitaw announced that he had overheard the Piutes planning the shooting of the Mojaves from. ambush up the river. So we had a mild panic (chiefly our invalid) and concluded to make camp with the other boats tonight though it cost us two hours of fair wind to wait for them to overtake us.

At intervals all day we have been in sight of the Virgin Range, not near enough to see more than that the rocks are obscurely stratified and contorted, whence metamorphic is inferred. Tomorrow we shall see some rocks that have the same distant aspect as these, q. v.

At night we approach the Cathedral of the Colorado and it is resolved to wait and photograph it tomorrow.

Sunday, October 19, 1871

A mile of travel early and than a delay until 1 P.M., photographing the Cathedral. We waited for a favorable light.

The Cathedral I guess to be 600 – 700 feet high, a mass of half-cemented gravel and sand with one belt of basalt at the base of the principal tower. The whole is a remnant of a gravel formation that has filled the valley formerly. The absence of marine deposits on the west flanks of the Black Mountains leads me to suppose that the retaining wall for this gravel-spreading was of rock, the cañons, Black and Boulder not having been cut through. This gravel era was interrupted or interspersed

George Montague Wheeler, 1842 – 1905



In 1869, Wheeler, 27 years old and three years out of West Point, began a reconnaissance south and east of White Pine, Nevada, to obtain data for a military map and revived the interest of the Army Engineers in mapping. From an article by William Rideing in *Harper's New Monthly Magazine*, May 1876, p. 807.

by basalt. The eruptions forming hard beds that form frequently the crests, tables and combs of residuary gravel buttes and mesas near the head of this valley.

Three or four miles above the Cathedral we start into a cañon through a metamorphic range (the Virgin Range) the general dip of the rock is anticlinal and its character gneiss and gneissic quartzite. Navigation occupied so much attention that I had little for the rock. Through the first half we sailed and through the second rowed. Finally at the head we overtook the other boats at a long stiff rapid that we did not attempt on account of darkness. The superiority of management of the barge as compared with No. 1 was conspicuous as they went up this rapid where everyone put his best foot foremost. Richardson steered No. 3 up by moonlight.

Monday, October 2, 1971

This morning we put on a heavy line and towed up our boat.

Palisade Rocks

Day before yesterday at the point where we stopped to wait for the other boats we passed under a low palisade on the south bank composed of massive breccia of gneissoid (?) rock (collected). From the massive character of the face of the bluff I infer doubtfully a volcanic origin of this formation. The stone itself will bear study.

Coming up the long rapid (the first long and swift rapid of our trip) we emerged from the metamorphic cañon and entered. a small valley bounded west, north, and south by metamorphic or at least highly inclined sedimentary rocks, and east (visibly) by a high gravel mesa. Adjacent to the river are gravel mesas of two distinct epochs, the lower being red. These are in one sense unconformable. The red was eroded deeply before the deposition of the other [sketch omitted].

General Ideal Section

1. Red gravel
2. Gray gravel and sand
3. Red rock

[sketch omitted]

In places the gray overlies the red after erosion and in general we may say that the red was succeeded by a low water system, succeeded in turn by a higher.

At several points the upper gravels are seen to be interstratified with basalt flows, or rather, at several points I saw the same intercalated flow 10 – 20 feet thick.

We camp (tin advance of the others where we command a view for morning photography) I set a goose to stewing, a goose that was shot by Hecox 99% and O'Sullivan 1%.

Tuesday, October 3, 1871

Yesterday Halitauwa had a talk with some Piutes on the shore, and obtained from them a melon and doubtless information that he did not divulge.

Photographs this morning: 1st Cabinet and stereo of highly inclined sedimentary rocks through which the Colorado flows in a monoclinal valley of erosion.

2d. A dry wash seen across the river [sketch omitted].

General section of photo

a, a series (200 feet) of various rocks but chiefly sandstone, consolidated red sandstone.

b, a series (500 feet) of various rocks thick-bedded. Includes chiefly limestone secondly quartzite.

c, a bed of soft gray shale.

The strike of these beds is very straight and N 20° E, their dip 45° to 6O° E.

Two niles north the river channel turns obliquely to the right, cutting across the b beds while the monoclinal valley continues to the north as the channel of a wash that pours down detritus to dam the river very seriously.

Turning into this oblique channel I get a continuation of my section of rocks drawn on page 37 [omitted].

a thin-bedded sandstone, etc. = a of page 34 [previous column], 200+ feet.

b = b of page 34. Heavy limestone beds, blue gray within and gray, snuff, vandyke brown, etc. within 600 feet.

c thin-bedded sandstone, etc. of many colors, at top chiefly yellow sandstone 600 feet.

d Red sandstone, friable equal in quality that of Cottonwood, massive and changing to 800 feet.

e yellow sandstone like the Cottonwood 800 feet.

f must be described tomorrow.

We encamped at a rapid and photograph it trying unsuccessfully to catch a boat in its passage.

Our lunch—rather late—was under a bluff [sketches omitted, including Beaver Rapid and Grand Wash] of yellow and red sandstone and our supper not a mile away and in plain sight of it [sketch omitted] [spelling of two Indian names omitted].

Back of our camp was a low bluff or basalt—detached masses of columns falling down from the undermining of the supposed sand beds. Above them on the same side is a large wash (see map) the largest we have yet seen. Its grade is low and its bed broad. From it comes percolating water that rises in a series of springs along the Grand Wash [sketch omitted] river bank. A great mass of gravel from it blocks the river and makes three rapids. On the upper the barge stuck at night and had to be relieved of her cargo. Ryan and an Indian were hurt in the melee. From our camp 40 rods below we went up to their assistance.

Beavers tracks plentiful and Hecox saw one by twilight. I watched for them in vain.

At our morning camp the limestone (framing this foreground of vertical strata view) is finely sculptured by blown sand as well as bored by potholes. The stone takes a beautiful polish and I secured a number of splendid specimens.

Wednesday, October 4, 1871

Sent help again this morning to the barge who reciprocated. While this was transpiring O'Sullivan made two views of basalt columns, one of fish-hook cactus, and one of muskeet [mesquite] and Nitchiquava whom I persuaded to sit for his portrait.

At the head of the difficult rapid we enter a cañon at first across and soon with the strike of the strata. I am disposed to believe a fault exists at this point so that the limestone and sandstone of the bluff we cross are the repetition of b, c, and d

(Section Page 37)

b′ ! massive limestone, gray blue within; variegated without, but umbrous in the distance, 500+ feet, +

c′ yellow sandstone, crossbedded, 150 – 200 feet.

d′ red sandstone, crossbedded, 500 + feet.

e′ yellow sand, 100 feet.

On the upturned d′ beds rest gravel beds that continue all the way to the Crossing and to the Great Mesa front.

Reached camp about 1 P.M. and found letters from Emma, Grace, Howell, and Bill.

A trip to the mesa back of camp:

Ist. I see no distinctive great wash here in this north/south valley, but think the wash of last night must be the one known as great wash.

2nd. The edge of the Great Carboniferous Mesa is not due to erosion, but to a dislocation with a north/south trend [sketch omitted].

This is the section of rock for yesterday's, today's, and the next day's travel.

The wall has the right to all the adjectives (except numerical) that have been given to it.

The gravel that forms the valley mesas has been formed and reformed in a manner indicating something besides agradial drainage. It is not however highly inclined and perhaps not at. all disturbed. The lower gravels are redder, perhaps because more of the sandstone then contributed to the formation (poor guess).

The barge reached camp at 3 P.M. and so the entire water party got in to the crossing rendezvous in time.

Flour
Yeast Powder
Hard bread
Bacon
Beans
Rice
Sugar
Coffee
Cans
Vinegar
Pickles
Pepper
Salt
Soap
Matches

	Pilots	Keegan	Pfifer	
Plates	5	1	2	8
Knives	7		1	8
Forks	5	1	1	7
Spoons, large	3		1	4
Saucepan	(overboard)			
cups	5	1		6
Kettle	1			
Pail, small	1			
Frypan	1			

Oven for Sgt. Eisenbise
[two Indian names omitted]
Flour 1 cup a day each
Sugar Coffee Salt
Bacon [?] each
Cracker each per day

Thursday, October 5, 1871

In camp at the crossing of the Colorado. In the course of the afternoon the land parties arrived and were ferried over.

Had a long talk with Marvin and Ogden. [A. R. Marvine, a geologist with the Wheeler Survey in 1871, but not on the Colorado River trip.]

Packed a box for Truxton Springs's

Hence the River party takes but three boats, each with 15 days' rations for its 9 men; Lieutenant Wheeler, Mr. O'Sullivan and I command the boats. My party to start in the a.m. consists of

G. K. Gilbert , Geologist
E. M. Richarson, Artist
Frank Hecox, Meteorologist
Richard W. James, Cockswain
Thomas Hoagland, Cook
Private Arthur Keegan
Mojave
Mojave
Mojave

[omitted: barometer reading for section at mouth of Grand Canyon, small sketch and description page mostly blank, description of section at mouth of Grand Canyon. Section published in Wheeler report, Vol. 3, Geology p. 162-163, Section VII]

The general dip of the rocks is northeast. The mesa rises a little toward the south and drops off to the north. The hard lime that caps it is smooth and bare of soil though as well covered by vegetation as the most of the country.

"Rat-tail" Cactus [Ocotillo] is a bush branching at the base and sending upward a dozen shoots [sketch omitted] all armed with strong spines as frequent as those of the osage orange. The leaves are obovate lanceolate and shorter than the spines. The branches rarely divide.

Friday, October 6, 1871

I propose to call our boat (No. 3) the *Trilobite*. We managed to get off from Camp Crossing at about 10 a.m., just in time to miss the swimming of the mules. Mr. Marvine accompanies us so far as to get a glimpse of the mouth of the Cañon and then returns. We camp outside the Cañon and Hecox and I start to climb the wall. Hecox sickens (morally) at the first third of the climb, and returns. I do not reach the top until after sunset though I started at about 1 P.M. It is the hardest climb I ever undertook.

Saturday, October 7, 1871

Last night I spent alone on the mountain at the foot of the Big Cañon. Having no blankets I built a little fire in a sheltered spot among the rocks and hugged it all night, getting little sleep.

The first thing that day light shows me is that I am on only the first terrace and the second rises 5 miles to the east and trends a little south of east. I cannot yet tell whether the Colorado cuts it. There can be no doubt that it consists of yellow and red sandstone thus: [sketch showing yellow overlying red omitted] and the best guess I can make at its feet is

Yellow	600
Red	1200
Total	1800

There is a dip of this mesa toward its base so that it does not tower more than 1500 feet above this point which seems to be 4000 feet above the water. The magnetic bearing of a profile of it that may be 20 miles distant is S 71° E of a very distant profile, S 67° E.

The wash opposite the camp of the land parties last night comes from this mesa a few miles from here. It is not easy to be sure from this point, but it looks as though the great wash made into the Colorado at beaver Rapid.

The Wash Valley lies between the Virgin Range and. this mesa front, and is very broad. There are many basalt flows on its western side none to be seen on its eastern. Here is the limit of disturbance. I will redraw my section p. 41 with trifling amendment thus:

The ridge b terminates a little north of the river and runs not very far south. The ridge is not conspicuous [sketch omitted].

The gravel accumulations in the Wash Valley are immense and prove that a high barrier has once contained the waters of the valley. The rise in going south in the valley is rapid and a point cannot be distant whence the drainage is southward. [continuation of geologic section at Grand Wash Cliffs omitted].

Reached Camp at about 1 P.M. with a big tired on. Whiskey coffee and rest brought me around however. The south shore is festooned and covered by calcareous tufa, in places still moist. A great deal of water is now flowing from springs along the shore.

Broke camp about 2 P.M. and worked up the river a few miles, passing springs.

The granite that we had at the mouth and which I neglected to collect disappeared on today's march and. the strata descended so as to bury No. 2 [Tapeats Sandstone] below water. I feathered out my collection to represent the great section but still left the representation meagre.

Sunday, October 8, 1871

This morning we got ready early and I walked back to meet Lt.. Wheeler who with O'Sullivan had camped a mile below. With him I revisited the springs on the north shore and we named them.

A large one of the crater style with flowers we called Tufa Spring and Tufa Springs would be a good name for the group. Another larger one with a fantastic canopy of tufa is Grotto Spring.

A third is Baptismal Fountain.

A fourth (now dry) and hanging against a larger one is the Holy Water Fountain.

A dripping spring where tufa a foot from the water projects far over it. Starting our boat along we find yet other springs on both shores. Many of them voluminous. At one are some scrubby trees a foot or two in diameter but with the habit of the water willow. The leaf is small and unequally cordate [sketch omitted] the leaves on sprouts being rounder than those on old stems.

Verdure is to be seen at many points on the bank and referable to springs. It is confined however to the sandstone doubtless because the limestone is not so pervious [barometric readings omitted].

In the afternoon Lt. Wheeler and I came to a rapid where we deemed it advisable to wait for the *Picture*.

I climbed the bluff to Old Snuffy [one of the brown dolomite tongues in the Bright Angel Shale]. Near the water line are rocks with scolithus, loosely aggregated sandstone, Potsdam sandstone? It must be 75 feet thick on the granite [sketch and description of geologic section omitted].

Copy of Order, Camp No. 20, October 8

Plan from crossing of Colorado to mouth of Diamond River, 65 miles. Have reached a point 60 miles from Diamond River on the eve of the 8th. Diamond River should be reached eve of the l6th. Number of days (9, 10, 11, 12, 13, 14, 15) = 7 – average per day = 8 ½ miles.

The boats should be within short communication from this point until a distance of 15 miles when it will be expected if nothing remarkable happens that there will be no physical obstacle to the reaching of Diamond River.

This point must be reached on the evening of the 10th inst [in nomine Sanctae Trinitatus, in the name of the Holy Trinity].

The boats may each run independent—

Mr. Gilbert should camp with Lt. Wheeler at two points between this and Diamond River—1—evening of 10th; 2 about midway.

If it is considered advisable one boat—light will be sent ahead to be some 48 or 72 hours from mouth of Diamond River and this will complete the time alotted for river

exploration.

It therefore becomes necessary to lose no time that can be devoted to the collection of details.

finis

Monday, October 9, 1871

Last night all three boats camped together and this morning started in inverse order of numbers. The *Trilobite* did not however keep her lead, but was passed by the *Picture*.

Last night observed the stars and this morning found a quantity of sand on bed clothes and in eyes, ears, and mouth. Plenty more tufa springs this morning, all on the north side. Afternoon we see more of the subadjacent granite, now a flesh colored variety. For a mile it shows in both banks and it rises in places 30 feet above water. It is beautifully wrought in potholes and resists the erosive forces better than the sandstone though not much better than the superposed sandstone that up to the scolithes beds is 100 feet thick (guess) and coarse, purple red; cross-laminated, and black below high water line.

Tuesday, October 10, 1871

Our Camp (21) last night was on the debris from a large wash from the north—the largest wash we have seen in the cañon. The gravel is piled up 40 – 50 feet above the water though it is covered by high water. Along the whole length of it is a rapid with a fierce one (that we dubbed the Cascade) at the head. In attempting these rapids last night by No. 1 boat a failure and Roberts hurt—it is feared seriously. This morning Panambona was hurt near the same place, striking his chest against a rock. When we finally got up the cascade it was about 11 A.M. solar time.

A low arch of granite was visible near Cascade Rapid and not far above it began to be continuously visible. Through the day it has risen higher and higher until now (5 P.M) I think it is 200 - 300 feet above the water. Rapids today have been fewer and higher than yesterday when 15 were counted. The granite stands up at 45°, the sandstone (Potsdam?) above it is nearly as steep, in fact steeper at base and the shales make a base for the limestone wall that averages about 45° [sketch omitted].

This is the profile or something like a true scale so far as the angles of slope are concerned.

The tufa has not formed a wall anywhere today but I see a small line of it ahead. Neither have I seen any springs along shore. The washes I have entered so far all have running water in them though not very much. At the middle of the day's march is a basaltic lava flow occupying an old channel cut in the sandstone.

The section on next page is almost a sketch of the view given by a side canon of the arrangement of [sketch omitted] the different beds. The base of the lava is about 200 feet above river and 50 - 75 feet thick, and flows (according to O'Sullivan) from the north shore though the sketch is made on the south. I could see (certainly) no remnant of basalt indicating that it flowed from the south. The arrangement of the columns is noteworthy. It seems as though they had been [sketch omitted] formed normal to the cooling surface.

Encamped on the granite (Camp 22) because night left no time to pass a rapid and reach sand as usual.

Wednesday, October 11, 1871

Direction of great joints of the red wall limestone (approximately) N. 30° W. and N 75° E. There are no well marked systems of joints in the stratified rocks. These bearings are along pretty continuous walls of the "red wall limestone" as I may as well designate the heavy mass that it troubled me so to climb.

A mile from the sandstone cliff opposite our camp where Messers. Wheeler and Hamel and I have climbed for a view, etc., my principal point of interest is a black vein in the granite that proves to be basaltic lava. It is about 6 feet thick where visible and apparently tapers upward, though this could not be definitely ascerted as it is lost in the debris.

The granite adjoining the lava is unaltered. The lava seems homogeneous throughout and neither close nor distant inspection revealed any prismatic structure.

We find as we proceed two long stretches of rowing water when granite walls hold the river narrow with very little debris at the foot.

A sharp rapid intervenes and at the head. of the upper a rousing rapid that gave us one too many.

The leading boat, McGeary at the helm, Hoagland at the pole, wrecked or rather swamped and upset scattering its freight along the bottom and top of the river. I started at once with Hecox, Salmon, and Keegan and Drew as oarsmen to save the floating debris. We managed to pick up the oars and some blankets, baggage and others were saved along shore, but 3 or 4 beds, 3 pairs of saddlebags, and a considerable amount--nearly all the rations were lost. The most serious losses were those (continues after tables below)

P.M.
- 1 ½ cups flour
- 1 ½ cups coffee
- 1 ½ cups sugar
- beans

A.M.
- 1 ½ cups flour
- 1 ½ cups coffee
- 1/12 cups sugar
- 1 3/4 lbs. bacon
- 2 crackers each
- dried beef

of the Record of Astronomical Observations of Party 1 and of Lt. Wheeler's basket of papers and notebooks. My only loss is of the Macomb Expedition Map that Dr. Newberry gave me.

Some of the men are demoralized a little by the rapid and tomorrow I have volunteered to steer a boat up.

The granite continues to grow higher and is beautifully

sculptured by potholes and sand action on. Much of the surface is smooth and glazed.

Thursday, 0ctober 12, 1871

This book opens under a cloud at Camp 23 in the Big Cañon, for last night occurred the accident that lost valuable books and papers and this morning all hands are at work repairing and searching. As the sextant books are lost I have given observations a place here [observations omitted].

Did I forget to record that on the 9th inst [in nomine Santae Trinitatus] we passed a monument of stone built by white hands, .5 feet high by 2 feet square. Lifting the top stone I found under it a box and a piece of paper. On the paper is written:

Sevintz Cañon
Sevinta Mountains
May 5 186(4)

This point was reached by party of men with (P) [?]. We believe that we are the first and only party who have explored the cañon this high.

( ) following ( ) [?]

and on reverse side:

James Ferry	La Paz
Chas. Fisher	Mohave
C (W) Stoddard	Eldorado Cañon
( ) D Gass	Eldorado Cañon

[Lt. Wheeler had met 0. D. Gass in 1869, Grand Canyon].

In the afternoon after astronomical observations and caulking we take all things up again to the rapids and with Mr. Wheeler for bowsman I take boat *Picture* up the rapid. We ship water where McGeary did but the large force on the rope pulled us through safely. Our camp at the head of the rapids.

Friday, October 13, 1871

From this point of time the boat party is divided. One boat goes down stream with dispatches and exhausted and demoralized men. The *Picture* and *Trilobite* go on up with 10 men (7 white and black; 3 red) each. Salmon being sick and James demoralized I take the tiller in strong rapids and Hecox is my efficient assistant. During the day we make some lively transits. One involved a run out with the line on the thole-pin and then a jerk ahead after throwing it off. The boat was often so highly inclined on a fall that to go forward one must climb as though up stairs.

The rock character continues unchanged. A little basalt at two points of old river bed high (200 - 300 feet) above the river. The carving (pothole wise) of the granite is most beautiful and very many potholes are shown in section I and 2 are type forms, 3 and 4 are [sketch omitted] oddities. Very commonly the bottom is worn out (5) probably after the falling off that left the section a knob or ridge in the bottom. (2) is exceedingly common and suggests a cutting on the principle of the annular drill.

Saturday, October 14, 1871

This morning visited a creek opposite Camp (25) and saw Indian gardens. Left a paper. Gneissoid rocks are commonly mingled with the granite (collected specimen). Here too a little basalt on the cliff on the south side.

At noon we encounter again the worst rapid we have met and this time are compelled to make a portage of boats as well as freight. Above the rapid the current for a few rods being too swift to row and the cliff perpendicular so that towing is out of the question, we have "crept" in the old Genesee style and laid a rope to warp up by with loaded boats.

Picked up a dead duck today and saw a flock of live ones, the first in the cañon I believe.

At the last mentioned rapid more gneiss and more basalt.

The principal birds in the cañon are bats! and they can be seen at all hours of the day and night. The steep walls do really shorten the day in such manner as to delay us somewhat. Not only the granite, but even he limestone is steeper. The lower sandstone has increased in thickness.

The shales are invisible owing to the greater comparative steepness of the granite. Some granite here has a very peculiar aspect too large in pattern to be represented by a specimen we can afford to carry: [sketch omitted]

Some whitish (concretionary?) spots are suffused by mica with approximately all in the same plane, but in their general distribution presents a stellate-dendritic appearance is represented. These occur at intervals through a great mass of granite.

Camp after dark on some sand. Astronomical Observations. Camp 25.

Sunday, October 15, 1871

Inventory of provisions on hand

	White	Red	Total
Flour lbs	20-5	25	45-60
Bacon lbs.	0	1½	1½
Hard Bread lbs.	1½	6½	8
Coffee lbs	2¼	2	4¼
Sugar lbs.	3	½	3½
Rice lbs.	2½		2½
Pears cans	1		1
Beans lbs.	0	1½	1½
undivided coffee	8		

This is for the *Trilobite* only. The *Picture* is much better provisioned, but it is doubtful whether we can fully ration both for five days. The ration matter may yet turn us back.

No geological points of novelty. I collected some rounded pebbles from potholes today.

Our progress is but four miles over a series of rapids. Toward night we reach a double rapid, two rapids with a short interval of water that can be crossed.

On the lower half the rope broke and let Hecox and me drift own stream. We did not discover that we had our line dragging until it anchored us in comparatively slack water below. Then we pulled in the rope and made for the nearest accessible shore. We had shipped some water and put the cargo ashore to save wetting. Made coffee and beds.

Monday, October 16, 1871

Hecox and I were out of camp [27] last night on account of boat accident, and the camp missed us for we had food and beds, and our boat crew went without either. They had however some bread in the morning when we came up and some of them made up all deficiencies by a good hearty grumble lasting through the day. Tonight Lt. Wheeler puts us on short allowance of flour—four pounds a day for seven men (the full ration is 7 lbs. 12 oz.). Our bacon is gone, and beans and rice are scant, but coffee is in plenty and will outlast every other item. Our flour will hold out at this rate six days and those must bring us to the Diamond River or back to the crossing, the former if possible. I make out from Ives map and Newberry's section that we are not to expect any great change in the character of the cañon at Diamond River, but merely a retirement of the Red Wall from the immediate cliff. It is now far enough back to be out of sight except through canon vistas.

The granite cliff continues to show much schistose rock gneiss, chlorite slate, etc.

Basalt veins (as I can only suppose them to he for I have no time to examine them) have appeared along the cliff at many (3 or 4) points today though we have come but 1½ miles.

Our work of today was the completion of the passage of Double Rapid. On the upper half Salmon and Hecox broke loose in a boat and brought up in an eddy between the two falls and on the wrong side. Indians had to swim the river and climb around to them (a work of 2 hours) to row them over when they succeeded in getting them up. Once above the rapid we found deep slow running water (with slight interruption) for 1½ miles when we encamped and drew our daily ration or half ration. Drew the *Picture* up for repairs.

The force of the current in high water is here so great that no small gravel remains on the surface of the bottom—only large boulders. These give the rapids quite different character as regards navigation. Standing ground is generally convenient for men on the tow line. Sunken rocks are likewise abundant and the water is much tossed. The towing force does not have to wade, but pulls hand-over-hand. The steersman and bowman have to be on the alert.

Astronomical Obseravations tonight: Camp 28.

Tuesday, October 17, 1871

My half ration for breakfast proved quite satisfactory and I recognize the fact that I have been eating less than the full ration in time past.

Today the same routine of rapids and rowing, and 3¼ miles progress. No change in the features of landscape or geological formations.

Wednesday, October 18, 1871

Another day of the same sort. At night a dull green schist (chlorite?) forms the whole face.

Two accidents and I in each of them.

1st. As my boat the *Trilobite* was taking in her cargo her fastenings gave way and she fell backwards over the rapid, bumping her stern severely over the rocks and starting a rapid leakage. Richardson, Hoagland and I had the ride down and I did not enjoy It.

2d. At a very lively rapid an attempt was made to drag up an otherwise empty boat with Salmon and me aboard and we were swamped and upset. Shore was near at hand and we swam to it and hung our clothes on the rocks to dry. Here I found the inconvenience of having no change of raiment (McGeary responsible).

In the first accident three carbines were lost and one of them mine. I do not feel very sorry unless I am called on to pay for it, which would be highly unjust. The care of it was onerous and not compensated by any present nor probable use.

This forenoon we saw a star (probably Venus) [Seymour Dubendorff wrote a similar diary entry for the Julius Stone trip in 1909] by day, probably at 10 or 11 A.M. It appeared just above a 1000 foot cliff that occulted the sun and was plain to be seen. This will go well with the bat matter in describing the gloom of the cañon.

Tomorrow morning Roberts and Hecox are to start ahead for Diamond River following the first bench above the river. They carry a demand for grub.

This afternoon we saw after an interval of many miles some tufa cascades. They are at several points and quite picturesque. The great drawback to their beauty is in the slimy appearance of many of their faces. They seem to head at the shale line.

The roar of the rapids is echoed by the cliffs and in the still of the night has the seeming of a mingling of many voices. As I write it is somewhat musical and reminds of church-bells in the distance (where alone they are musical).

Astronomical Observations tonight. Camp 30.

Thursday, October 19, 1871

Roberts and Hecox started this morning on foot for Diamond River and Lt. Wheeler accompanied them to the lower (Potsdam) mesa which they are to use. We hauled up the boats on the rocks last night and overhauled their bottoms (sadly in need of it) this morning.

Writing at 10 A.M. I can see but one bit of the red wall, the view on all other sides being limited by the Potsdam (?) Sandstone or the underlying granite and metamorphic rocks. Here for the first time I see an Indian (Mitawava) dress his hair. The hair is cut square across in front so as to just shade the eyes. Behind it hangs to the middle

of the back and is loosely trussed in a dozen ringlets. To dress it, he covers it all with soft mud—parts it behind so that the long part hangs forward over his bowed head in two ropes. These he [sketches omitted] twists slightly and wraps turbanwise around his head. The front lock is then brushed up and adheres to the turban, giving a Ciceronian appearance, if I remember rightly the bust of Cicero. It is said (I know not how truly) that this is done to kill lice. Our boatmen practiced it every two or three days. When the mud had dried it was rubbed out [sketch omitted].

The ordinary wearing of the hair is in a loose queue behind with a band near the end while the front hair hangs straight to the eyebrows.

We did not start today until 10 A.M. our delay being for O'Sullivan to dry things. At noon we found a salmon attached to a line and pole and hooks and two pieces of bacon—all of which gave us assurance that we had not far to go. A little later we found a float from Hecox announcing Diamond River 6 miles from our last night's camp.

By pushing we made Diamond River by night fall.

The character of the cañon immediately on the river has changed in great measure. The plutonic and metamorphic cliff has become less steep and softer. The shore of the river can be traveled on foot if one is willing to climb 50 or 75 feet occasionally. Potholes are seen no more for the rock is not firm enough to retain them. The water surface is broader and the rapids shallower. Just below Diamond River is a long rapid of course. The slack water above is not of great extent. The current has been so swift today that we have had to tow the boats most of the way.

Arriving at Diamond River we found notes from Dr. H [W. J. Huffman] announcing his departure at 10 A.M. the same day, and from Hecox and Roberts announcement. that they had arrived at 1 P.M. and started on after the train hoping to catch them at Peach Springs.

It afterward transpired that the two pedestrians traveled till 10 P.M. and stopped exhausted. At dawn tomorrow morning they started on and found the train at Peach Spring, but not before they had been met by a party that Loring's message had started back from Truxton Spring.

Friday, October 20, 1871

Lay in camp at Diamond River all day resting or trying to. The river trip has proved very exhausting and after 24 hours of nothing to do (heavier than solar observations) I still feel as though just out of a threshing machine. The mule train came in at about 3 or 2 P.M. Our supper was a full-ration one, but we were not very ravenous as last night we had ⅔ ration of flour and a can of pears and a salmon extra.

Four home letters and 1 each from Lucius Williams and Howell [probably E. E. Howell, a geologist with the Wheeler Survey] all via Camp Hualapais.

Saturday, October 21, 1871

I was photographed this morning as a member of the *Trilobite* crew. Started mountain climbing with Hamel and lost him in the first 100 feet.

Sitting on the Potsdam step opposite Diamond River I note--

There is a fault near here of a trend N. 25° or thereabouts [sketch omitted]. It passes a mile or two east of where I stand and I think determines the wash we are to follow tomorrow. East of it this horizon is lifted 500-1000 feet above its height at this point and the other beds to match. It evidently occurred after the deposition of all these beds. Near it they are inclined somewhat. Along the Colorado the inclination is thus: [sketch omitted]

along the Diamond River thus: [sketch omitted]

My travel today is an aggravation because a sore toe prevents me from going to the top or the Hill. Mr. Hamel has made the trip however and his report of the high mesa confirms my idea so far as it goes. He estimates the height of the high mesa above the low at 1000 feet.

[omitted: barometric readings for geologic section at the mouth of Diamond River].

Mr. Hamel says we have come 222 miles from Mojave in 30 days traveling time and have passed 208 rapids [names of Indians omitted].

Sunday, October 22,1871

Some doubt was thrown yesterday on my discovery of basalt veins by an examination of a black or green-black vein a foot wide that looked plutonic.

This morning I wrote some letters and packed my box.

I gave Panambona and Mitiwara some tobacco to pose for their picture. Bought of the latter for $.20 an ear ring that proves to be pottery. Panambona has a scar under his left nipple given in the late battle by a Pahute arrow.

Said good bye to the boat party at about 1 P.M. and they shot the rapid.

I have saddled *Ruth* and am waiting to start away from the Colorado. Someone has just discovered that we have not enough transportation for our stuff and so we are feeding the grain to our mules.

Starting up Diamond River we quickly turn to ther right with a wash for which I propose the name Straight Wash. This wash as I surmised yesterday is due to a fault [description of geologic section omitted].

Monday, October 23, 1871

Peach Springs for breakfast.

End of Transcript

Probably the only known photo of George M. Wheeler, the man in black hat. This photo was taken by Timothy O'Sullivan at the mouth of Diamond Creek in 1871. The man standing behind Wheeler is probably Gilbert. The names of the other men are uncertain.



THE F. G. FAATZ INSCRIPTIONS

by Jim Knipmeyer

Not many people recognize the name Friend Grant Faatz, even river-runners of the Colorado in southern Utah and northern Arizona. But F. G., as he always signed his name, was one of the first persons on record to have successfully boated the treacherous rapids of notorious Cataract Canyon. This he accomplished in 1892. However, for decades little was known about either the man or his voyage.

Faatz left two inscriptions of his trip incised in the canyons of the Colorado River. The first is located in mid-Cataract Canyon at what is sometimes referred to as Capsize Rapid, part of Mile-Long Rapid between river-miles 205 and 204. On a large talus boulder on the right bank, evidently using a metal punch or drill and hammer, his name, "F.G. FAATZ" and the date, "AUG. 27. 1892" are pecked into the rock. While the name remains easily readable, the date is now much fainter.

Other river-runners before and after Faatz also stopped at this point to look over one of the more difficult stretches of whitewater in Cat, as other names and dates on surrounding boulders will attest. It was while doing just this sort of scouting that the Faatz inscription was first recorded for history. Charles Sharp, a member of the 1909 Julius Stone expedition down the canyons of the Green and Colorado rivers, briefly recorded in his journal the following statement in his entry for October 17: "At rapid No. 16 a number of names were cut on the rocks. One was Faate (sic) Aug. 27th 1892."

The second inscription, which proved that he did indeed survive the "Graveyard of the Colorado," while undoubtedly having been seen before, was not noted for posterity until the latter part of 1956. Lois Sanderson wrote to Colorado River historian Otis R. "Dock" Marston on August 29, informing him that her son Bill, a boatman for the U.S. Bureau of Reclamation, while doing survey work for the new Glen Canyon dam had found the following: "F. G. FAATZ NOV. 16. 1892." It was on the vertical canyon wall, a few feet above the sloping talus, at Mile-10.4, right bank. It is done in the same style as the earlier one farther upriver, but was this time literally chiseled into the rock, and remains very plain today.

A short article and photograph of this second inscription was published in the December 31, 1956, issue of *The Salt Lake Tribune*, and elicted a response



Looking downstream from F. G. Faatz inscription, Cataract Canyon. Photo by Jim Knipmeyer. This photo was taken during a USGS trip in October of 1993. The sport boat featured in this run of Rapid #15 was provided generously by Navtec Expeditions. In 1999 the USGS took a photo on the other side to record a new debris flow that altered the boulder fan on the left shore; the rapid did not really change much as a result of this debris flow.

from descendants in the area of Manti, Utah. F. G. Faatz was born in Homesdale, Pennsylvania, on June 3, 1864. He later spent much time "seeing the country," and subsequently established a home in Salina, Sevier County, Utah. Faatz married Sarah Jensen on August 29, 1894, in Manti, and the couple lived in Mayfield, Sanpete County, Utah, until his death March 4, 1948. He is said to have spent much of his later life selling wallpapers and painting house interiors.

But even the indefatigable Dock Marston, until his death in 1979, was unable to learn anything more concerning F.G. Faatz's life or his Colorado voyage of 1892. It remained for river-runner and writer P. T. "Pat" Reilly to fill in the story with the publication of his lengthy book on Lee's Ferry just this past year, 1999. In 1968 Reilly tracked down and communicated with Faatz's daughters and a son. They did not have a diary or journal of his river trip, but remembered quite vividly the stories he told them as children.

Faatz left Pennsylvania when he was "eighteen or twenty" years old. He wanted "to see the world," and traveled to many states before starting out "to conquer the West." For a while he worked for a mining company in Arizona. In 1891 Faatz's only sister died. He went back for her funeral, but then turned around to Arizona. He never returned to his home in Pennsylvania or saw any of his relatives for the remainder of his life.

One of his daughters described Faatz as "a small man, only 5 foot 5 inches tall, and weighing only 140 pounds. How such a small man could do all he did is quite unusual." Either before his river trip of 1892, or sometime in the two years following, he and a companion named Glover went all through southwestern Utah: Bryce, Cedar Breaks, Zion, and Grand Canyon, "any place they could get in and come out alive."

Evidently, during this period of his life Faatz was a prospector and miner, perhaps spurred on by the Glen Canyon gold rush of 1883-91 and the San Juan River "excitement" of 1892-93. His Colorado voyage, detailed in Reilly's book, was the result of being hired by a mining company in Salt Lake City, Utah, to "go down the river in search of gold." After ending the trip on November 17, he stayed in the lower Glen Canyon region around Lee's Ferry, Arizona, for the next year and a half. Reilly's last recorded mention of Faatz was a prospecting tour around that area in the spring of 1894.

His marriage in August of that year seems to have effectively ended Faatz's mining career, but not his memories of those days. He told his sons as they grew older that if he was younger he would go down the Colorado every summer and pan enough gold to live on each winter. One of his sons related his father asking, "Why don't you go down the river and pan gold? You could make more money in a few months than you can around here in a whole year!" I would say, "Dad, let's go," but he would always reply, "No, I'm too old."

End

Westwater Canyon

A Geologist's River Guide With a Focus on Precambrian Rocks

by Wil Bussard

In the fall of 1998, CPRG conducted a volunteer science trip through Horsethief, Ruby and Westwater canyons. It was an eight day trip attended fully, or in parts, by Wil Bussard, Tamsin McCormick, John Dohrenwend, Paisley, Greg Trainor, Earl Perry, Bob Parker, Michael Milligan, Steve Young, Dusty Simmons, John and Susette Weisheit, and Joe Keys. Outfitting assistance was provided by Adventure Bound, Tag-A-Long, Canyon Voyages and Kyler Carpenter. The following is a geology report from that trip and is gratefully provided to the CPRG membership for their use and enjoyment.

The Colorado River in Westwater Canyon cuts down through Mesozoic sedimentary rocks, across The Great Unconformity and into Precambrian metamorphic and igneous rocks of the continental basement. Precambrian rocks in Westwater Canyon vary along the run of the river from coarse-grained igneous at Black Rocks and Miners Cabin to high grade metamorphic at Little Hole and Cougar Bar, and lower grade, layered metamorphic at Big Hole. These rocks are part of a "Migmatitie Complex": a deep crustal intrusion of magma, which cooled in an actively deforming environment. Layered schist and gneiss from Cougar Bar to Big Hole reflect the original sedimentary rocks, which were cut by basalt dikes and regionally metamorphosed prior to the intrusion of granitic magma at Black Rocks and Miners cabin.

The purpose of this writing is to point out that not all the "black rocks" are the same, and to provide some general geologic information.

Mesozoic sedimentary rocks are briefly described from Loma, CO to Cisco, UT and have been written up extensively by Don Baars and other authors. These sedimentary strata are laterally continuous across large portions of the western U.S. They vary in thickness and taper out in response to the changing paleotopographic shape of the continent and intracontinental basins through geologic time. They hold a long variety of fascinating history, much like the pages in a book.

This text is prepared in conjunction with Belknap's *Canyonlands River Guide*, with the intent that the reader will use this guidebook and refer to the mileage, landmarks, geologic time scale and stratigraphic column within for a more direct complete and effective understanding of the matters at hand.

Loma boat ramp

Recent river gravel in the upper parking lot are

deposited unconformably on the Cretaceous Lower Mancos shale (85 m.y.) [million years ago]. The Mancos is dark gray to black, high in organic carbon and in many places a source rock for economic hydrocarbon deposits in sandstones above it (like the Roan Cliffs and San Juan Basin). It was deposited in an oceanic environment and in places contains marine fossils (oysters and ammonites, for example). The Mancos Shale is named for Mancos, Colorado. Formations are usually named for the first place, the type locality, where they were identified as a unique set of rocks.

The Cretaceous Dakota sandstone (90-98 m.y.) outcrops on river right about 1/2 mile down river [151.5]. This off-white sandstone was deposited in a coastal plain/ beach environment and stretches from New Mexico to the Dakotas. It is a porous, permeable rock and often a good reservoir for oil and gas. In various places in the Four Corners it has a basal coal layer or a coarse conglomerate named the Burro Canyon (Cedar Mountain) Formation (Fm.). Coals are formed in swamps and the Burro Canyon Fm. is a continental (non marine) river deposit.

The Jurassic Morrison Fm. (138-160 m.y.), in the slopes to river right, is not well exposed at river level. This extensive set of varicolored shales, sandstones and conglomerates tells the story of infilling a large continental basin, which stretched from Nevada to eastern Colorado and Arizona to Canada. Dinosaur fossils are found in the Morrison Fm. near Moab, Utah.

The Jurassic Entrada sandstone (180 m.y.) is off-white and meets the river at about mile 151, followed in quick succession by the rose pink to red Kayenta Fm. (200 m. y.) and the orange Triassic Wingate sandstone (210 m. y.). The Entrada and Wingate sandstones are both remnants of sand seas (Sahara desert type environments). Note the high-angle cross-bedding typical of windblown (eolian) sandstones. The intervening Kayenta Fm. consists of these eolian sand grains reworked into stream and river deposits, and suggests a period of climate change. The Kayenta is not as laterally extensive as the Wingate or Entrada formations and is restricted to a sub-circular area around Four Comers.

These Early Mesozoic sandstones are among the most dramatic rocks in the western U. S. Much of the good rock climbing in Canyonlands (Supercrack, Castleton, Six Shooter Peak) is in the hard, orange Wingate sandstone. The Entrada is present throughout the area as well. At first glance many people do not see much difference between one sandstone and another. Differences become clear when one views the details of these rocks, both in (1.) large scale; outcrop appearance (is it massive, blocky, cliff forming?, how big are the cracks in it?, things like this), and (2.) small scale; grain size and shape, is it clay, sand, clear quartz?, are there fossils?

The Entrada is very fine to fine-grained, very well rounded, has a sugary texture and calcareous cement, it often has a red orange lower member and an off-white to tan upper member. These characteristics are consistent in the Entrada from Wyoming to Mexico and Nevada to Colorado. It commonly erodes as massive slickrock domes, with high angle cross bedding, typical of sand dune deposits, it is very well-sorted (consistent grain size).

The Kayenta is rose pink to red, throughout the deposit, on the Dolores River, in the town Kayenta, in Glen Canyon and here. Color is not always a consistent characteristic, but in some cases it is. The Kayenta is horizontally bedded and ledgy, typical of stream deposits, has blocky splitting and occasional freshwater limestone lenses of sabkha lakes (like the small ones in the White Sand Dunes in southern New Mexico). The grains are well-rounded and well-sorted, some are frosted; they are eolain (windblown) grains reworked in stream deposits.

The Wingate is orange-orange-orange all through the West! It is medium-grained, very well-rounded, well-sorted, non calcareous, and has beautiful cuspate, interlocking grain boundaries surrounded by secondary quartz overgrowths which look like ice crystals with a good magnifier. It is massive and cliff forming, with high-angle cross-bedding, blocky splitting and forms excellent dihedral cracks.

The missing Navajo sandstone is worth noting. It's absence is due to (1.) it was never deposited here, or (2.) it was eroded off between 200 and 180 m.y. It stretches from Wyoming to Mexico and forms Checkerboard Mesa at Zion National Park. It erodes into slickrock domes (Slickrock Bike trail) and with a magnifier has a conspicuously bimodal grain distribution of fine and coarse, round, clear grains. This unique bimodality exists in the Navajo sandstone in Wyoming, Utah, Arizona, and on the Mexican border. The Navajo is an important oil and gas reservoir in places where hydrocarbon source rocks exist beneath it.

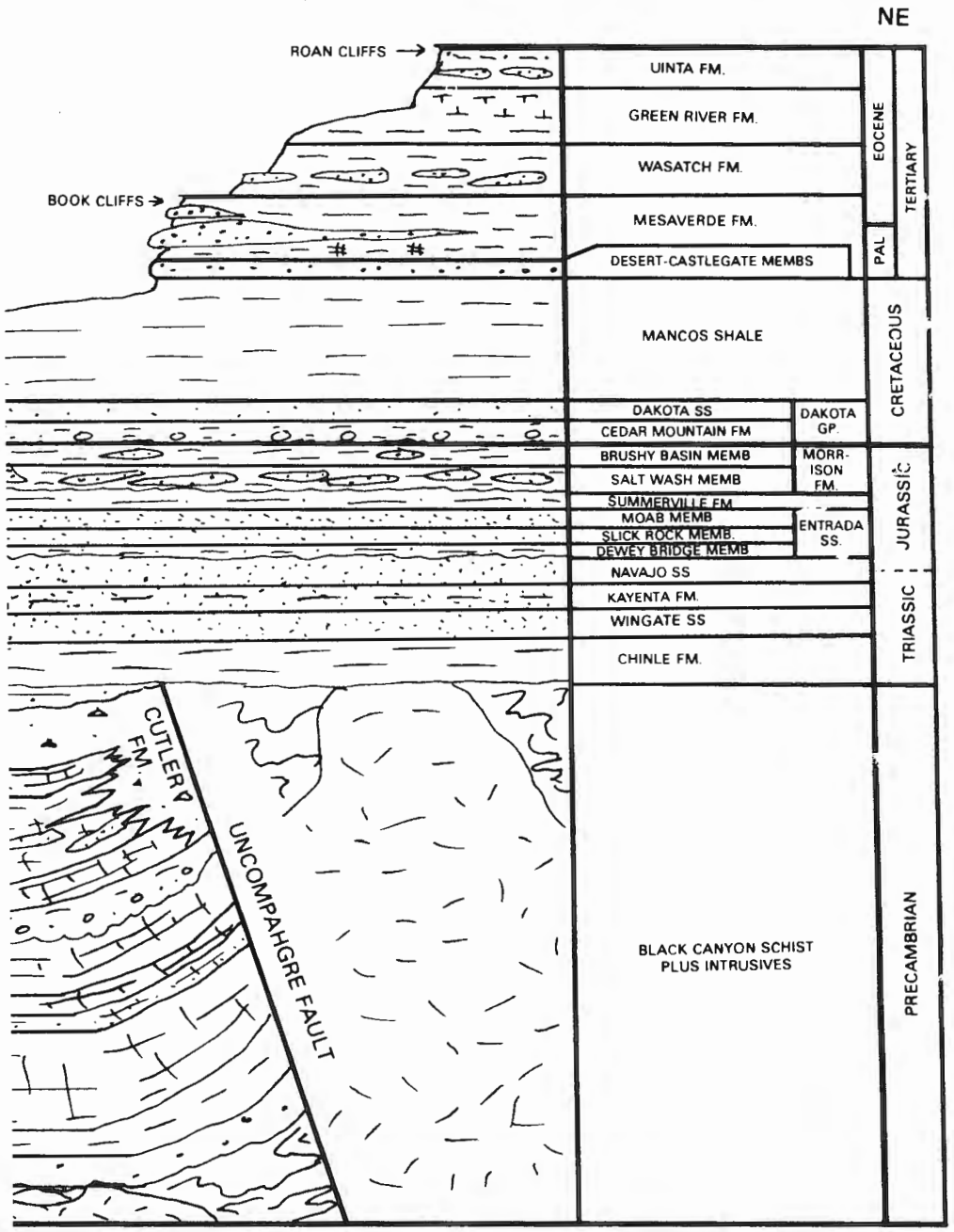
Continuing downsection are red beds of shale, siltstone and sandstone in the Triassic Chinle Fm. (210-215 m.y.). The Triassic is the first period of the Mesozoic Era and also records the first appearance of biped dinosaurs. The Chinle was deposited in continental swamps, streams and rivers. It extends from Wyoming to Mexico and Nevada to Colorado. The source of the Chinle continues to be debated; somehow a doming event in the south and in the west, preceding Jurassic subduction, volcanism and mountain building, occurred. Scattered data for this doming exists in the dismembered mountain ranges in Arizona and Nevada. Some workers have discovered paleocurrent data suggesting a source in Oklahoma (the ancient Ouachita Uplift revisited?). The Ancestral Rockies existed in some form right here in the Westwater area and likely provided a source for some of the red beds. We see this at Moore Canyon, where you can actually stand on the surface of the Uncompahgre Uplift and the Ancestral Rockies with the feather edge of the Permian Cutler Fm. coming off the uplifted Precambrian granite and the Chinle Fm. overlying this paleosol.

Sedimentary rocks record geologic history and tell us about paleoenviromnent (beach, swamp, river),

paleolatitude, tectonics of the continent and the development and breakup of Pangea. Bentonite clays in the Mancos Shale attest to Cretaceous volcanism. Granitic clasts in the Cutler are derived directly from the Ancestral Rockies, and volcanic detritus in the Chinle and Morrison formations tell us of distant volcanoes.

Precambrian Rocks

Precambrian rocks are generally more complex than younger rocks. They are often highly metamorphosed and have been subjected to a longer and more involved geologic history. Time and history are cumulative, building up layer upon layer, thus every tectonic, magmatic and erosional event that has taken place through time has changed the existing Earth's crust on which it occurred. One of the biggest problems with Precambrian rocks is that the exposure is very limited, in most places they are covered by younger rocks. Outcrops are sporadic and sparse. In the Four Comers region, only a few exist: Westwater, Unaweep, Grand Canyon, and that is about it. Further afield and off the edges of the Colorado Plateau good exposures exist in the Transition Zone of central Arizona, the Rio Grande Rift Valley, the San Juan Mountains and scattered outcrops, north and west of the Plateau in Utah.



Stratagraphic column from Northern Paradox Basin and Uncompahgre Uplift, Grand Junction Geological Society, 1983. Note: In Westwater Canyon, Navajo sandstone is missing.

The Great Unconformity

The Great Uncomformity at the contact of the ancient Precambrian and overlying younger rocks exists throughout the North American continent as a sub-horizontal line of great mystery. It represents an absence of geologic history in our area of 1.1 to 1.8 billion years! In the Grand Canyon there are places where 1.7 billion year old rocks are overlain by 570 million year old Tapeats sandstone. In the San Juan Mountains the unconfonnity is more variable and exists between rocks of 1.8 to 1.4 b.y. and overlying rocks ranging in age from 520 to 23 m.y. Continental tectonics have been more active in the San Juan Mountain area throughout post-Precarnbrian time than in the Grand Canyon region. Observations at the contact guide us to understanding various aspects of regional tectonics (mountain building, basin development, faulting) that have occurred since the Precambrian, but there simply is not information available for geologic history during most of the time from 1.4 b.y. to 570 m.y.

Here in Ruby and Westwater canyons, the Great Unconformity spans from the 1.7 b.y. "black rock sequence" to the overlying 220 m.y. old Triassic Chinle Fm., a gap of 1. 5 billion years! In Moore Canyon at mile 135.5, there is incipient

soil formation into the Black Rocks, overlain by the Chinle Fm. This red paleosol may be the very feather edge of the Permian Cutler Fm. (270 m.y.) and is a very interesting field stop for geologists; one can see the breakdown of granitic rocks, weathering of feldspar and mica and the development of paleosol all "frozen in time" by the overlying Chinle Fm. and Wingate sandstone.

Nearby exposures

The longest and most continuous exposure of Precambrian rocks in the southwest USA is across the transition zone of central Arizona. Seven distinct "blocks" of Precambrian rock have been identified as separate entities that were accreted and sutured together during the growth of the earliest continents, specifically proto-Pangea (Anderson, 1989). The geologic history of the Precambrian underpinnings of present-day North America is described as an accretion of volcanic island arcs, undersea volcanoes, beaches, micro-continents, and terrestrial sedimentary deposits. Apparently the convergence was from the southeast towards the northwest as seen in present-day North America. The Wyoming Suture Zone has this same southwest to northeast trend, orthogonal to convergence, present in the central Arizona blocks. A write up of these details is found in *Arizona Geological Society Digest* #17, "Geological Evolution of Arizona."

Precambrian in Westwater

Precambrian rocks in Westwater Canyon consist of coarse, crystalline, granitic rocks (Black Rocks, Mile 136 and Miners Cabin, Mile 124) intruded into a pre-existing crust of high to low grade schist and gneiss, amphibolite, augen gneiss, garnet-bearing schist, granulite and garnet granulite (Mile 124 - 114), and intermittent zones of well developed migmatites (Mile 122-12 1). Similar rocks outcrop in lower Grand Canyon, the Upper Animas Gorge, Black Canyon of the Gunnison and Unaweep Canyon.

In efforts to understand this complex geology we look towards the literature; studies from other areas and the interpretive models. Precambrian rocks exposed in Westwater Canyon appear to fit genetic models for migmatite complexes defined by Haller, 1971: a deep crustal intrusion cooling slowly under pressure in an actively deforming environment. The migmatites are generated as "mixed rocks" in Hallers' "Zone of Detachment" between the infrastructure (intrusion) and the superstructure (wallrock) (see diagrams 19-28, 19-30). Continued upwelling of the hotter, more bouyant magma creates more interaction, in this zone, as the overlying superstructure is partially melted, metamorphosed and deformed. The following text briefly describes the Precambrian rocks along the Colorado river from Loma, CO to Cisco, UT and a concordance of these rocks with Haller's models.

Infrastructure

Coarse crystalline granite with a pronounced alignment of crystals is the intrusive rock in Rattlesnake Canyon (Mile 149), at Black Rocks and Moore Canyon (Mile 136-135), and at Miners Cabin (Mile 124). Orthoclase crystals are euhedral (well-developed crystal faces) and often elongate and quite large. The bigger ones are 1.7 cm. x 6.5 cm., with an elongation factor of four. They exhibit pervasive alignment along azimuth 340 $\pm$ 20 degrees. Elongation beyond typical feldspar crystal shape and preferred alignment strongly suggest emplacement of the intrusion into a tectonically stressed environment or cooling of the intrusion in an environment of non-uniform stress. The long axis of crystals grows preferentially in the direction of least pressure. Crystals align with long axes perpendicular to principal stress as the magma cools.

Other possibilities exist, that might explain alignment of crystals in igneous rocks, but these concepts do not fit the outcrop and petrologic relationships as well as cooling within an actively stressed environment. (1.) Alignment of crystals can result from flow within a convecting magma body or in an actively intruding body: This does not fit the outcrop because (a.) the crystals are very large, requiring a long cooling time and as convection and movement occur in an igneous body, the directions of flow change through time, (b.) The alignment is pervasive (consistent throughout). Crystal alignment due to flow is not homogenous across large areas, convection is spherical; hot zones, dikes and sills, flow in accordance with their [irregular] boundaries. There is no good evidence for flow. (2.) Alignment may result from later metamorphism: If this were the case we would see alignment of other minerals in the granite, especially mica (at the lowest temperatures) and this is not here. [Plagioclase feldspar, quartz, muscovite (silver) and biotite (black) mica, and hornblende are also present in this granite]. (3.) Filter pressing of crystals against the wall of an intrusion can produce alignment: If this were the case we would see variations in abundance of crystals across the outcrop(s), and we would see at some place in the outcrop a change in orientation of crystals.

Thus, the most likely scenario is cooling within a tectonic environment with principal stress oriented perpendicular to the long axes of crystals. This also fits outcrop data at adjacent stops and the big picture concepts which may be invoked to explain the entire package of Precambrian rocks and other outcrops regionally (Unaweep, Grand Canyon, San Juan Mountains).

Zone of Detachment

Migmatites are very unusual rocks and contain contrasting mineral assemblages, which appear to have been mixed in a semi-molten state. These are the highly contorted, pink, white and black rocks at Little Hole and up Little Dolores Canyon (see river guide section). Migmatites were not understood for a long time and still present a lot of physical-chemical type problems for those who study them. They are really weird rocks. The only viable explanations put forth involve mixing under multi directional and shear stress at relatively high pressures

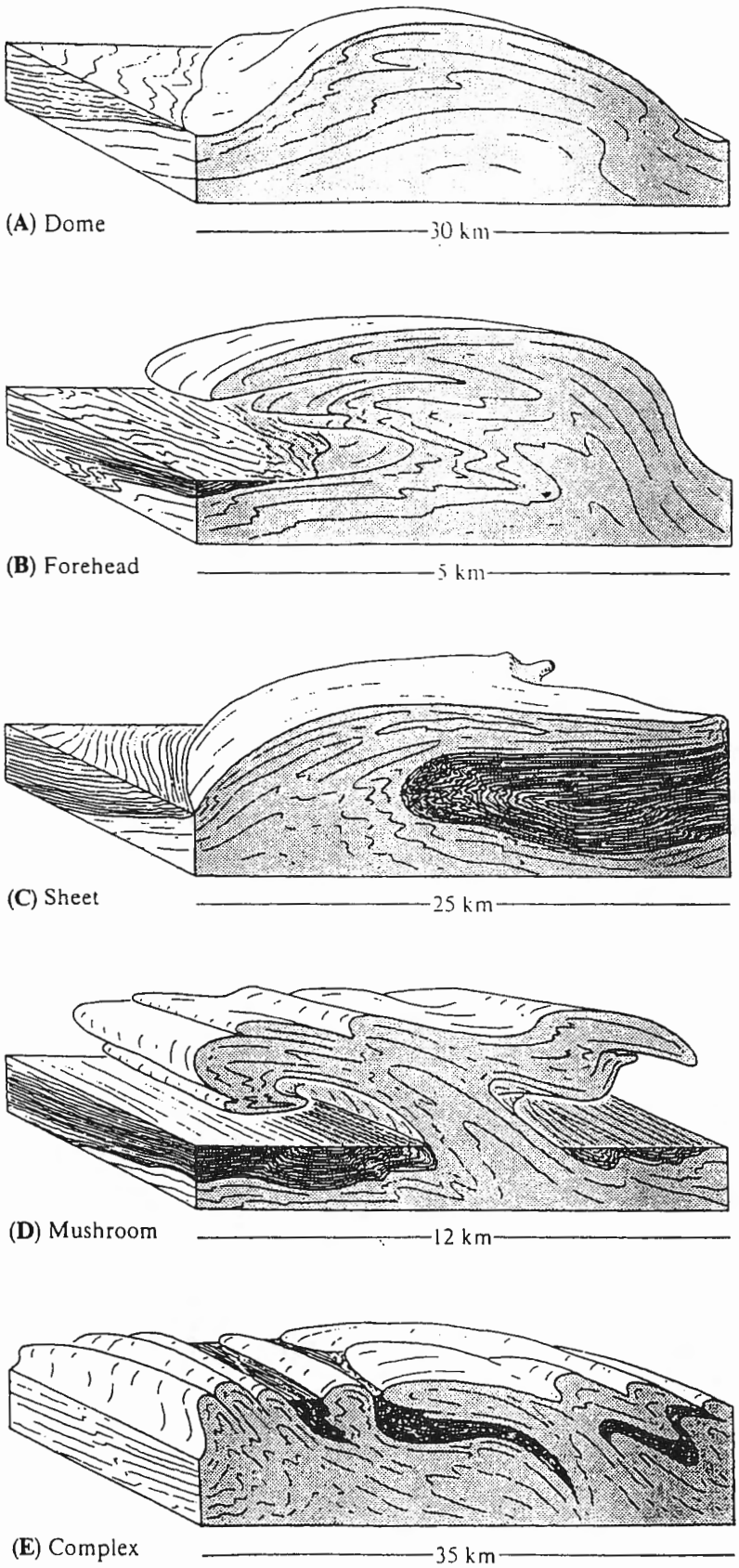
and temperatures, with perhaps long time intervals. Mechanisms of partial melting are invoked to explain the presence of conflicting mineral assemblages. Textural observations in the rocks support all this, Haller's models (figs. 19-28, 19-30) were based upon field observations in Greenland (and other locales) at outcrops on enormous cliff faces which cut across all three zones in one place. The Colorado River in Westwater Canyon cuts through a similar situation and migmatites also exist in other 1.7 billion year old rocks elsewhere in the western U.S. Perhaps it is not all that uncommon in the deep crust. Geologists in the Grand Canyon describe migmatites and those rock are similar to these at Westwater.

The migmatites are intermittent, oddly-shaped zones of complexly mixed quartz-rich granitic rocks (low temperature) and ultramafic amphibolite rocks (high temperature). The migmatites here are somewhat abundant, and they are really beautiful. These zones pinch and swell, presumably in response to higher and lower pressure areas within the deforming, strained crust. They appear to mix on a fractal scale, from exceedingly fine (centimeters or less) to coarse (meters). Zones are from one half a meter to 5 or 10 meters wide and perhaps as long as ½ mile.

These are the exact zones of detachment and they vary in shape in response to folding and buckling in the infrastructure below and the superstructure above, mixing and deforming, partly granite and partly re-baked metamorphic rocks. Ductile deformation and rock type constrain the depths of occurrence, this is a deep crustal phenomenon.

Superstructure

The pre-existing superstructure was apparently a sequence of sedimentary rocks; shales, sandstones and sandy limestones, intruded with basalt dikes and sills (Mile 122-114). Sedimentary rocks were regionally metamorphosed into garnet-bearing schist, and high and low grade schist and gneiss of the granulite facies. Basaltic intrusions cut the sedimentary rock parallel to layering and across layering and were metamorphosed into amphibolites. Coexistence of these two facies narrows temperatures to between 600 and 700 degrees Celsius and pressures to between 3 and 8 kilobars (10



Types of infrastructure upswellings. From J. Haller, copyright 1971, *Geology of the East Greenland Caledonides* (New York: Wiley Interscience), Fig. 64. Reprinted by permission of John Wiley and Sons, Ltd.] Ehlers and Blatt, 1985.

to 20 kilometer depth) (Ehlers and Blatt 18-1).

This early metamorphism occurred before the intrusion of the granite, as evidenced by the presence of xenoliths (inclusions) of amphibolite gneiss in the granite at Moore Canyon. Layered metamorphic rocks occur at a scale of one to ten meters, and this layering is more pronounced and better exposed and preserved, partly due to a lesser metamorphic grade further down river away from the intrusion and detachment zone, from Big Hole to Big Horn (Mile 116-114).

Near and adjacent to the granite the rocks are high grade banded gneiss, granulite, greenschist and amphibolite and commonly contain large red garnets to 1.5 cm, bladed hornblende to 5 cm, and abundant sheet biotite. In a few places, hydrothermal deposits occur in these rocks. Rocks in Little Dolores Canyon contain a fibrous, soft white mineral sillimanite (?). This unique occurrence of "spot rock" may have been due to ex-solution of water from the intrusion into wallrock. Hydrothermal alteration and epithermal quartz are present in hot springs deposits in the area of a small prospecting and surface operation at mile 123, just down river from Miners Cabin. One of the drill sites appears to have targeted a hot springs deposit within the metamorphic rocks. This box-like network of veinlets is where hydrothermal fluids cooled into microcrystalline quartz. This type of environment is occassionally a site of metal deposition. This operation also appears to have targeted a chloritized fault zone and a rose quartz pegmatite with exploratorv drilling.

Rocks outcropping farther away from the intrusion are somewhat lower grade and less disturbed by the deformation at the interface of the intrusion and zone of detachment. Pelitic schist are interbedded with metagraywacke and biotite and garnet schist on a scale of one to six meters at Big Horn. Foliation parallels larger scale layering, suggesting foliation development parallel to original bedding. Textures in the metagraywacke (impure quartzite) suggest relict bedding and this also parallels layering and foliation. Rotational structure in garnets is rarely found and depicts shear stress during crystal growth. Foliation parallel with bedding is neither required nor uncommon. Bedding planes between different rock units can act as free surfaces and partition or re-orient strain. The more numerous the bedding plane contacts are, the more strain is re-oriented perpendicular with bedding. Often foliation in metamorphic rocks cuts across original sedimentary bedding planes, but here foliation is parallel with layering and perhaps bedding.

Protoliths

Protoliths (rock prior to metamorphism) for the present metamorphic rock are proposed in accordance with chemical, physical and textural constituents in the rocks as follows:

Metagraywacke (impure quartzite); protolith; sandstone, perhaps graywacke. This rock consists mostly of clear, fine to medium, subangular quartz grains, some of which fall off in your hand (and 10% biotite). It has not been metamorphosed to a high grade (lower granulite). Chemically, it did not change much; it was sandstone it is now quartzite. It is found at mile 114, farthest from the intrusion.

Pelitic schist; protolith; shale. These occur throughout "superstructure" rocks, from Mile 123-114. Grade and size of garnets is roughly the same throughout. They contain abundant biotite and chlorite, 0-25% quartz, segregated into lenses and eyes, some layers have 25% actinolite, garnets are present in some layers and not in others. commonly garnet, quartz, biotite and $\pm$ actinolite are intergrown together in layer parallel, irregular masses. Variations in mineralogy from unit to unit in the section, depict variation in original abundance of elements (iron aluminum, calcium) in the shale protolith.

Garnet granulite; protolith; calcareous sandstone/ shaly sandstone/graywacke/arkose. Abundant clear and opaque, coarse angular quartz, big and small garnets, chlorite, biotite, and overall large grain size suggest an impure clastic rock; a dirty sandstone, perhaps like the sandstones in the Cutler Fm., or a marine graywacke.

Amphibolite; protolith; basalt. Chemically, basalt goes directly to amphibole with metamorphism. Outcrop relationships show amphibolites crosscutting and paralleling layers. These were dikes and sills of basalt prior to metamorphism. Crystal size ranges from 1 x 20 millimeters to a whopping 30 x 60 millimeters at Cougar Bar. Some of these are pure hornblende, others have some red garnets and up to 30 % biotite.

Conclusion

The occurrence of Precambrian rocks found here fits into existing genetic models of migmatite complexes, developed at depth. The mineral assemblages and structural observations at the igneous contact and migmatite zones also support this. The infrastructure of coarse granite is seen at Black Rocks and Miners Cabin. The contact of the intrusion is irregular and visible at Cougar Bar, right at Mile 122. It is an intrusive contact with pegmatites sweating out of the granite, xenolithic inclusions of amphibolite gneiss in the granite, structural deformation; boudinage and augen gneiss. Within a mile of the contact, at Little Hole (river right, Mile 121.2), well-developed migmatites of Haller's "detachment zone" occur. Further down river, at Big Hole and Big Horn (Mile 116–114 on river right), higher levels of the superstructure are found, consisting of lower grade garnet-granulites and intervening pelitic schists, all cut by amphibolite dikes and sills.

The intrusion at Black Rocks was emplaced into a "typical" sedimentary section of shale and sandstone that was crosscut by basalt dikes. Deformation with cooling occurred and distinctive zones of migmatites formed at the interface of the intrusion and the pre existing crust.

Acknowledgments

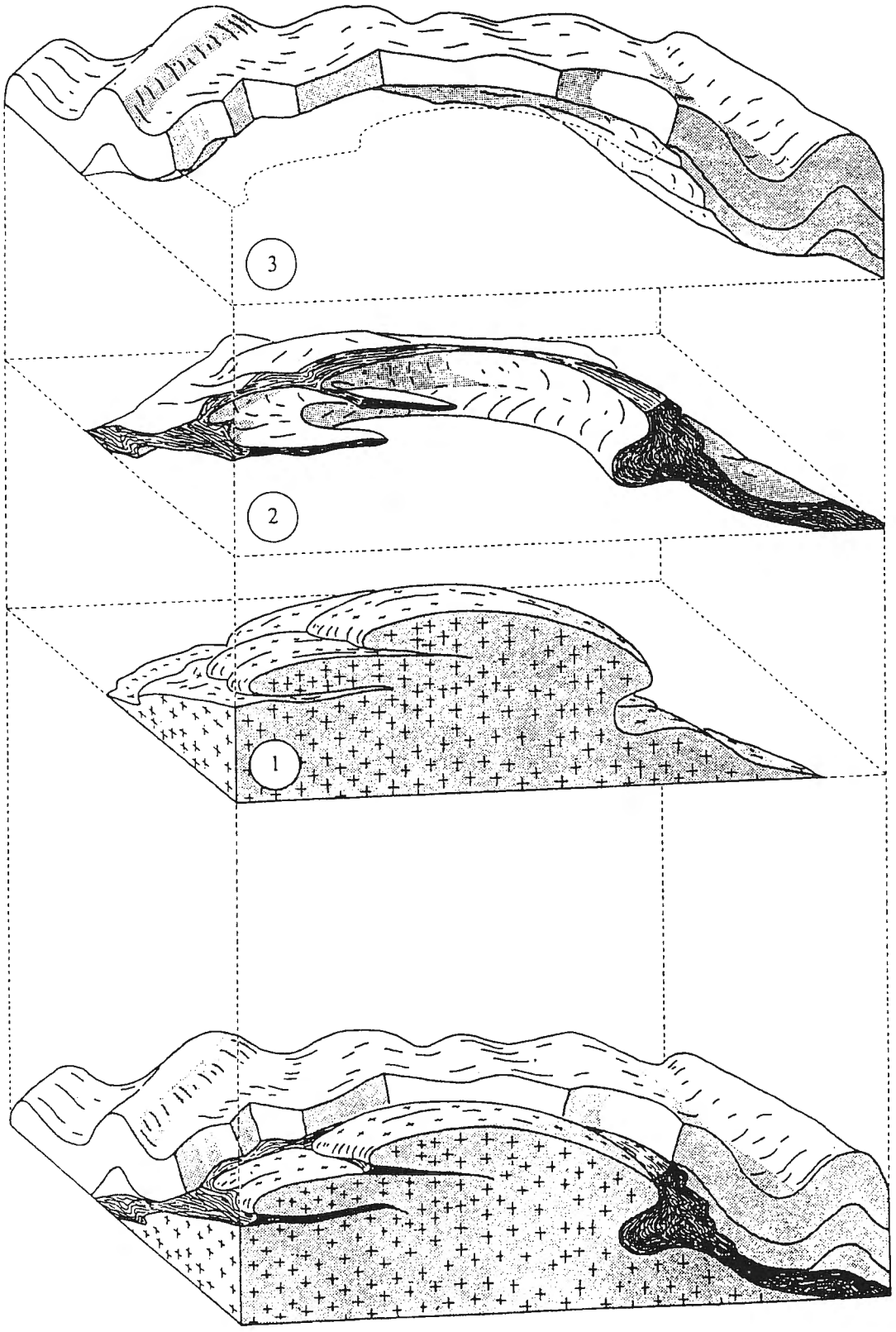
All of the diagrams here are from *Petrology: Igneous, Sedimentary and Metamorphic* by Ehlers, E.G. and H.

Blatt, published by W. H. Freeman and Company, 1982, San Francisco, CA. References appearing on these diagrams refer to the original literature. Belknap's *Canyonlands River Guide* was used for mileage and is suggested as a supplement to this writing.

The knowledge presented herein came from (a.) *Petrology* by Ehlers and Blatt, and (b.) Anderson, 1989, in Penney and Reynolds; *AGS* #17, "Geologic Evolution of Arizona," (c.) verbal communication with river geologists Brad Ilg, Andre Potochnik and Tamsin McCormick.

Field work was made possible through an 8-day river trip sponsored by the Colorado Plateau River Guides in October, 1998. Special thanks to John and Susette Weisheit, Tamsin McCormick, Dusty Simmons and T. Berry, and the other trip participants, for the excellent guiding and great good fun.

End



Three-dimensional representation of a migmatite complex in exploded view. Zone 1 is the granitoid basement portion of the infrastructure. Zone 2 is the zone of detachment, a portion of the infrastructure attached to the granitoid basement. Zone 3 is the weakly deformed and detached overlying superstructure. [From J. Haller, copyright 1971, *Geology of the East Greenland Caledonides* (New York: Wiley Interscience), Fig. 51. Reprinted by permission of John Wiley and Sons, Ltd.] Ehlers and Blatt, 1985.

RIVER GUIDE

Precambrian rocks along the Colorado River from Loma, CO to Cisco, UT Westwater, Ruby and Horsethief Canyons Using Belknap's *Canyonlands River Guide*

by Wil Bussard

INTRODUCTION

I left out the sedimentary rock from this section, you can find the descriptions and initial mileage in the first 2 pages of the accompanying text. This guide is really about Precambrian rocks.

Mile 149

Rattlesnake Canyon, small landing on river left. Up the canyon the Bull Canyon Fault brings Precambrian rocks up against Mesozoic sandstone, some small fault structures; poorly developed tectonites, conjugate shears with fault growth calcite steps. Precambrian rock here is granite with big and small crystals, similar to Black Rocks and at Miners Cabin.

Mile136-135

Moore Canyon/Black Rocks, river left, this is a great stop. The Black Rocks exhibit excellent fluting in the river. The rocks are granite with large crystals to 7 cm long and pervasive alignment. Up the canyon, an excellent hike, (a.) xenoliths of amphibolite gneiss in the granite, (b.) zones of larger, strongly aligned and discordant crystals (perhaps incipient pegmatite or the result of flowage after cooling and fracturing of the magma? who knows, they look like a bunch of cars all trying to get on the L.A. freeway at once.). (c.) The big happening here, along with the best outcrop of granite is that you can stand on the surface of the Ancestral Rocky Mountains, and there is a paleosol developed into this surface and on it. This paleosol. is (d.) the feather edge of the Permian Cutler Formation. It is centimeters thick here and hundreds of feet thick at Hittle Bottom, not far down river in Professor Valley. The Ancestral Rockies are one of the really big things that happened here, 300 million years ago, and the basin created when this mountain range was thrust upon the continent to the southwest is called the Paradox Basin and is a major oil and natural gas reservoir, with thousands of feet of fossil-bearing limestones, shales, evaporite minerals and hydrocarbons. Take a deep breath and imagine yourself, while you stand, on this uplifted surface looking down to the southwest over a vast Paleozoic sea filled with trilobites and bony fishes, eurypterids and sharks. Four-footed reptiles roam through the tropical Ginkgo forest, knocking over trees and making babies (there are no upright dinosaurs yet). There are no birds in the sky, just the warm, sultry tropical Paleozoic sun, shimmering off the surface of the Paradox Sea. There are no Wingate sandstones, no Chinle or Morrison formations above you, just you and the phenocryst-rich ancestral Rocky Mountains standing in the sun.

Mile 125-123

Miners Cabin, river left, another good stop. This is where we begin to see the interaction of the intrusive granite (from Black Rocks) and the existing crustal rocks into which it was intruded as magma. Note and investigate the variety of rocks here, they are described in the preceding text. The granite is no longer the only rock here, also present are schist and gneiss. There is a mining claim on the south part of this bench area. It is not legal to trespass on some mining claims and most miners do not like at legal or not [the claim now defunct]. There are some interesting rocks back up in there, but not largely different from other stops in this guide. Apparently they are placer gold from the river gravel on the surface of the bench here. There is a USGS document out describing placer along this section of river. It is doubtful that anyone is getting rich here and it is not advisable to mess around on the claim area.

Mile 122-121

Cougar Bar, river right, excellent outcrops on river particularly as you round the comer to lower Cougar Bar and Little Hole. (a.) The intrusive contact into the crustal metamorphic rocks is visible in the cliffs at river right, note the stoped-out blocks of wallrock and the irregular nature of the contact. (b.) Layered metamorphic rocks 100 yards down river from this contact are worthy of investigation (for rock heads). Here you will find the biggest and best of the amphibolites; one linear body is composed almost entirely of two inch long, greenish black hornblende crystals, also garnet schist and granulite facies rocks are here, and biotite schist. These layered rocks are quite diverse and the layers may reflect original sedimentary rock units. These would be in Haller's "superstructure" (see text).

Mile 121.5

Little Hole, river right, excellent stop, small landing. Migmatites are here in the gully; a layered sequence of all kinds of cool metamorphic rocks; amphibolites, migmatites, schist, gneiss—wowie! The intricately banded pink, white and black rock that looks like taffy in the canyon bottom near the river really is taffy!, in the sense that it has been mixed and pulled around and swirled while hot. THIS IS THE MIGMATITE! This is Haller's Zone of Detachment.

Mile 121

Little Dolores Canyon; river left, good landing, okay geology stop, much of the same as what we have seen. It is hard to beat the rocks at Little Hole. Up the canyon there are some unusual, although not particularly pretty "spot rocks" with a white fibrous mineral that may be sillimanite, why is this here? Calcareous waters?, hmmmm. Migmatites are here as well.

Mile 121-116

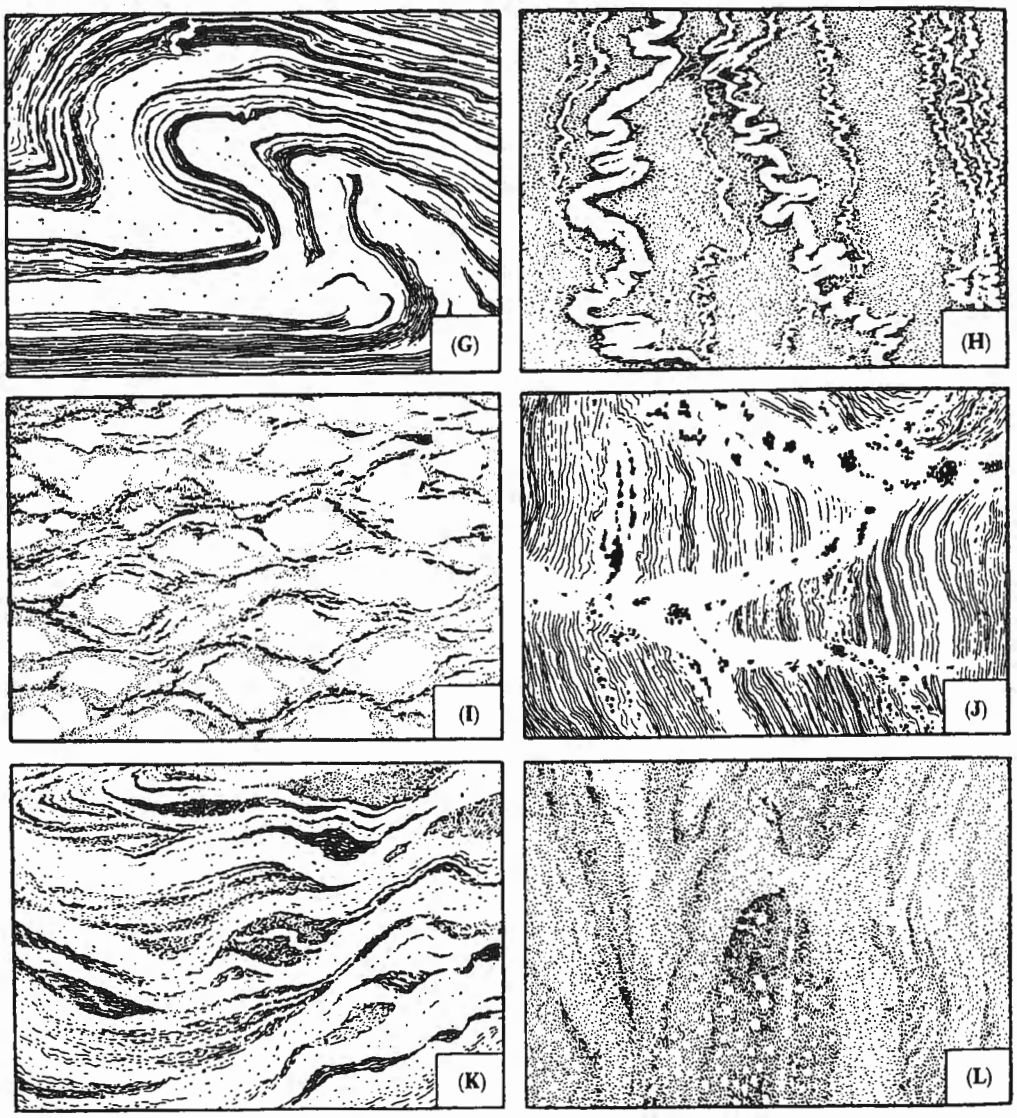
Unknown to this author. Guess I will need to return. It is kind of hard to stop here; narrow gorge, rapids, etc. Some of that at Skull Rapid looks like granite, I think, maybe it is gneiss. I forgot to look at the rocks here.

Mile 116-114

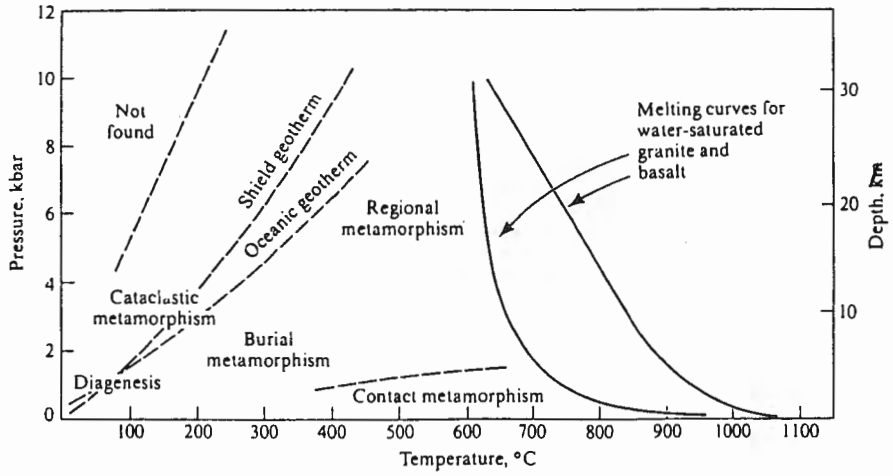
Bighole to Big Horn, river right, excellent stops and you can hike between them. This is the Superstructure of metamorphosed sedimentary rocks and they range from meta-sandstone or low grade quartzite to garnet-granulite and amphibolite. This is a really good place to investigate the layered metamorphic rocks and observe mineralogical changes from layer to layer. These changes probably represent the differences between shales, sandstones and calcareous siltstones in the original sedimentary rocks prior to metamorphism 1.7 billion years ago. That's right, this was an ocean back then, with mountains and volcanoes and back arc basins, all smashing up onto the continent of Proto-Pangea, the original supercontinent.

Hope you like this and I hope to get back out there with you all again sometime! -- Wil Bussard

End



Typical structures in migmatites. The lighter areas are rich in quartz and feldspar; the darker portions are richer in mafic constituents. [From K. R. Mehhnert, 1968, *Migmatites and the Origin of Granitic Rocks* (Amsterdam: Elsevier), Fig. 1a, b.] Ehlers, and Blatt, 1985.



Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
435.259.3598
cprgutah@hotmail.com

FORWARDING AND RETURN POSTAGE GUARANTEED / ADDRESS CORRECTION REQUESTED



The Confluence

Volume 7, Number 1, Spring 2000



Like the sword in the stone, here is a prop in a rock.

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. (CPRG), which is a member of a 501 (c) (3) non-profit organization called Canyon Country Volunteers. CPRG is dedicated to:

- Protecting the rivers of the Colorado Plateau
- Setting the highest standards for the river profession
- Providing the best possible river experience
- Celebrating the unique spirit of the river community

Guide Membership is open to anyone who works or has worked the river industry of the Colorado Plateau **General Membership** is open to those who love the rivers of the Colorado Plateau

Membership Dues
$20 per year
$100 for 6 years
$195 for life
$295 Benefactor

General Meetings and Board Meetings will be announced

Officers

President	Dusty Simmons
Vice president	Dave Focardi
Secretary/Treasurer	John Weisheit

Directors

Bluff	Clay Hamilton
Grand Junction	Darren Smith
Green River Moab	Shane Edwards
Vernal	Herm Hoops
Moab	Eric Thompson

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(435) 259-3598
Email: cprgutah@hotmail.com
Faxes accepted: Please call first.

Needed: articles, oral histories, poetry, stories, and opinions. This journal is composed using Microsoft Publisher. If you use a word processor, we can translate most programs. Otherwise, please send your text typed. Please include useful photos, charts, diagrams and artwork. The really is no deadline, but the beginning of each quarter works best.

Managing editor: John Weisheit
(jweisheit@hotmail.com)
Editor of this issue: Michele Hill and Nancy Allemand
ISSN #1078-425X

Disclaimer: Opinions belong to the author and are not a representation of this organization. Free speech.

Cover photo by Mike Hill.

25 or 30 hp lower unit, exposed in Cataract Canyon at 9000 cfs.

Is it yours? Through agitation it has become part of the rock.

CLASS V+ A quarterly Journal for Extreme Rafters and River Guides

CLASS V+ is a rafting publication and network dedicated to:

- Increasing awareness of the top Class V rivers in the world
- Reducing the cost of running Class V rivers
- Organizing trips on the most challenging commercially run rivers
- Organizing trips on Class V rivers that are not commercially run
- Participating in first descents of challenging rivers on the planet
- Helping to protect the world's great rivers
- Addressing issues of interest to rafting professionals
- Having fun and building lasting friendships among Class V rafting enthusiasts everywhere

Subscription and membership information: CLASS V+
PO BOX 71, Madison, GA 30650, USA~(706) 343-1365

TABLE OF CONTENTS

Training Seminar
One Hundred Years of Moab
Know Your Federal Agencies
Insects
Utah National Park History
Riparian Ecology
Occupational Exposure to Bloodborne Pathogens
Example of Med Kit Contents
Wilderness Medical Association
Wilderness Professional Training
Wilderness Medicine Institute
Pilling Figurines
Rules & Regs Regarding Rock, Mineral, and Fossil Collecting in Utah
Westwater Canyon Lawsuit Settlement
Max Turner
Introducing the USNPS FROST
Glen Canyon Movements
Tampa Tribune features Utah
Kanab for Lake Powell
Gunnison River, Colorado
Fruita Refinery
Southwest Geology
Controversial Issues & Plants
Trip Leader Logic

River Education Seminar

"Boats and Boaters"
Evening of May 5th and all day May 6th
Green River, Utah

Brought to you by Canyonlands Natural History Association, Bureau of Land Management, National Park Service, Utah Guides and Outfitters, Colorado Plateau River Guides, and numerous Local Sponsors.

FRIDAY May 5, 7:00 PM: Keynote address:
Development of Commercial River Running by Al Holland,
in the John Wesley Powell Museum.
Followed by a social and discussion at Ray's Tavern in town.

SATURDAY May 6, 7:00 AM at Swasey's beach

DAY 2

The **AM**

Registration:	7:00-7:30
Introductions and activity:	7:30-8:00
Stations:	8:05-9:20
	9:25-10:40
	10:45-12:00 noon

Stations will include:

Animal Ecology of the River Corridor
Mentor activity I.D. and hands on activities
Early Inhabitants of Eastern Utah
Mentor activity Discussion and ideas
Riparian Botany; a Balance of Weeds
Mewntor activity I.D. and hands on activity

The **PM**

Lunch:	12:00-12:30
Travel to JWP Museum	12:30-1:00
Activity at Museum	1:00-1:30
Stations:	1:35-2:40
	2:45-3:50
	3:55-5:00

Stations will include:

Geomorphology and Repeat Photos
Slideshow
Old Boats and Boaters
Boat demonstration and Discussion
Leave No Trace
Discussion and hands on

How to discuss controversial topics	5:05-5:35
Dinner and Discussion by Bill Hedden	5:45-7:00
Evaluations	7:00-7:30
Movie by Charlie Eggert	7:35-Open

This event includes Saturday lunch and dinner
Also included in the cost is a t-shirt commemorating the event
The cost is $25.00

Professionals at this point, who have confirmed are:

Rich Valdez	Kara Dohrenwend
Bob Webb	Roy Webb
Brad Dimock	Al Holland

One Hundred Years of Moab History via *The Times Independent*
By Sadie Warner
Permission to reprint from *The Times Independent*
Nancy Allemand was the typist for *The Confluence*.

One Hundred Years of Moab

1900

- Grand County Board of Commissioners met to discuss the prevention of infectious diseases such as small pox which were raging throughout the state of Utah. Health Districts and regulations were defined, and a quarantine was placed on parties coming from communities infected with the illness.
- Grand County Sheriff Jesse Tyler was murdered by cattle rustlers in the Bookcliffs area in June.
- Miners discovered gold veins in the La Sal Mountains south of Moab.

1901

- In an effort to close the gap between southern Utah's rural communities and the center of commerce—Salt Lake City—hours of volunteer work were completed on the road from Moab to Thompson, and hopes were flying high that one of the railroads would build a branch down this way.
- The citizens of Moab succumbed to oil fever as strikes were reported throughout the area and in Green River.

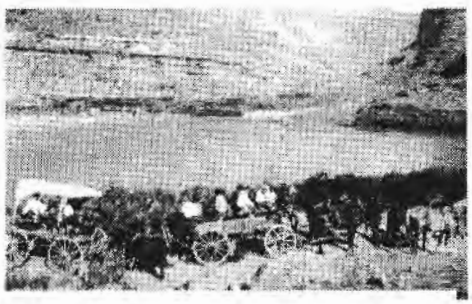
1902

- Diphtheria took its toll on the youth of Moab. Scores of graves in the Grand Valley Cemetery are testament to the epidemic.
- *The Undine*, a river steamer, overturned in the Colorado River at Big Bend. Passengers and crew made it safely ashore.
- It was announced that a mail route between Richardson and Moab was to be established, opening lines of communication and commerce.



Photo from Mitch Williams Collection

- The La Sal Mining and Milling Company built the area's first smelter. The site was large enough to handle ore mined in La Sal, Lisbon Valley, and other surrounding mines.
- A road was built from Moab to the heart of the miner's camps at Gold Basin.


Early Hwy 128. Salt Wash across the Grand (Colorado) River. Photo from The Mitch Williams Collection.

1903

- Moab was incorporated. The town would, from that day on, be under the control of the city council. The first ordinances passed were to create a town seal, to fix bonds of the officers of the town of Moab and define those offices and duties, and to regulate business licensing.
- La Sal Mountain Telephone and Electric Company was launched in Moab to build and operate power lines.
- Ground was broken for a new courthouse on Center Street.
- Uranium and barium were discovered in the La Sal Mountains.

1906

- Waterworks came to Moab. Pipes were laid and plumbing was enjoyed by those who could afford it.
- The Moab Grower's Association was founded.
- A year's subscription to the Moab newspaper—at the time called the *Grand Valley Times*—was$2.

1907

- San Juan County boomed. Mines popped up and farms grew in an era of prosperity.
- Downtown Moab caught fire and was ablaze, but miraculously, damage was minimal.

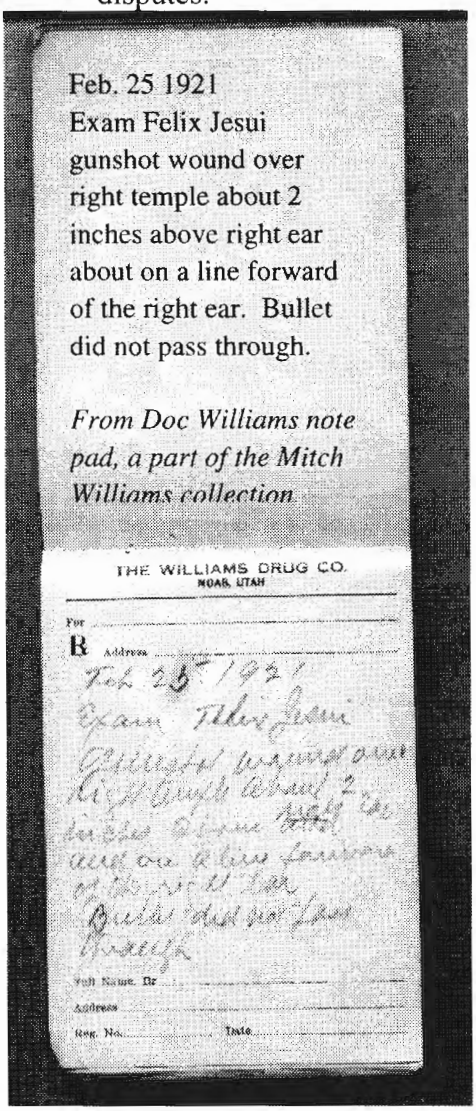
1908

- Telephone lines were completed, opening up a whole new world of communication to Moabites.
- A case of scarlet fever was reported and spread. It was later reduced to an epidemic of German measles.
- President Theodore Roosevelt established Natural Bridges National Monument near Bluff, Utah.
- Fire hydrants made their presence known along the streets of Moab.

- At a city council meeting it was decided that alcohol and saloons "are unnecessary evils." The price of a liquor license skyrocketed to $2000.

1910

- A range war broke out in the desert between cattlemen and sheep farmers. Violence ensued as both sides reverted to more primitive methods to settle disputes.



Range wars lasted into the 1920s.

- In order to irrigate 20,000 acres of farmland, it was decided to build a reservoir on Rattle Snake Flat, south of Moab. Ken's Lake now sits in that general area.
- Typhoid fever worked its way through the state and made an appearance in Monticello.
- Mexican Hat became a village and Monticello incorporated into a town.

1911

- A Moab transportation company was started to shorten the distance between the town and the railroad. Vehicles arrived that could carry up to 12 passengers and looked like stagecoaches, sans horses.



Studebaker Wagons on 100 North Street Note poles servicing Doc Williams home at 40 West. Doc and two daughters standing. Business venture of Doc's. Photo from the Mitch Williams Collection.

1912

- The bridge across the Colorado River at Moab was completed. A weeklong celebration was held in its honor.
- Convicts built a road between La Sal and Monticello.
- A canning company, in cooperation with the Moab Fruit Grower's Association, was built.
- A request for a bridge at Dewey was granted by the state of Utah.
- The newly constructed bridge at Moab began to show its imperfections.
- A disastrous fire enflamed Green River, causing over $50,000 damage.
- It was decided that a public library would be built.
- A moving picture machine found a home in Moab.

1913

- Utah and Colorado joined forces to complete the Midland Trail, a highway from Indianapolis to the Pacific Coast.
- The Dewey Ferry sank to the bottom of the Colorado River.

1914

- The voters of Grand County approved a tax levy to build a suspension bridge at Dewy.
- The war between the Great Nations of Europe affects Moab: France cancels its order of ore.

1915

- The Grand County Public Library project was started with a book drive. The courtroom was converted into a public reading room.
- Moab was officially electrified when the Hammond's brought in electric lights.
- Renegade Piutes in Bluff cause an uprising. U.S. Army Chief of Staff, General Scott, captured the leaders and sent the rest of the band to the reservation.
- A steel bridge was built across Court House Wash.
- San Juan County established its own newspaper, T*he San Juan Record.*

1916

- A road from Moab to Paradox was built and designated a state highway.
- The citizens of Dewey, Castleton, Cisco and Richardson hosted a three-day celebration in honor of the completion of the bridge at Dewey. It was hailed as the second largest suspension bridge west of the Mississippi River.
- The Big Indian Copper Company began construction of the first mill in the area.
- Central School boasted its largest enrollment to date: 240 students in grades K-12.
- The Moab post office progressed from Fourth Class to Third Class due to the large volume of mail being handled.
- An ice plant was built.

1917

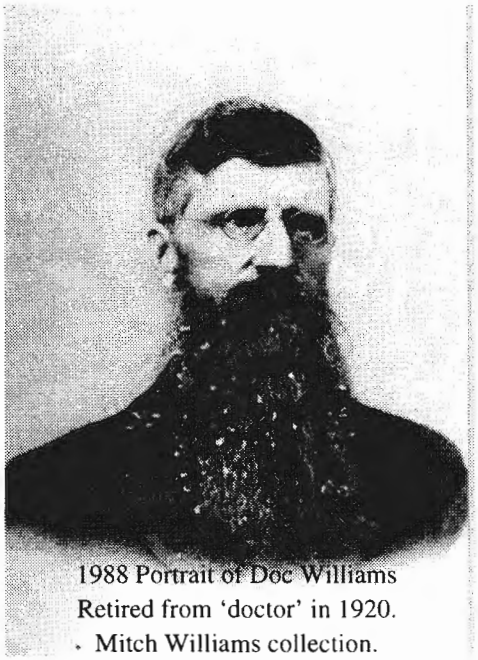
- In April, President Woodrow Wilson led America into the Great War in Europe. He also introduced the Draft in order to raise a large army in a hurry. Young men all over the country enlisted, or were drafted into service, including many from southeastern Utah. Throughout the year notices appeared in the pages of *The Times* of patriotic farm boys leaving for Europe, and of course there were those few who never made it home.
- Moab found itself completely entrenched in the war effort. Liberty Bond Campaigns were so successful that every man, woman and child in the valley owned one. Membership in the Moab chapter of the Red Cross was outstanding, movie fans shelled out a 3 cent war tax at the Ides Theater and citizens slimmed down on Wilson's war diet. Moabites were so patriotic that a pre-enlistment training camp was organized in town.
- Moabites began to invest in automobiles.
- The Moab Valley was a filthy place to live, according to the state sanitary inspector. "The unhealthful conditions of town is a crime and a disgrace," the inspector said.
- State convicts arrived in Moab to work on the road to Thompson.
- The United States government purchased large quantities of uranium, using radium content of the ore to manufacture munitions and supplies.

1918

- A children's welfare service was started in the valley.
- The war stamp campaign was launched.
- A new building was raised downtown to house the First National Bank and *The Grand Valley Times* office.
- A case of influenza closed Grand County schools and quickly spread throughout the county: 250 new cases developed in one week. A strict quarantine didn't stop the virus from claiming five lives.
- Soldiers began to return to their homes in southern Utah after Germany surrendered.

1920

- After a large oil strike in 1919, the oil world focused its sights on Grand County.
- Prohibition was in full swing as local law enforcement busted booze joints in Green River and Thompson.



1988 Portrait of Doc Williams
Retired from 'doctor' in 1920.
Mitch Williams collection.

1921

- The river flowing past Moab had a name change. Until February 1921 it was known as the Grand River, ever after it was known as the Colorado River.
- The Moab Chamber of Commerce was founded.

1922

- The filthy condition of Moab prompted its citizens to inaugurate an annual clean-up day.
- In October, the very first Grand County Fair was a huge success.

1923

- Piutes declared war on the white people in Blanding. Violence was kept to a

minimum and the rebels were captured by the sheriff's posse.

- Moab's First National Bank was robbed. Bandits blew the vault and stole over $7,000 from the safe. The bank's bookkeeper was bound and left inside the wrecked vault.
- The citizens of Moab and Green River join forces to raise funds for the improvement of roads in southeastern Utah.

1924

- In the heart of winter, the Moab Electric Plant went dead, leaving residents without power for a week.
- The windows sections of what is now Arches National Park was designated a national monument.
- An oil well in Crescent Junction was declared Utah's largest single oil producer.

1925

- Competition reached new heights of intensity in the Moab oil fields after a strike at the Big Six Oil Dome proved far richer than ever imagined. An oily geyser gushed for weeks on end as crews tried to control the flow.

1929

- Arches National Monument ballooned by order of President Hoover.
- The Moab Chamber of Commerce was re-established.
- Inmates at the Grand County Jail, arrested for burglary, shot and killed a sheriff's deputy in the doorway of said jail. After a brief asylum from their cells, the outlaws were caught by the sheriff, escaped again and were caught again.

1930

- The Moab Lion's Club was formed.

1931

- The Great Depression descended on Moab along with the rest of the country. Unemployment was a major theme in the pages of *The Times-Independent* as job notices were sporadically published, hiring groups of men at a time to maintain county roads.

1933

- The Taxpayer's Protective League was formed by the citizens of Green River in order to combat taxation without representation in Emery County. A petition was signed and submitted to the Utah State Legislature requesting that Green River town become a part of Grand County.
- President Franklin Delano Roosevelt's New Deal was implemented in Moab when vast improvements were planned in the La Sal Mountains' forests. F.D.R promised the community $18,000 a month for a period of five months while work camps were set into operation, and groups of local men were employed in reforestation efforts.
- Money was secured from the federal government for the construction of a new school building and massive improvements in the water and sewer systems.

1934

- A fire claimed the Thompson Garage and Hotel, causing $25,000 damage

1935

- Dedication ceremonies were held for what is now "the old middle school." The county library, which had been located in the courthouse, found a new home in the recently vacated school building.
- Grazing districts were appropriated throughout southeastern Utah for sheep and cattlemen.

1936

- The first automobile was driven through Arches National Monument, proving that a passable road could be built, for very little cost to the taxpayers.

1937

- Construction was completed on Moab's first public swimming pool, and the new courthouse was dedicated on Center Street.
- One of Moab's most notable landmarks, the Utah Hotel, burned to the ground.

1938

- *The Times* began to print news of Adolph Hitler's invasion into neighboring European countries.

1940

- As the war heated up in Europe, the government called for young American men to register for selective service-just in case.

1941

- Grand citizens were notified to register for ration cards.

- The U.S. Defense Department ensured that roads would be built and maintained to strategic mineral mines in Grand County.
- A Scrap Rally was held in Moab to collect scrap metal for the manufacturing of munitions.
- The largest deposit of magnesium/potassium chloride in North America was discovered five miles down river from the Colorado River bridge at Moab.
- A Japanese-American relocation camp was opened at Dalton Wells, 14 miles west of Moab on the road to Thompson.
- The Potash Company of America bought land and began drilling at Crescent Junction.

1943

- The most disastrous fire in Moab history destroyed the Moab Co-op, a department store and food market, causing $50,000 damage. The resilient business moved to a temporary location until repairs could be made.

1944

- Moab residents host a clothing drive to aid civilians in Russia.

1945

- The country mourns the loss of a president. F.D.R. was the only living president that Moab residents threw a birthday ball for every year.
- Many residents were surprised to learn that some elements of the Atomic Bomb that had ended the war with Japan so abruptly, were mined in Grand County.

1946

- Commencement ceremonies were held for the largest class in history to graduate from Grand County High: 32 students.
- *The Times Independent* published its 50th anniversary issue on May 30th.
- The Green River bridge collapsed and all traffic on U.S. Highway 50 was brought to a halt. Three weeks later, a temporary structure was opened for cars and light trucks.

1948

- Plans were announced by the Atomic Energy Commission to run the vanadium mill in Monticello. The AEC also assured local mining companies that large purchases of uranium ores were to be made.
- The Moab Women's Club celebrated its 50th anniversary.

1949

- First National Bank and *The Times* celebrated growth as the newspaper office moved into a new building and the bank expanded and was remodeled.
- It was announced that a uranium mill would be opened to handle products from southeastern Utah and western Colorado.
- The Moab to Monument Valley Film Commission opened for business with *Wagonmaster*, directed by John Ford.

1950

- Census figures revealed the population of Moab to be 1,272.

1951

- An oil well at Cane Creek spouted 1,500 barrels per day. It was the biggest news for weeks in southern Utah.

1952

- Throughout the year local mining and drilling companies squabbled with the Atomic Energy Commission over uranium prices.

1953

- It was a busy time in Moab for the film industry. Three pictures were shot here, and Moabites enjoyed every minute of it: seeing the stars, hosting the production companies and even doing a little bit of acting themselves-as extras and stand-ins.
- A strike by the La Sal Mining Co. was hailed as the richest uranium deposit to the date.

1954

- The Uranium Boom was in full swing, which directly led to a building boom in Moab. New houses and commercial buildings grew up almost overnight in order to accommodate families and businesses moving into the valley.

1955

- The "ultra modern" Apache Motel opened on 400 East.
- Drought and a heat wave worried the citizens of Moab.
- Construction began on the U.S.'s "most modern"

uranium mill: the Uranium Reduction Co. at Moab.

- New circuits were installed for faster long-distance calling service.
- "Moab is going big time next Monday and it will cost John Q. Public from one it five cents to park the family jalopy on Main or Center Streets to do a little shopping." That was *The Times'* way of breaking the news about the installation of parking meters.
- The school year opened with a new building: Helen M. Knight Elementary was named in honor of the beloved Grand County educator and administrator.
- Moab celebrated its 75th birthday.
- A new bridge over the Colorado River was built. It is still in use today.

956

- Moab audiences were delighted by a visit from *The Grand Ole Opry.*
- Twenty-three-year-old Sam Taylor returned from two years of service in the Army to become editor and manager of *The Times-Independent.*
- Tragically, a gas explosion at the Lariat Café in Monticello killed 15 diners during the seven o'clock dinner rush. It was the worst tragedy in the history of southeastern Utah.

1957

- Operations moved to a brand new hospital named in honor of Dr. I.W. Allen.
- Adrien Foote (Taylor), matriarch of *The Times*, graduated from Grand County High.
- Dedication ceremonies were held for the Uranium Reduction Co. mill. With 220 employees, it was the largest single employer in Moab.
- The San Juan County village of Bluff was wired with electricity.
- KURA broadcast for the first time over Moab airwaves; television wasn't far behind.
- Miller's Shopping Center was born when Miller's Supermarket opened with expanded hardware and sporting goods departments.

1958

- The desert once again branded the people of Moab with drought and searing temperatures.
- After years of discussion and controversy, a paved entry road into Arches National Monument was completed.
- Two inmates in the Utah State Penitentiary were caught by Salt Lake City police counterfeiting Grand County checks and forging the treasurer's signature.
- Nine holes were ready for play at the Moab Golf Course.

1959

- Dead Horse Point was declared a state park.

1960

- Arches National Monument's visitor center was built.
- Moab Lanes opened for business with 12 deluxe bowling lanes and a playroom "so mom could bowl too."

1961

- Construction was begun on the Potash plant down river and was finished in 1963.

1962

- Grand opening ceremonies were held for the rest of the businesses in Miller's Shopping Center on south Main Street.
- Grand County High students moved into a new building: what is now the middle school.

1963

- Missile testing was begun in Green River.
- The Chamber of Commerce selected "Heart of Canyonlands" as Moab's official slogan.
- City Market opened its doors for business on Main Street. Remember fresh doughnuts?
- Uranium Reduction Co. sold out to Atlas Corporation.
- Moab mourned the loss of another beloved president: John Fitzgerald Kennedy.

1964

- Canyonlands National Park was established by President Lyndon Johnson.

1965

- Massive renovations were initiated on "old Star Hall."

1967

- The first annual Jeep Safari was hosted in Moab by the Chamber of Commerce. The event drew 150 jeepers and 500 participants.
- The town's most spectacular and well-attended fire in history occurred when the Grand County Library succumbed to flames.

- The worst flood in 20 years turned Moab streets into riverbeds and damaged countless homes and businesses.
- Ten permits were issued for the first elk hunt in the La Sal Mountains.



Tag-A-Long was operating raft trips in the 1960s. Photo of Mitch backing a trailer in the Green River and from the Mitch Williams Collection.

1968

- Four heavily loaded railroad cars derailed and overturned on the their way to the D&RG mainline from Potash.
- German troops were firing test missiles near Green River.
- Dedication ceremonies were held for the Dead Horse Point State Park visitor's center; Utah Governor Calvin Rampton presided.
- An unusual storm poured over an inch of rain down on the Moab Valley in an hour and plummeted hailstones that were an inch in diameter, causing untold thousands of dollars in damages to homes throughout the area.
- A new Grand County Library opened to the public.
- The Jaycees planted a permanent live Christmas tree on the grounds of the county courthouse.
- It was announced that Rio Algom Mines of Canada would begin developments on claims in Grand County.
- An open house was held at the newly remodeled Star Hall, the new gymnasium and other facilities at the junior high.
- A brand new business opened up in Moab: the first car wash.
- The new, modern post office opened on 100 North.
- On Christmas Day, a disastrous fire caused an estimated $1 million damage.

1969

- In his last 90 minutes in office, President Lyndon B. Johnson signed a proclamation doubling the size of Arches National Monument and substantially increasing the size of Capitol Reef National Monument.
- The first foreign exchange student in Moab arrived from Argentina.
- The Slickrock Bike Trail was officially opened to the public.
- Grand County Library hosted its first children's summer reading program and story hour.

1970

- The Transient Room Tax premiered in Moab.
- A new medical center was opened downtown by Dr. J.P. Munsey.
- Dead Horse Point State Park was wired with electricity.

1971

- W.B. (Skinny) Wynn arrived from Texas to begin operations of his Moab Queen Canyonlands by Nite Show.
- A massive curbs, gutter and street improvement project was completed by the Moab Public Works Department.
- The Atomic Energy Commission and the Environmental Protection Agency joined forces to test areas in western towns for radiation.
- Four Corners Mental Health, a regional center, opened its offices in Moab.
- After being proposed, promised, and put off for years by politicians, President Richard M. Nixon made Arches a national park. He also expanded Canyonlands considerably.
- America's first "Uranium Multi-Millionaire" and former resident, Charles A.Steen announced to the Chamber of Commerce his plans to renovate and open to the public his Moab mansion, *Mi Vida*.
- Tex McClatchey's *Canyon King* sternwheeler was launched on the Colorado River.

1972

- Attorney William W. Benge, formerly of Berkeley, Calif., arrived in Moab to open a law practice.
- Cooperation problems between the Moab City Police and the Grand County Sheriff's Department spurred an investigation by the Utah Attorney General's Office.

No arrests were made and the case was quickly closed.

- Technology at *The Times-Independent* really changed. A computer replaced the old Linotype and *The Times* converted to offset printing of the newspaper.
- An open house was held for a new Federal Building in town.
- A special grant enabled the advent of the Sundwall Center, an educational facility for handicapped students.
- The first Santa Claus Christmas parade made the trek down Main Street.

1973

- Snow was big news. Precipitation had been above average and caused a rockslide on the river road and a section of the roller rink to buckle.
- For the first time in history, Grand High's boy's basketball team was the victor in the race for the state's class 2A championship.
- Landscaping and other work was completed at the Old City Park.

1974

- Technological advancements allowed Moab residents to dial direct long distance.
- Equestrian enthusiasts were treated to Moab's first horse races.
- Two Moab men were kidnapped and held at gunpoint until they were left tied in a Price motel room. Their captor, calling himself Mr. Hunter, forced the two men to empty their bank accounts and hand the money over to him. "Hunter" was later captured in Portland, Ore.; apparently, he was already wanted in Indiana for murder.

1975

- Oil and gas drilling gained momentum.
- The Bureau of Land Management reorganized its districts and stationed a district office here in town.
- A local grape growers association was started.

1976

- Dry desert conditions caused a severe water shortage.
- A new movie theater opened up on Mill Creek Drive across from Power House Lane.

1977

- Pizza Hut, Yellow Front and Checker Auto Parts opened on Main Street.
- The LDS Chapel on 400 North was dedicated.

1978

- The Circuit Court system replaced all city courts throughout Utah.
- Jim Nyland was elected Grand County Sheriff.
- Grand County High School Football Coach Glen Richeson retired after 20 years with the team.

1979

- A chapter of the Parent-Teacher Association was organized in Moab.
- The 50th Anniversary of the creation of Arches National Monument was celebrated.

1980

- An outbreak of hepatitis was cause for concern among local officials.
- The "Sagebrush Rebellion" bill was passed by Utah legislators giving control of federal lands within the state over to state officials.
- The Grand Old Ranch House (formerly the Arthur Taylor House) was added to the National Register of Historic Places.
- Castle Valley received nationwide recognition when ABC-TV broadcast a live climb of Castle Rock.
- The world's largest solar voltaic generating system was dedicated during ceremonies at Natural Bridges National Monument.
- After an emergency executive session of the Moab City Council, the entire police force was put on probation due to a lack of effective law enforcement.
- An open house was hosted at the new City Hall offices on Center Street.

Of Special Note:

Guides, Moab born locals, Kyler Carpenter and Dusty Simmons have chosen April eighth, two thousand as their wedding day.

AND

Guides, John and Susette Weisheit set off on 02/02/2000 with two rafts and each other for a thirty day Grand Canyon trip. I hear they are still washing laundry.

I. Know Your Federal Agencies

DOI ~ Department of the Interior, executive department of the United States government that serves as the nation's principal conservation agency. Established by the Congress of the United States in 1849, the department is headed by a secretary appointed by the president with the approval of the Senate. The department's responsibilities include protecting and conserving the country's land, water, minerals, fish, and wildlife; maintaining national parks and recreation areas; and preserving historic places. It also provides for the welfare of Native American reservation communities.

In 1988 the department managed more than 220 million hectares (550 million acres) of federal resource lands; about 340 units of the national park system; 70 fish hatcheries and 442 wildlife refuges; and numerous reclamation dams. The Department of the Interior comprises numerous federal agencies, including the Bureau of Indian Affairs, the United States Fish and Wildlife Service, the National Park Service, and the Geological Survey.

In the United States, extensive reclamation projects began with the enactment in 1902 of the Reclamation Act, which was established to stimulate the economic development of 16 sparsely populated western states. Since then, the Reclamation Service, now called the Bureau of Reclamation, has supervised many federal projects that supply water and power for use in agricultural irrigation, industry, flood control, preservation of fish and wildlife, domestic needs, and recreation.

Reclamation of coastal areas is also possible where offshore or tidal marshlands are covered by shallow water. Many countries have reclaimed land by construction of ditches and drainage of land between dikes and the natural coastline. More recently, many states have enacted legislation requiring mining companies to restore and re-vegetate strip-mined land after a mining operation is abandoned.

Reclamation projects can have harmful effects on the environment. For example, the application of fertilizers and other chemicals on irrigated land increases the salt content of the soil and of the water returning to the source of irrigation, such as a river.

BIA ~ Bureau of Indian Affairs, agency of the United States government, generally responsible for administering federal policy for Native Americans and Inuits (Eskimos). One of the oldest federal agencies, the bureau was created in 1824. Headed by an assistant secretary, the bureau's headquarters is in Washington, D.C., but most of its employees and resources are scattered among offices on Indian reservations. Most of the bureau's employees are Native Americans.

The Bureau of Indian Affairs provides schools on large reservations where public schools are inaccessible. It also sponsors vocational training and employment programs for adults. The bureau offers technical advice and service to tribal governments on administrative procedures, construction, and economic development projects. It maintains a loan fund to assist individual and tribal businesses. The bureau also oversees the preservation and use of land and other natural resources that are held in trust for tribes by the federal government.

NPS ~ National Park Service, bureau of the United States Department of the Interior, is responsible for conserving natural scenery, wildlife, and historic sites and objects, and providing for public enjoyment of these areas. The National Park Service was established in 1916 by the Congress of the United States. The areas managed by the service are known collectively as the National Park System. The service is headed by a director, who is appointed by the Secretary of the Interior. The park system is administered through ten regional offices. Each parkland area is directed by a superintendant, who oversees the selection and training of staff, organizes recreational programs, and plans conservation activities.

The National Park Service includes more than 350 areas covering about 324,000 sq km (about 125,000 sq mi). The service administers more than twenty types of areas, which can be grouped into four broad categories: natural, historical, cultural, and recreational. Additions to the park system are generally made by acts of Congress. The president of the United States can also make additions. In 1872 Congress established Yellowstone National Park as a public park. Yellowstone was the world's first national park and set a precedent for the preservation of scenic federal lands.

BLM ~ Public Lands, in United States law, term designating largely vacant and unappropriated lands administered by the Bureau of Land Management (BLM) of the United States Department of the Interior. The United States has approximately 110 million hectares (272 million acres) of public land, exclusive of its national parks, national forests, national wildlife refuges, and other land set aside for particular uses. BLM-administered lands are located primarily in the western United States and Alaska.

Three parts to get you started.

II. Acquisition and Disposal of the Public Domain

Following the American Revolution (1775-1783), certain states ceded their claims to lands west of the Allegheny Mountains to the federal government. The government later acquired additional land through the Louisiana Purchase (1803) and other purchases.

The first significant legislation pertaining to the disposal and use of public land came in 1776, when the Continental Congress offered land grants to induce soldiers to desert from the British army. In the early years of the American republic, many national leaders saw public land as a source of government revenue, and public policy was directed toward the sale of land; however, the policy of selling public land was never highly successful.

Grants of public lands were awarded by the Congress of the United States to encourage the construction of canals, wagon roads, and railroads. Other grants were made to colleges to promote the teaching of agriculture and the mechanical arts (see Land-Grant Colleges). Beginning with the creation of Yellowstone National Park in 1872, many national parks, forests, and wildlife refuges were carved from the public domain.

A general change in the policy of public land disposal came with the passage of the Homestead Act in 1862 (see Homestead Laws). By 1932 more than one million settlers were drawn to public land in search of farms, and by 1962 all agricultural land had passed from public ownership.

III. Rules for Administering the Public Lands

In 1812 Congress established the General Land Office within the Treasury Department to oversee public-land disposal. This office was transferred to the newly created Department of the Interior in 1849. In 1934 Congress passed the Taylor Grazing Act to provide for the leasing of public land for livestock grazing and established the Grazing Service within the Department of the Interior to administer the act. The Grazing Service was combined with the General Land Office to form the Bureau of Land Management (BLM) in 1946. The BLM is responsible for the balanced management of public lands and resources and their various values to best serve the needs of the American people.

INSECTS

antlions

The presence of an antlion is identified by a funnel shaped hole in the sand. The larvae rest at the tip of the funnel. Any wandering insect that slides into the funnel will activate a hair trigger between the antlion's jaw which will shut with force to impale the wanderer.

cicadas

Known best by the high-pitched continuous call of the mating male. Nymphs spend life, several years, underground; the tunnels access plant roots. In the year they become adult, there is a hover period subsurface, a soft adult within an exoskeleton. The emergence from the soil is near sunset. The exoskeleton is shed and left behind on whatever the insect climbs upon. The adult wings are flexed to dry to allow the cicada to fly by midnight as it is a delectable treat for predators.

daddy longlegs

The interesting fact about this arthropod is the slender legs will break off much like a lizard's tail when it is necessary to escape. Daddy longlegs' mouth parts are not fanged like spiders, but like scorpions with chewing mouth parts. The scientific name Opilio means shepherd because the legs are likened to the stilts shepherds used to get aloft to count their sheep.

shrimp

Fairy shrimp and tadpole shrimp feed on microorganisms in the mud. The life cycle is completed in a few weeks about the time the water source dries up. The eggs endure the heat and are perhaps spread from the mud on the feet of birds. Tadpole shrimp resemble trilobites. Fairy shrimp are almost transparent, swim upside down, and the males have a large additional antennae to clasp the female to mate.

creosote woolly gall

This bright reddish brown intrusion looks like a parasitic plant growth not an accumulation of an insect. A tiny fly deposits an egg in a terminal bud, which hatches a red grub. The plant grows the gall around this feeding grub. By residing in the creosote the grub is protected from disturbance by herbivores because the creosote produces defensive chemicals to divert chomping.





ARCHES - In 1929 an area of 270,000 acres were set aside for a National Monument. By 1971, 73,000 acres, much of the Maze, were added and preserved as park land. Walt Dabney added more acres in 1999.

CANYONLANDS - In 1964, 338,000 acres were delineated into three regions: Needles, Island -in-the-Sky and Maze districts. Early Native Americans knew the Maze as "Land of Standing Rocks" or *Toom-pin wu-near' tu-weap*.

NATURAL BRIDGES National Monument - 7,800 acres to protect three sandstone bridges in 1908 . Sipapu, Kachina and Owachomo span 180 feet to 268 feet at heights of 106 to 220 feet above streambeds.

La Sal Mountains - La Sal means salt in Spanish. The Spaniards Dominguez and Escalante named it during their 1776 travels through these lands. Hayden would map the range a hundred years later, labeling the range La Sal, although it had also been referred to as the Elk Mountains. The Miner's Basin attracted hopefuls in the 1800s, enough to set up a general store, saloons, two restaurants, and a livery stable. Aside from this 10,000 people were a few hundred single men in the Bachelor Basin. These several communities were connected by what is now known as the Trans La Sal Trail. Presently, timber, livestock and recreation sweep users onto the land. Taylor Flats was named for *Times Independent* Sam Taylor's family back when they ran cattle up in there. His son Zane rafted commercially for a Moab outfitter before he began to join his father at the press.

Mt. Peale - San Juan County's highest peak at 12, 721 feet. An account says it is named for its reverberations and peals when the thunderstorms. The Hayden Survey of 1875 lead by Henry Gannett and James L. Gardner also had a mineralogists named Albert Peale along. This group of individuals mapped much of this region.

Mt. Waas - Grand County's highest peak at 12,331 feet. The Hayden group had a Native American guide for whom Waas and Mt. Tomasaki was named. (Tomasaki is located in the central range of the La Sals). Mount Tukuhnikavats is Paiute for "where the sun sets last". Mount Mellinthin comes from a Moab forest ranger, Rudolph E. Mellinthin who died on August 23, 1918 by the gunshot of a draft deserter he was apprehending.

Scott, David L. and Kay W., National Park Areas Western States, The Globe Pequot Press, Chester Connecticut, 1992.

Van Cott, John W., Utah Place Names, University of Utah Press, SLC, UT, 1991.

Huff, Paula and Wharton, Tom, Hiking Utah's Summits, Falcon Publishing Company, Inc, Helena and Billings Montana, 1997.

Reader's Digest, Our National Parks, Reader's Diegest Association, USA, 1985.

Riparian Ecology

Richard Valdez taught a zesty five day condensed edition of riparian ecology. I had to secure permission to reprint the suggested reading list from Valdez course after writing 'Elements of Leadership' in Volume 5 Issue 3 about the richness of subjects also to be found in the bibliography. I've determined Valdez is an assured teacher and surmise these readings will be pertinent to those of us perpetuating our study of the Colorado Plateau.

For the first time I heard that the Colorado Squaw fish had a name change in the past year. Native Americans expressed concern about the utilization of "squaw." So listen up when someone mentions the Colorado Pike Minnow. You do know the fish.

The coolest element about this course was relating to Dr. Valdez's illustrations about water levels in the course of the last decade. I don't run into many who have remained around the river that long and have had similar observations about the phenomenon of hundred year floods, dam restitution, relationship of non-native growth and the entrenched meander. The terminology sustained me. I'm in the habit of basic-sizing concepts for laymen, children, foreign speaking entities, and entry level guides that terminology is oft foregone. Let me share with you some of my favorite riparian ecology vocabulary.

Aquatic lives are growing or living in or on the water. Xeric pertains, not only to a terrestrial zone, but, specifically, dry lands. In between these areas is a habitat that is moderately moist, the mesic region, which is often the riparian.

In Grand County, land was purchased to set aside a unique and vital edge of the river, the riparian known as the Matheson Wetlands, managed by The Nature Conservancy. Federal regulation, section 404 of the Clean Water Act, specifies that the Army Corps of Engineers is responsible for issuing permits to discharge dredge or fill material into the United States waters, including wetlands. Allochthonous organic matter enrich wetlands when spring run-off rises over the banks, sweeping up debris upstream and redistributing it. This is an instance of the ecology of a lotic (fluvial/flowing) system. On another perspective, lentic (adfluvial/lake) systems, autochthonous organic matter grows from within, like the growth of algae. Photosynthesis must be able to penetrate the water to spur growth.

Where the river is shallow or thin enough for light to penetrate for photosynthetic production and the nutrients are present, it is possible for a flowing water way to also be autochthonous.

A person can't study riparian ecology without considering geomorphology: how an area is shaped by the surrounding geology. Wetlands are a result of geomorphology and give way to a dense and diverse biomass. The razorback sucker reproduction is affected by changes of the historic reckoning of flows into wetlands. Other species have adapted to the narrow canyons that tumble columnar collapse creating a debris flow. This action feeds particles into the river. The grains bear an incipient motion, sulsatating downstream into suspension. The thalwag is the current of velocity and how the energy is

channeled. Where a constriction exists from the peeling of canyon walls into the river, ponding will occur.



Humpback chub

The thalwag is the flow through the constriction into the expansion zone. Here there is a recurrent channel, it runs between shore and a forming sandbar, accelerating towards the upstream end creating a backwater, nursery to many fish. Scour channels are located at the end of sandbars, that deep edge downstream. Chute channels can be thought of as the highwater route, it is often abandoned. Another nursery area is flooded bottomland.

Neat facts about fish:
The razorback hump is a fusion of three bones; humpback chub has a hump of fat and muscle.

Cutthroat trout are native species to the Colorado River. They have pharyngeal teeth. These teeth pull food into the gut like a hinged claw action, they are also binge feeders.
Bonytail has the least known about it and most endangered in North America. In the 1950s - 60s, sportsmen were catching them. Signs of decrease predate the Flaming Gorge Dam, perhaps they were more susceptible to the predication of non-native species and suffer biological extinction. There are so few that they can not find each other. There are now 70 species in the main stem of the Colorado River, 34 of them are predators, when there originally was only one predator, the Colorado Pike Minnow. Life strategies, phonology, of fish are responsible for the unusual adaptations seen in the native species. Some species rely on rheophylic communities, the life that occupies the interstitial voids in a stream system, as in, cobbles. Sand bottoms are ordinarily sterile and life depends on other islands of productivity from the dragging overhanging plants along the shore to alluvial fans blowing in substrate to backwater conditions and flood bottoms.

SUGGESTED READING:

Valdez recommneds the following reading:

American Fisheries Society. 1980. Position paper on management and protection of western riparian stream ecosystems. American Fisheries Society, Western Division. 24 pp.

Armour, C.D. Duff and W. Elmore. 1994. The effects of livestock grazing on western riparian and stream ecosystems. Fisheries 19:9-12.

Baker, W.L. 1990. Species richness of Colorado riparian vegetation. Journal of Vegetation Science 1:119-124.

Bilby, R.E. and P.A. Bisson. 1992. Allochthonous versus autochthonous organic matter contributions-to the trophic support of fish populations in clear-cut and old-growth forested streams. Canadian Journal of Fisheries and Aquatic Science 49:540-5 5 *1.*

Crispin, V., R. House, and D. Roberts. 1993. Changes in instream habitat, large woody debris, and salmon habitat after the restructuring of a coastal Oregon stream. North American Journal of Fisheries Management 13:96-102.

Hawkins, C.P., M.L. Murphy, N.H. Anderson, and M.A. Wilzbach. 1983. Density of fish and salamanders in relation to riparian canopy and physical habitat in streams of the northwestern United States. Canadian Journal of Fisheries and Aquatic Science 40:1173-1185.

Jensen, S. and W.S. Platts. 1987. Processes influencing riparian ecosystems. Pages 228-232 In: Mutz, K.M. and L.C. Lee (tech. coord.) Wetland and riparian ecosystems of the American West. Proceedings of the Eighth Annual Meeting of the Society of Wetland Scientists, May 26-29, 1987, Seattle, WA.

Kauffman, J.B., R.L. Beschta, N. Otting, and D. Lytjen. 1997. An ecological perspective of riparian and stream restoration in the western United States. Fisheries 22:12-24.

Kennett, R. and 0. Tory. 1996. Diet of two freshwater turtles, *Chelodina rugosa and Elseya dentata* (Testudines: Chelidae) from the wet-dry tropics of northern Australia. Copeia 1996:409-419.
Meehan, W.R. (editor). 1991. Influences of forest and rangeland management on salmonid fishes and their habitats. American Fisheries Society Special Publication 19, Bethesda, Maryland. 751 pp.

Owen, O.S., D.D. Chiras, and J.P. Reganold. 1998. Natural resource conservation management for a sustainable future. Prentice Hall, Upper Saddle River, New Jersey. 594 pp.

Padgett, W.G., A.P. Youngblood, and A. H. Winward. 1989. Riparian community type classification of Utah and southeastern Idaho. USDA Forest Service Intermountain Region Publication R4ECOL-89-01, Ogden, UT. 191 pp.

Reisner, M. 1986. Cadillac Desert: the American west and its disappearing water. Penquin Books, New York. 582 pp.

Roper, B.B., J.J. Dose, and J.E. Williams. 1997. Stream restoration: is fisheries biology enough? Fisheries 22:6-1 1.

Occupational Exposure to Bloodborne Pathogens

River guides, jeep guides. Climbing, biking, hunting/fishing, scenic flight, cross-country ski and snowmobile guides.

By Michele Hill, Red Cross Instructor

Your medical training reveals the following. Be proactive for our own protection.

The outfitter/company with whom you work is obliged to describe company policy or standards about the types of exposure an employee can anticipate while performing the job. There must be instruction, annually, about procedures to follow in the event of potential or actual exposure of blood or body fluids. The outfitter must supply protective equipment and train employees about the proper use, location, removal, handling, decontamination and disposal of protective equipment and related contaminant/comtaminatable gear. Employers are to provide gloves, gown, eye protection and ventilation devices as appropriate for anticipated circumstances.

Hepatitis B vaccines must be offered to employees by employers at no cost to the employee for the three shot series. Employees may decline the series and sign a waiver that the series was offered at no charged and you have chosen to refuse the vaccinations. Rule 429-801 states EMS workers get base-line AIDS tests at hire, also at the expense of the employer.

If an exposure plan is not developed in your workplace, assist your employer in strategizing these policies. Write to: Cannon Health Building, 288 N 1460 W, SLC, UT 84116 for a copy of *Occupational Exposure to Bloodborne Pathogens, Final Rule. Federal Register, Department of Labor, OSHA, 29CFR Part 190.1030.* Contact: a Red Cross Instructor to provide *Preventing Disease Transmission* training. Have on hand phone numbers for: Centers for Disease Control (CDC), Atlanta, GA, 30341 - (404)639-3311; Utah Department of Health, Bureau of EMS, Brain Garrett, Infectious Disease Representative - (801)538-6435.

Adventure Medical Kits

P.O. Box 43309
Oakland, CA 94624
1-800-324-3517

designed the following kit for:

Group Size 1-8 people
Trip Duration 1-14 Days.

The contents are:
Comprehensive Guide to Wilderness & Travel Medicine by Eric A. Weiss, M.D.
CPR Life Mask Face Sheild
Illustrated Guide to Life Threatening Emergencies by Eric A. Weiss, M.D.

INFECTION CONTROL
Nitrile Examination Gloves (4)
Antimicrobial Hand Wipe (2)
Biohazard Waste Bag

ESSENTIAL EQUIPMENT
SAM Splint
Hyperthermia Thermometer
EMT Shears
Splinter Picker/Tick Removal Forceps
Duct Tape (5 yds)

WOUND MANAGEMENT
20 cc. Irrigation Syringe
Provodone Iodine Solution USP 10% (1 oz)
Wound Closure Strips (1/4" x 4 - 10)
Tincture of Benzoin (2)
Double Antibiotic Ointment (3)
Antiseptic Towelettes (6)

BLISTER MATERIAL
Moleskin 7"x 4"
Spenco 2nd Skin (1.5" x 2" -2)
Non-Woven Adhesive Knit Bandage 7"x 4"

MEDICATIONS
Extra Strength Tylenol-8
Motrin-8
Dipenhydramine-4
Aloe Vera Gel ¾ oz

BANDAGE MATERIALS
5x9 Sterile Trauma Pad (2)
4x4 Sterile Dressings (4)
2x2 Sterile Dressings (4)
3x4 Non-adherent Dressing (30
Stockingnette Bandage
Swift Wrap Elastic Bandage 3"
Tape 1" x 10 yds
Strip & Knuckle Adhesive Bandages (13)
Cotton Tipped Applicators (4)

OTHER ESSENTIAL ITEMS
Crushproof Pill Vials (2)
Safety Pins (3)
Accident Report Form and Pencil

Wilderness Medical Associates

Emergency Training for Outdoor Professionals
Wilderness First Responder~72 Hours~Course Fact Sheet

•PREREQUISITE
Students must be at least 16 years of age to participate in this course (16 and 17 year olds must have proof of parental consent).

•CERTIFICATIONS AVAILABLE
All students who successfully complete the WFR course will receive a certification card from Wilderness Medical Associates. Certification remains valid for three years. Within three years, graduates may recertify by way of a two day course.

Wilderness Medical Associates' WFR course meets or exceeds all requirements in the National First Responder curriculum. Requirements for certification vary from state to state, so students who successfully complete our course may be eligible for certification in their home state. Contact your state's Emergency Medical Services Office for information. BLS-CPR certification is also included. There are many different levels of CPR; WFR's must maintain a BLS-CPR certification.

•CREDENTIALS
Wilderness Medical Associates' WFR course is widely considered the most complete medical training for outdoor professionals. Our courses are preferred by such organizations as Outward Bound, The National Park Service, The Chesapeake Bay Foundation, many colleges and universities, and the FBI. As Canoe Magazine stated, "Wilderness Medical Associates has become the de facto standard in wilderness medical training."

•CLASS FORMAT
72 hours, over 8 days. Days-off may be added.

Mornings are devoted to lectures and exams.
Afternoons are devoted to practical hands-on sessions and video taped simulations*.
Evenings are reserved for study and assignments.

* Expect two or three emergency rescue simulations with made-up victims and stage blood that will be video-taped for enhanced learning.

•CONTENT
Topics include patient assessment, body systems, equipment improvisation, trauma, environmental medicine, toxins, backcountry medicine, and wilderness rescue.

•BRING
Appropriate clothing for the location and time of year. Remember that, rain or shine, much of our time is spent outside. You will also need a sleeping bag, pens, and a notebook.

•GRADES
Grades are based on attendance (100% required), and performance on both written and practical final exams. Not everyone passes this course.

CONTACT INFO: (888) 945-3633; (207) 665-2707; 9-5 ET; 189 Dudley Road, Bryant Pond, ME 04219© Wilderness Medical Associates, 1996

WILDERNESS PROFESSIONAL TRAINING

Please note: All courses are significantly discounted for local residents and employees of Moab.

Wilderness First Responder: 80 hrs	April 8-16, May 1-12, June 19-30	$450; locals $325
Standard Wilderness First Aid: 20 hrs	April 22-23, June 1-2	$125; locals $95
Advanced Wilderness First Aid: 40 hrs	April 3-6, May 23-26	$225; locals $190
Wilderness Medicine Instructor Training: 40 hrs	June 7-11	

Contact: PO BOX 759 • 76 South Main Street, Suite 16 • Moab, Utah 84532
Toll free: 877-536-0465 • Local Phone: 435-259-8749 • Fax: 303-285-3480 ext 2981
Web: www.wildtrain.com E-mail: info@wildtrain.com

Wilderness Medicine Institute

•**Wilderness First Aid** (2 days - 16 hours)

Originally called Backcountry Medicine, SOLO's WFA course was first offered in 1975. Since that time thousands of trip leaders and outdoor enthusiasts have been certified at this level. Many organizations use this course to introduce first aid and long-term patient care to their staff or members. In addition, it is often used for recertification by those with previous WFR certification. Recognized by the American Camping Association, US Coast Guard, and various guides' licensing boards as meeting their first aid requirement. CPR is included in 2-1/2 day courses.

•**Wilderness First Responder** (10 days - 80 hours)

Created to provide outdoor leaders, guides, rangers and counselors with the knowledge needed to deal with crises in remote settings, this 80-hour certification course meets all DOT national standards for First Responder with additional protocols for extended care situations. Like all SOLO programs, the emphasis of the WFR is on prevention and decision making.

•**Wilderness Emergency Medical Technician**

This certification course is designed for outdoor leaders, search and rescue team members, backcountry rangers, rural ambulance attendants, and others who provide emergency care in remote settings. While fulfilling the 1994 DOT EMT requirements for certification, this 160-hour program significantly expands the required topics to address the issues involved in extended care and introduces backcountry rescue techniques. (20 days - 160 hours)

•**Wilderness Emergency Medical Technician Module**

This Module, also known as an upgrade, combines wilderness/rural issues with applications of emergency care and rescue and is intended to upgrade EMT's to Wilderness EMT's (WEMT's). The curriculum is based on the NAEMSP Rural Committee's Guidelines and the Wilderness Medical Society's WPHEC curriculum. (5 days - 40 hours)

•**Wilderness First Responder Module** (5 days - 40 hours)

•**Wilderness Trauma Life Support** (3 days - 24 hours)

•**Advanced Leadership and Emergency Care** (25 days - 200 hours)

Outdoor leaders need a balance of wilderness medicine and leadership skills along with prevention, survival and rescue training. Combining the emergency medicine necessary to deal with a medical emergency in the backcountry with the leadership skills that can so often prevent a medical emergency from occurring, ALEC fulfills the DOT FR curriculum as well as the SOLO WFR. The most experiential of our programs, ALEC offers general training in leadership skills like communicating in a group, community living, decision-making, and problem-solving as well as specific training in backcountry navigation, dangerous environments, weather reading, bivouac, and minimum impact camping.

•**Wilderness First Responder Refresher Training** (2 day -16 hours)

This two-day review is designed to recertify Wilderness First Responders and is open to graduates of SOLO, NOLS, WMI, and WMA WFR courses. CPR renewal should be completed before the course but may be available during a course with prior arrangements.

Additionally, these are available:

•Wilderness EMT Recertification Training (4 days - 32 hours)
•Emergency Medical Technician - Basic (15 days - 120 hours)
•EMT Refresher Training (3 days - 24 hours)
•First Responder Refresher Training (2 days - 16 hours
•Cardiopulmonary Resuscitation Programs (4 - 8 hours)
•EMT Continuing Medical Education Programs
•Pediatric Trauma (16 hours)
•Trauma Review Course (16 hours)
•Ski Patrol Review Course (16 hours)

•**Advanced Wilderness First Aid** (4 days - 32 hours)

As a follow-up to Wilderness First Aid, the AWFA course provides not only more, in-depth information on topics already covered including medical and environmental emergencies but also presents new skills like improvising litters and litter-carrying techniques. More hands-on practice with greater emphasis on leadership is a key element.

Two day formats are taught as "Pt. II" with WFA as prerequisite. Four day formats are Pt. I and Pt. II.

•Up the Creek Without a Jumpkit (4 hours)
•Run for Cover: An Exploration of Bivouac (4 - 8 hours)
•Backcountry Rescue (2 days - 16 hours)
•Travel Medicine for the Adventurer (2 days - 16 hours)
•Wilderness Adventure Travel Advisory (3 days - 24 hours)
•Customized Staff Training

For additional information, call SOLO at (603)447-6711 or send email to: solo@stonehearth.com

WMI of NOLS in Moab, Ut
March 11- 19, 2000
CPRG Member Discount
http://wmi.nols.edu
WMI does come to moab so keep in touch if this is for you

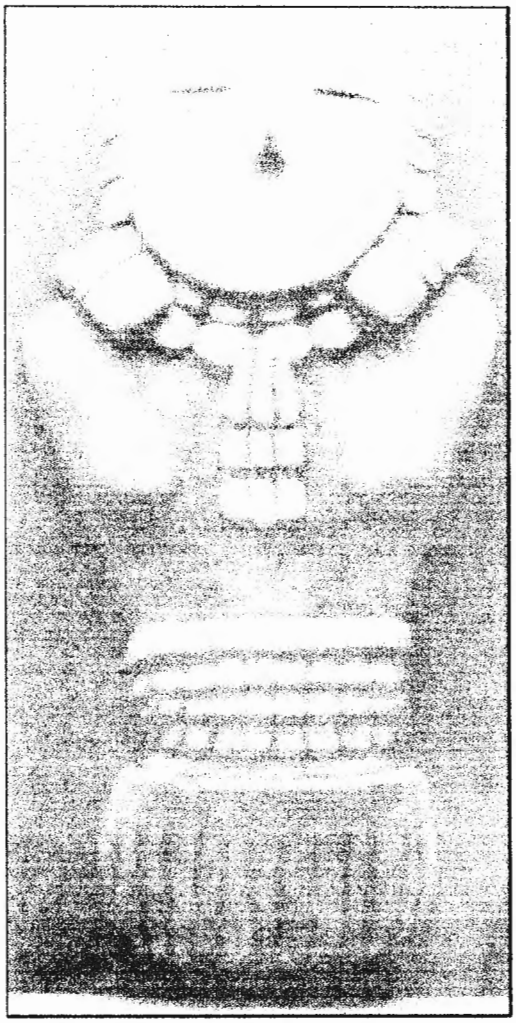
The Pilling Figurines

These figurines were discovered in March 1950, by Clarence Pilling of Price, Utah in a small side canyon of Range Creek where he owned a ranch at that time. They have since been called in archeological circles, the "Pilling Figurines". The rock overhang where they were found is also known as Pilling's Cave and shelters an irregular area about 100 feet long with a maximum width of 12 feet, and contained, besides the eleven figurines on a natural shelf at the back, a ruined oval room about 10x6 which appears to have had a stone foundation and wooden superstructure, some of the poles of which showed evidence of stone tools. On the cave wall behind the room is a pictograph in white paint 3 ½ inches high of a trapezoid-shape figure. Other artifacts noted were a deeply troughed metate (grinding stone) and a single piece of gray pottery.

All of the figurines are made of unbaked clay and are decorated with applied clay ornaments showing remarkable skill and artistry. The late Noel Morss of the Peabody Museum of Harvard University, who had written, concerning the Pilling Figurines ("Clay Figurines of the American Southwest"), that they were all made by the same person and in pairs. He said, "It is remarkable that such delicate objects should have remained undisturbed and largely undamaged by humans, animals, or the elements, in such a location for the several centuries which have undoubtedly elapsed since their manufacture. "

The figurines, while still soft, were laid on the bottoms of baskets or trays as the imprints can be seen on the back of several of the specimens, and apparently they were intended to be viewed from the front only because the back usually does not contain decorations or ornaments. They range in size from four to six inches, and still show evidence of red, buff and black paint.

Morss further said: "The sexes are clearly distinguished in both anatomy and dress. The females have breasts and wide hips and wear aprons. The men wear breechclouts, except for one, which has a sort of kilt. The women dress their hair in heavy bobs, bound with cord, hanging down over the shoulders... the necklace and belt employ pear shaped



pendants, pierced near the upper end, or disc-shaped objects with a hole for attachment near the edge, rather than in the center. Above and below the eyes, which are formed by transverse slits, are usually present painted stripes."

Morss had numbered and paired the figurines according to sex, color variation in painting, etc. There is one female (#1) whose mate may have been lost or destroyed. Morss dated the Pilling Figurines as probably having been made in the 11th century, which means they are in the neighborhood of 800 or 900 years of age.

The Pilling Figurines are considered in archeological literature to excel, both in beauty and technical construction, any other like find of comparative age in the American Southwest. They have been sought by many outstanding museums of this country, and the College of Eastern Utah Prehistoric Museum of Price, Utah, is indeed grateful to Mr. Clarence Pilling and the BLM for exhibition of the figurines.

Pamphlet from the College of Eastern Utah Prehistoric Museum, Price, Utah.

Rules and Regulations Regarding Rock, Mineral, and Fossil Collecting in Utah

by Geologic Service Staff Utah Geological Survey, revised April 1996

Utah's rock, mineral and fossil collectors must adhere to rules and regulations established by owners of the lands on which they wish to collect. Prior to collecting, rockhounds should determine ownership of the lands they intend to visit and familiarize them selves with the regulations that apply to collecting on those lands. Site-specific land-ownership maps may be consulted at the recorders office in the county in which you intend to collect. Utah's lands are managed by the federal government (Bureau of Land Management, U.S. Forest Service, National Park Service, or the Bureau of Indians Affairs), state government (School and Institutional Trust Lands Administration), and private owners (including local governments). Rockhounding permits are required to collect on some government lands, and permission is required to collect on private lands.

FEDERAL LANDS

About 67 percent of Utah's lands are managed by the federal government. Most of this land is open to collection except for National Parks, National Monuments, Indian Reservation, military reservation, dam sites, wildlife refuges, and wilderness areas.

Bureau of Land Management (BLM) Lands: The casual collector may take small amounts of petrified wood, invertebrate and plant fossils, gemstones, and rocks from unrestricted federal lands in Utah without obtaining a special permit if collection is for personal use, non-commercial purposes. Collection in large quantities or for commercial purposes requires a permit, lease, or license from the BLM.

Collectors of petrified wood on BLM land are subject to slightly different rules. Collecting for personal use has a maximum limit of 25 pounds plus one piece per day but cannot exceed more than 250 pounds per calendar year. Use of explosives and/or power equipment is forbidden. Collectors wishing to resell their petrified wood specimens must apply for a permit.

National Parks and Native American Lands: Collecting on these lands is prohibited.

U.S. Forest Service Lands: Rock, mineral, and fossil collecting on lands managed by the U.S. Forest Service requires a permit. Although collecting is allowed in most districts and permits are free, collecting rules vary among districts. Seek the rules to avoid penalties.

STATE LANDS

Most state-owned property is managed by the School and Institutional Trust Lands Administration (Trust Lands) and a Rockhounding Permit is required to collect on these lands. A fee is charged for the annual permit. Rockhounds may collect up to 25 pounds plus one piece per person per day, up to a maximum of 250 pounds per year. Collectors cannot operate in state or local parks.

To remove rock, mineral, or fossil specimens from state lands, commercial collectors must also follow specific regulations, and apply for mineral leases. Materials such as building stone, limestone, gemstones and volcanic materials are commonly collected by amateur collectors with permits but require leases for commercial collectors. Obtain permits from: State Lands @ 355 W. North Temple 3 Triad Center Suite 400, Salt Lake City, UT 84180-1204 (801-538-5508).

PRIVATE LANDS

To collect you must have permission from the land owner prior to entering the property.

NOTE: Dinosaur and other vertebrate fossils may not be collected in any instance except by permits issued to accredited institutions. For more information, contact Paleontology and Paleoecology program, Utah Geological Survey, 1594 W. North Temple, Salt Lake City, UT 84114-6100.

SAFETY TIPS

Rockhounding can be a potentially dangerous hobby. To minimize the risk of injury, please remember . . .

- Wear protective clothing (safety glasses, gloves, boots).
- Do not work alone, and let someone else know your schedule.
- Carry a first aid kit.
- Watch for others, and when on slopes, never work directly above or below anyone.
- Do not enter abandoned mines or shafts.

WESTWATER CANYON ALONG THE COLORADO RIVER PROTECTED FROM GOLD MINING
MINING COMPANY PULLS OUT AS PART OF LAWSUIT SETTLEMENT

Date: Tuesday, 23 Mar 1999 11:55:41 EST

Greg Trainor, Skip Edwards, Roger Flynn; Friends of Westwater, Friends of Westwater Western Mining

Grand Junction, Colorado: March 22, 1999: Pursuant to this week's settlement of a lawsuit brought by the U.S. Department of Justice against a mining company, spectacular Westwater Canyon along the Colorado River will be protected from gold mining. This settlement is a triumph for Friends of Westwater Canyon, a Grand Junction Colorado-based river conservation group, which succeeded in its four year effort to halt on-going gold placer mining activities inside of the Westwater Canyon Wilderness Study Area.

The United States Department of Justice, after filing a lawsuit in federal district court in Salt Lake City against Pene Mining Company of Grand Junction in late 1998, announced that it had settled its claims against Pene Mining for trespass, non-compliance with environmental regulations, and on-going impairment of a wilderness study area. The settlement includes the relinquishment of all placer and lode mining claims within the WSA and the immediate removal of mining equipment, backhoe, and trailers. Reclamation of disturbed lands will become the responsibility of the BLM.

Upon hearing the news from its legal counsel, the Westem Mining Action Project of Boulder, Colorado, Friends of Westwater President, Greg Trainor, thanked all of those who contributed their time and their money to support this effort. Trainor said: "We could not have done this without the support of the Utah Guides and Outfitters, the Southern Utah Wilderness Alliance, Colorado boaters and outfitter organizations, the Mineral Policy Center, and a host of individuals who contributed to save a very special place." Trainor continued: " This is a great victory for a true grassroots organization."

The settlement also closed a long standing dispute over the legality of the mining claims held by Pene Mining. In 1998 the Department of Interior issued a separate complaint against Pene Mining declaring the mining claims invalid. Friends of Westwater and the Southern Utah Wilderness Alliance were parties to that case. This case, pending before an Administrative Law Judge in Salt Lake City, was filed after a lengthy mineral validity exam concluded there was no economic mineralization at Westwater. Earlier the Interior Department had withdrawn the Westwater WSA from mineral entry for 50 years. The relinquishment of the claims will moot the claims dispute since there are no more mining claims in the area that has been withdrawn from new claims.

The battle regarding Westwater Canyon is not over. Westwater Canyon WSA, part of the Citizens Proposal for Wilderness in Utah and an area recommended by the BLM for wilderness, needs to be officially protected. Until that happens, the Friends of Westwater will be working to help the Utah Wilderness Coalition and the Southern Utah Wildemess Alliance to achieve its goals in Utah.

Trainor concluded: "FOW is not against mining, per se. It is against mining when conducted in the wrong places, in the wrong way, and without adequate oversight. The fact that mined land reclamation and environmental repair remains for the public to complete at Westwater is one of the problems with the Mining Law of 1872 and the administration of our public lands."

"It was a shame that the federal government was forced to spend resources and money in their multi-year effort to remove uneconomic and illegal mining," noted Roger Flynn, attorney with the Western Mining Action Project in Boulder, Colorado, which represents Friends of Westwater. "However, the BLM should be applauded for recognizing that some places such as Westwater Canyon are more precious than gold. Unfortunately, the 1872 Mining Law which allowed the filing of the mining claims in the first place is still on the books and continues to hold other special places around the West hostage."

Copyright The Times-Independent

Letters to the Editors

Thanks to the people of Moab

Dear Editor,

On Thursday, October 7, 1999, you ran a news article about an unidentified, 29 year old man who drowned in a rafting accident in Westwater Canyon's "Room of Doom." That man was my son Max Christopher Turner. The other people in the raft were myself, Max's 19 year old brother Doug, a friend of mine and Max's roommate. Needless to say the horror of that heinous afternoon will be with us forever.

While not an expert group of rafters, we were fairly experienced. We had run Westwater Canyon together for the last three years and we have done several other river trips including "Gates of Ladore" and the main portion of the Salmon River in Idaho. We are also a safe group. We had all of the required safety equipment with us on the raft and we were not behaving recklessly. What happened to my son was a terrible "freak" accident. The moment our raft flipped there was nothing anyone present could do to save his life. Max was a large, strong man and due to this he held on longer than anyone thought possible. In the end, hypothermia set in and, being exhausted to his limit, he no longer was able to continue his valiant struggle to live. After nearly an hour he finally let go bravely and I believe peacefully.

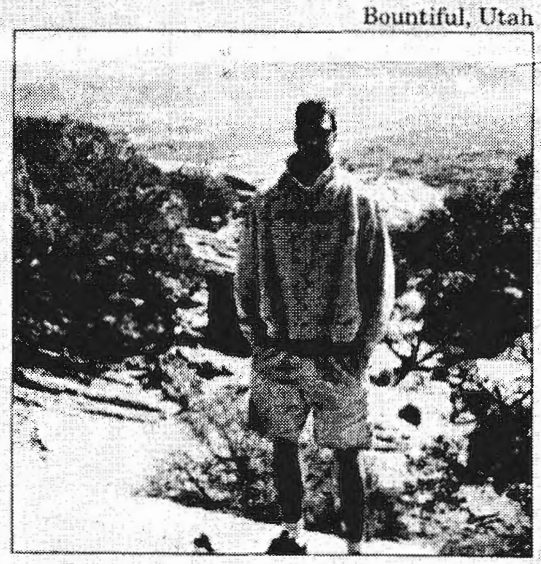
Max was a wonderful and accomplished human being. He graduated from the University of Utah and had a Master's Degree from Arizona State University. He was employed as an environmental engineer. At the time of his death he was working on the environmental impact study for the development of the east side of the Jordanelle Dam in Heber, Utah. He was also doing a noise study for a wilderness area in northern Idaho. Max was an avid skier, volleyball player, back packer and participant in the Moab Half Marathon. He just thoroughly enjoyed all time spent on outdoor activities. He was extremely loving and always conscious of spending time with his family and friends. Max was also a big brother, to a twelve year old boy, with the Big Brothers/ Big Sister Organization. He was always the one organizing gatherings so he could spend time with the people he cared about.

Max's body was not found until November 6, 1999. During the time when he could not be located our family nearly collapsed from grief. One of the steadfast, helping factors that got us through this nightmare was the town and citizens of Moab. You should be proud of the way your community comes together when people are in need. I would like to extend special thanks to the following: Bowen's Motel for putting us up on a moment's notice for many nights without charge. Ted Cooley at the Mondo coffee shop for having free sandwiches ready early every morning we went out to the river to wait for the searchers. Eddie McStiff's for free dinner. Unfortunately I cannot remember the name of the photo shop that, free of charge, carefully dried out our film, developed and made enlargements of pictures taken of Max two hours before he died. Those pictures are the most precious possessions I have. I must also thank Sheriff Nyland for his kindness in handling the search and his respectful, fragile treatment of our family. Frank from the search and rescue did everything possible to retrieve Max's body and organized an expert search. Steve Swanke, Marc Yeston, Alyssa VanSchmus, Mike Hill and Chad, rangers from Canyonlands National Park Service, have my lifelong gratitude for their tenderness, respect for my family and their many repeated trips up the river to look for my beautiful son. Last, but not least, I would like to extend my heartfelt gratitude to the kayakers who risked their own lives to save Max, and who stayed with his little brother and myself throughout the cold night, on the river, until we were rescued the next morning.

Painful memories may make it impossible for me to return to Westwater Canyon or Moab, at least in the near future. But, I will always have fond thoughts for the little town that was there for Max's family and friends during their time of need. You will not be forgotten. I cannot thank you enough.

Sincerely,

—Danielle Benson
Bountiful, Utah



Max Turner, shown here on the day of the Moab Half Marathon in March of this year.

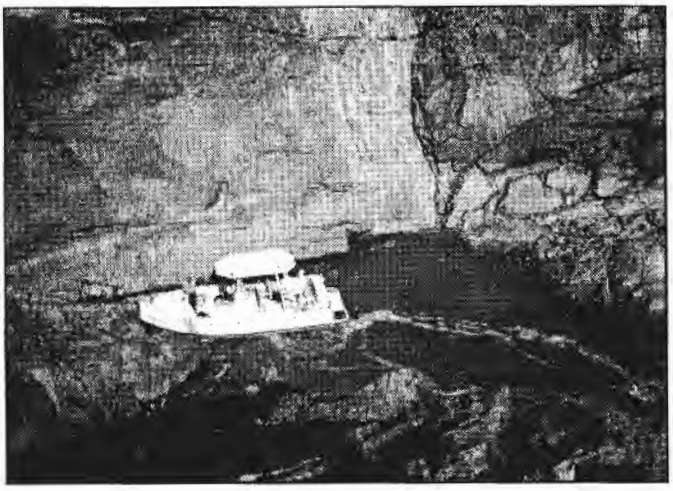
Park Service Replaces Zodiac with a Custom Whitewater Rescue Jet Boat



Park Service operates a jet boat named in honor of Kent Frost.



On 6/17/99 The USNPS Frost upruns the Big Drops. Seen here at Big Drop 2. Operated by Mike Hill.



The Frost in the Room of Doom of Westwater Canyon. Joining Grand County Search and Rescue efforts to locate Max Turner.

This acquisition serves to replace the 19 ft. Zodiac "inflatable" motorboat that has been the trademark of the River District of Canyonlands National Park. The USNPS Frost is a 24 ft Rigid Hull Inflatable Boat (rhib). It is constructed of aluminum with a rigid foam collar. The Frost's propulsion is a Hamilton 291Jet that is powered by a Mercury Marine 502 V-8.

The boat's transom is hinged to provide decks that lower at the rear to easily retrieve a person in a rescue operation, or to instantly bail the boat in a rough, white-water environment. The gunnels were designed lower than normal to also facilitate retrieving swimmers over the side. Another feature of the Frost is the windshield, top and rear arch all remove in on piece to lighten the boat a couple of hundred pounds and give the boat a more stable profile in floodwater Cataract Canyon. With the top on the boat it is able to carry a payload safely and with remarkable stability. The boat's design has a solid foam collar covered with neoprene fabric that was fabricated by Demaree Inflatable Boats. This serves as a fender and added buoyancy.

This craft was created as a whitewater rescue/work boat. Technologies were combined from ocean-going rescue boats (rhib), and whitewater boats to create this unique hybrid adapted for use in the rivers of our region, primarily the Green and Colorado Rivers and Lake Powell, providing service in extremes of a shallow river to the floodwaters of Cataract Canyon.

The boat is outfitted with a full EMT kit, two back-boards, technical rope rescue equipment, reach poles, throw floats, and drinking water. To keep the boat functioning through minor mechanical difficulties, tools, spare parts and fluids are on board, and if that fails there is a small outboard motor that can be mounted on the stern, so the boat can "self rescue" to shore.

In the spirit of multi-agency cooperation, the NPS with the FROST assisted Grand County Search and Rescue in Westwater Canyon. The Frost, operated by Ranger Steve Swanke was able to rescue 9 boaters and four kayaks from just below Skull Rapid in one trip.

MetalCraft Marine of Kingston, Ontario Canada, fabricated the boat. This is one of the many custom boats they have manufactured for the NPS. Ranger Mike Hill of Canyonlands National Park conceived the overall design concept. He, working with the NPS Regional Equipment Specialist and the team at Metal-Craft Marine (naval architect, designers, operators, and fabricators) came up with this unique craft.

A Brief History of a Long Debate:

Fifty Years of Opposition to Glen Canyon Dam

By Mathew Barrett Gross

In November of 1996, when David Brower convinced the Sierra Club's Board of Directors to endorse the draining of Powell Reservoir, an idea that had previously been held by a relatively select group of river runners, environmentalists, and Edward Abbey fans was hoisted on the American public. That same year had seen the founding of the Glen Canyon Institute, and, less than a year later, hearings were held in the U.S. House of Representatives on the merits of the Sierra Club's proposal. To those unfamiliar with the controversy that surrounds Glen Canyon Dam, the proposal may well have seemed to come from nowhere. In fact, however, the Sierra Club's proposal, the founding of Glen Canyon Institute, and the recent formation of the Glen Canyon Action Network are but chapters in a longer story of opposition to the inundation of Glen Canyon.

Although Glen Canyon was first suggested as a dam site in 1919 by E.C. LaRue, Chief Hydrologist of the U.S. Geological Survey, it wasn't until the introduction of the Colorado River Storage Project (CRSP) legislation in 1949 that the likelihood of a dam in Glen Canyon became serious enough to warrant organized opposition. In 1954, a group of environmentalists in Utah, led by Ken Sleight, formed the Friends of Glen Canyon, whose objective was to revive a near-forgotten 1938 proposal for a 4.5 million acre national monument that would encompass Glen Canyon and much of the Escalante region.

Friends of Glen Canyon failed, obviously, to reach their objective, and their failure was as much a result of loose organization as it was a result of being drowned out by the famed battle for Echo Park. When first introduced in Congress, the Colorado River Storage Project legislation contained provisions to build a dam at Echo Park, in Dinosaur National Monument (as well as at Glen Canyon, Flaming Gorge, and Bridge Canyon). It was the proposal to build a dam inside a unit of the National Park System, however, that sparked a national debate. For six years, the Sierra Club, the Wilderness Society, and a coalition of nearly seventy environmental groups from around the nation worked to defeat the Echo Park proposal, and they eventually won. The success of the battle to save Echo Park was galvanizing-- historians mark the Echo Park debate as the birth of the modern environmental movement in the United States.

It should be noted, however, that there was never a "trade" of Echo Park for Glen Canyon. Glen Canyon was always in the CRSP legislation, and the objective of the Sierra Club and its coalition during the CRSP debate was the protection of the integrity of the park system. When the CRSP was passed by a slim Congressional majority on March 1, 1956, the Echo Park dam proposal was gone from the CRSP; the Sierra Club had also won a proviso in the CRSP for a dam to be built to protect Rainbow Bridge National Monument, which was in danger of being encroached upon by the rising waters behind Glen Canyon Dam. Thus, at least publicly, the Sierra Club never relented on its main objective of protecting the national park system.

Having achieved victory at Echo Park, however, it soon became clear to many that Glen Canyon, though not a part of the park system, was a place of undeniable beauty, worthy of protection in its own right. Among those who came to this realization was David Brower, then-Executive Director of the Sierra Club, who felt a sense of personal responsibility for the Glen's loss.

The 1960's were a time of anguish for those who knew and loved the Glen before the dam, but, by the end of the decade, that anguish had given way to anger. In 1970, Friends of the Earth and Ken Sleight sued the federal government for allowing the waters of the reservoir to enter nearby Rainbow Bridge National Monument, in violation of the CRSP. The District court sided with the environmentalists, but the decision was reversed by the Tenth Circuit Court of Appeals. Sleight and Friends of the Earth appealed to the U.S. Supreme Court, but the court refused to hear the case, and the water rose into Rainbow Bridge National Monument.

1975 saw the publication of Edward Abbey's *The Monkey Wrench Gang*, a novel that (arguably) introduced a new generation of outdoor enthusiasts to what was lost behind the dam. Many observers have pointed to the novel as influential in the formation of the environmental group Earth First!, and thus it is appropriate, given the focus of the novel upon the destruction of Glen Canyon Dam, that Earth First! launched itself into the headlines by unfurling a three-hundred foot plastic "crack" along the front of the dam in 1981.

Like many Earth First! actions, "cracking" the dam was both creative and confrontational. By 1997, however, the movement to drain Powell Reservoir, led by the Glen Canyon Institute, had advanced beyond theatrics and into the realm of hard science. Currently, the Institute is conducting a Citizen's Environmental Analysis, based on NEPA guidelines, to study the effects of draining Powell Reservoir. Concurrently, the newly-formed Glen Canyon Action Network is working to build grassroots support for the restoration of Glen Canyon. Thus the movement to drain Lake Powell is alive and well, and, forty-six years after the formation of Ken Sleight's ragtag group, Glen Canyon still has its share of friends.

Thank you Mathew for your contribution.

GLEN CANYON ACTION NETWORK

MEDIA ADVISORY

For Immediate Release Contact: Owen Lammers
February 11, 2000 (435) 259-1063

Technical, Economic and Legal Hurdles to Draining Lake Powell net Insurmountable, but Politics Could be, New Analysis Reveals

The Stanford Environmental Law Journal recently published an 88-page analysis of the Sierra Club's 1996 proposal to restore Glen Canyon on the Colorado River by draining Lake Powell reservoir.

The extensively researched analysis titled, "Undamming Glen Canyon: Lunacy, Rationality, or Prophecy" was written by Scott Miller, an attorney with the Office of the Solicitor General, U.S. Department of the Interior. Mr. Miller examined: existing laws pertaining to the management of the Colorado River; technical and economic issues pertaining to anticipated impacts on water storage and energy supply; and the variety of impacts associated with changes in the recreational uses within Glen Canyon. Some key findings are excerpted below.

LAW OF THE RIVER: If we take a close look at the [Sierra Club] proposal, we may find that there is flexibility still hidden in the rigid Law of the River. We may also find crucial benefits to making the Law of the River itself more flexible.

WATER: Practically speaking, the effects of draining Lake Powell on water availability are surprisingly minimal, though not altogether absent. Politically speaking, however, effects on water use are the most difficult problem facing the Sierra Club's proposal.

POWER: Although Glen Canyon's raw generating capacity of 1,300 MW is impressive, it is not irreplaceable. ... Furthermore, there is currently significant surplus of power in the Colorado Plateau region, so there would be a significant amount of time to find alternative sources of raw power. By the time additional sources of power are needed the life-span of Glen Canyon Dam's powerplant may be considerably reduced; in a few hundred years, accumulated sediments will completely eliminate power production from Glen Canyon Dam.

RECREATION: Perhaps the most fundamental question concerning recreation, however, is how much recreation do we really want on Lake Powell and in the Grand Canyon? ... The two-and-a-half million visitors to Lake Powell leave an extraordinary amount of trash on the beaches and on the lake. Along Lake Powell's 2,000 miles of coastline there are only forty-six restrooms. Fouled by human waste, beaches along the lake are periodically closed. Visitors consume about five million gallons of gas on their Lake Powell vacations each year. ... Perhaps present recreation should be limited in any case. Doing so might also limit any costs of draining Lake Powell."

ENVIRONMENT: In sum, environmental costs and benefits associated with draining Lake Powell are presently unclear. Here, perhaps more than any other issue, our current knowledge is severely insufficient to accurately evaluate the consequences. At the same time, the [Colorado] Plateau's native fishes, the Sea of Cortez's vaquita and totoaba, and the delta itself may not wait for decades of study.

CONCLUSIONS: This preliminary analysis of water, power, recreation, and the environment reveals that some of the common assumptions about the importance of Glen Canyon Dam and Lake Powell may not be accurate. Even so, analysis has its limitations. There are values involved that simply cannot be balanced with dollars or any other economic valuations. ... Just look to the Florida Everglades, where the federal and state governments have already spent $3.5 billion and plan to dedicate nearly $8 billion more to habitat restoration, or the Columbia River where $3 billion already has been spent trying [to] save and restore the salmon and steelhead.

"Although preliminary, Miller's analysis represents the best compilation of facts to date

concerning the proposal to drain Lake Powell. The barriers to a restored Glen Canyon are not so much technical or economic, as political. It was politics that inundated Glen Canyon, and it will be a people's movement that will bring about its restoration," said Owen Lammers, Executive Director of the Glen Canyon Action Network, the Colorado River advocacy group based in Moab, Utah.

"This analysis helps to further awaken the public to the potential of reviving the declining ecosystems in the Grand Canyon," said Lisa Force, of the Tucson-based Center for Biological Diversity, the nation's leading advocate on behalf of endangered species. "The more people who become aware that the Grand Canyon is itself endangered by Glen Canyon Dam, the sooner the dam's decommissioning will become a reality."

Although Mr. Miller is in the employ of the Interior Department, the analysis is his own, and in no way represents any official government position on the future of Glen Canyon Dam. The Stanford Environmental Law Journal also published a foreword by Dr. Richard Ingebretsen, President of the Glen Canyon Institute, based in Flagstaff, Arizona.

Copies of the analysis are available from GCAN at (435)259-1063, or through the fulfillment office of the Stanford Environmental Law Journal (650)725-0183. To obtain contact information for the author, Scott Miller, contact GCAN.

≈≈Glen Canyon Action Network ≈≈ People for the Integrity of the Colorado River ≈≈
P.O. Box 466 ♥ Moab, UT 84532 (21 N. Main St.) ♥ Tel: 435.259.1063 ♥ Fax: 435.259.7612
email: info@drainit.org <http://www.drainit.org/>

Tampa Tribune, January 15, 2000• Indians get back their land• Associated Press

The government is returning 84,000 acres to the Northern Ute tribe as part of a deal to clean up millions of tons of uranium waste along the Colorado River.

Energy Secretary Bill Richardson announced the agreement Friday at the tribe's headquarters in Fort Duchesne.

The deal, which the Energy Department called the largest return of Indian lad in the Lower 48 states in a century, is subject to approval by Congress.

The land, which is believed to contain oil rich shale deposits, was given to the Utes in 1882. On the eve of entering World War I in 1916, the federal government took it back to create a reserve supply of oil for the Navy fleet. The reserve was never tapped.

"The land is not needed for national security anymore," Richardson said. "The right thing to do is return it. The Utes are the rightful owners."

Under the agreement, the Indians can open the land to oil and gas drilling. They will have to pay a percentage of the royalties to the government.

Tampa Tribune, January 7, 2000•Desert to become treasure•Associated Press

More than 1,500 square miles of soaring, red-hued cliffs, desert dotted with squat juniper and pinon trees and plunging, rocky canyons of intermittent streams that feed the Colorado River. That's the proposed Grand Canyon-Parashant national Monument.

President Clinton is poised to give new federal protection to this area and two others in Arizona and California. Arizona officials are trying to block the President's move.

"If Clinton is interested in public opinion that process is underway. The land in question already belongs to the federal government. A monument designation would prohibit mining and could include other restrictions, such as limits on off-road vehicle use," said assistant to chief of staff Arizona representative Stump.

"By proclaiming these areas as monuments, Clinton is making sure these national treasures are protected not only now, but most importantly for future generations," said Southwest Forest

Continued from the previous page

Tampa Tribune, January 7, 2000

Alliance in Flagstaff, AZ. Interior Secretary Bruce Babbitt recommended three possible new monuments to Clinton. Other than Grand Canyon – Parashant, they are Agua Fria north of Pheonix and California Coastal. It was also suggested to expand Pinnacles National Monument.

Arizona Govenor wrote to Clinton urging him to forego these endeavors. She thinks it is being done for political purposes and does not like the dictates from Washington.

The Times Independent, March 2, 2000 ~ Southern Utah News

Kanab—The Kanab City Council is encouraging its citizens to attend a rally in Page, AZ for the preservation of Lake Powell. The City of Page is asking for support form surrounding communities, by a show of attendance, from individuals and groups who desire to maintain the popular recreation area. The city also reported that an estimated 5,000 people in support of draining the lake will also be at the March 14th rally. The mayor of Kanab has designated a coordination effort to support the people of Page and Lake Powell.

Gunnison River, Colorado

Here's a drainage feeding the Colorado River in the vicinity of Grand Junction. The Gunnison begins where the Taylor and East Rivers join, being fed by tributaries out of the Continental Divide, the Sawatch Range, and the Elk and San Juan Mountains. The Gunnison was once channeled by Unaweep Canyon. While the floor of the Gunnison River remained the same altitude the Uncompahgre Uplift rose two miles causing the river to sweep the strata downstream to the Colorado River and the Colorado in turn to carry that sediment downstream.

Here the geology is changed from the familiar deposits of the Colorado Plateau. The Kayenta Formation is missing atop the Wingate as is the softer Chinle below. Since the erodable Chinle is not present the river could not carry away sediment to widen the entrenchment. And with the absence of the Kayenta the combination of the Entrada on the Wingate creates an even taller cliff than we are accustomed to viewing while floating along. The Black Rock of the Uncompahgre Complex is just underground further fortifying the exasperation of erosional forces in the Gunnison River region.

The river and community received their name from Lieutenant John Gunnison. He surveyed the area in 1853 to report the feasibility of a railroad across the Rockie Mountains. He stayed clear of the abyssal, 50 mile long gorge, the Black Canyon of the Gunnison. The schist is of the Uncompahgre Complex. The rim is no more than 350' across in this chasm while the river is a mere 40' wide at it's shores. Here the walls lift from 200' to 2000'.

The first known visitors were on foot wanting to find a way to install a diversion tunnel in 1901. By 1909 a six mile tunnel carried 300,000 acre feet from the Gunnison to the Uncompahgre Valley. As far as the first river runners go... the first folks used the mechanical advantage of ropes and climbing technology to portage. The blocks of rock choking the Gunnison River were and are enormous portages in Black Canyon. The rate of descent of the river troubles experts today and the difficulty of access makes rescue arduous . . . plus.

Upstream are three dams. Crystal Reservoir has flooded Cimmaron to the East Portal of Black Canyon National Monument in 1970. The other two, Morrow Point and Blue Mesa Reservoirs were installed further upstream some years before Crystal. In 1980 the Chevron Corporation donated 300 cfs to the Nature Conservancy. It's a gift that is the first of it's kind in Western Water politics. The Nature Conservancy plans to keep it in the river to help instream flows. That 300 cfs is worth millions of dollars.

Downstream are calmer waters, lazing past Dominguez and Escalante Canyons, named after 1776 Spanish explorers by the USGS Hayden party in 1875. Irrigation dams and bridges lay across the lower stretch presenting dangerous impediments to the unaware. This stretch is controlled by the Montrose office of the Bureau of Land Management. There is a proposed Dominguez Project to dam and create a hydro-power plant a short way above the community of Whitewater, Colorado. U.S. Fish and Wildlife report Colorado Pike Minnow (previously known as Colorado Squaw Fish) reside in this area.

From Cassady, Cross, Calhoun, Western Whitewater From the Rockies to the Pacific, North Fork Press, 1994.

Fruita Refinery

I hope this information is helpful. This project has developed into a difficult ambition but if successful worth the labor. I maintain volumes of information on soil, vegetation, wildlife, geology, seismicity, aquatic ecology, meteorology and air quality (etc.). If you have additional questions please call. Thanks JJS

The purpose of this letter is to provide a brief overview regarding the history behind the Fruita Refinery and future goals for property usage.

The Fruita Refinery is located at 1493 Colorado State Highway 6 & 50 in Fruita, Colorado. The site is in a rural setting approximately 2 miles west of Fruita and 15 miles east of the Utah/Colorado Border. The facility operated in various capacities form 1957 through 1996. As is typical with facilities of this type various compounds were stored, processed, generated, and disposed on site.

Between 1957 and 1973 the refinery processed Gilsonite (an oil-bearing mineral) into liquid products and petroleum coke. In 1973 Sam Gary of Gary Energy purchased the facility and operated the refinery as the Gary Refinery Company. In 1985 the Gary Refinery Company filed for Chapter 11 bankruptcy and the facility was decommissioned. In response to the oil shale boom, the plant was re-opened in 1989 by the Western Slope refining Company and utilized contracts with Unocal to purchase shale-oil derived syncrude from the Unocal Plant in Parachute Creek, Colorado. As international pressures in 1990 made the refining of oil shale uneconomical, the facility was again shut down.

In January 1991, the facility began operations as Landmark Petroleum (Landmark); and subsequently closed in 1996 due to lack of an economical feed source. On July 1, 1996, Fruita Marketing and Management, Inc. entered into an agreement whereby FMM purchased from Landmark all of the Refinery assets and real property. Had this agreement not transpired, it is probable that the site would be largely unusable for decades. The FMM goal is to work together with Mesa County and key environmental agencies so that he site can be returned to a combination of uses, predominantly industrial.

Environmental Liabilities

As the owner of the real property and fixed assets, FMM has assumed liability for environmental compliance at the site. Consequently, Mesa environmental, Inc. (MEI), was contracted by FMM to establish a schedule of tasks for environmental assessment of the Refinery. Completion of these tasks is a prerequisite to a Landmark Order on Consent developed by MEI and the CDPHE for FMM and will establish the extent of impact as well as determine the criteria for remediation.

To initiate the development of the Order on Consent, MEI developed a Ground-Water Characterization Work Plan of phased assessment tasks and a schedule for these tasks. This work plan specifies the methods, strategies and techniques to be employed to develop an understanding of the nature and extent of impacted ground water at the Refinery and outlines the phased approach designed to achieve this goal.

Mesa County Delinquent taxes

Landmark Petroleum, Inc. Owned and operated the Refinery from 1990 to 1996. Landmark assets, which are personal property, are subject to delinquent property taxes. The assets had been subject to distraint against the distrained property.

FMM, the Mesa County assessor and the Mesa County Treasurer proposed to enter into an agreement a mechanism for the solution of the above-mentioned property tax assessment. This involved the conveyance of river frontage property (approximately 88 acres) to the Colorado Department of Natural Resources. The goal, to develop a non-industrial opportunity for the proposed Fruita-Kokopelli Greenway Plan. This plan envisions a continuous trail along the Colorado River from Fruita to Loma (boat ramp) for use as hiking, mountain biking and horseback riding trail. The proposed property transfer of the 88 acres would become part of the trail traversing the southern edge of the Refinery property. It is the preferred route of the Bureau of Land Management, National Park Services and U.S. Fish and Wildlife Services. The Greenway Trail would provide a buffer between the Refinery and the Colorado River to the south and would be a positive influence on how the area is perceived.

Development of the Site

FMM has developed a marketing plan that would encompass marketing and dismantling of the personal assets. Certain portions of the site could be reconfigured to operate as an Industrial Development. All of these uses could result in Fruita, Mesa County and Colorado benefitting from an expansion of industry thus increasing the property tax base and available jobs in the Valley. Although the facility will never be operated as in the past, parts can be used by environmentally sound businesses.

Prior to FMM and MEI's voluntary undertaking of the responsibilities discussed, no solution seemed evident. Neither FMM nor MEI had any previous participation with the Refinery operation, including spills, violations, non-compliance issues or environmental impact at the site. Following the October 1993 closure of the Refinery, FMM has played an active role in coordinating and complying with issues created by prior ownership. Since FMM's involvement with the Refinery, there has been continued cooperation between the involved organizations. Results include the recovery and recycling of 10,000 bbls of crude spilled during refining operations; characterization, consolidation and disposal of waste generated by prior operators; and the excavation of 15,000 yd. of impacted soil which created a hazard to migratory waterfowl. In addition significant advancements have been made in objectives previously discussed in the letter.

I hope this helps you to understand our situation.
Yours truly
James J. Stemrich



The Refinery as seen from Highway 70 just east of the Loma exit

GEOLOGY: HOW THE SOUTHWEST BEGAN

Driving through the Western states of Colorado, Utah and Nevada is like passing through a vast geological museum whose exhibits are the rocks, plateaus, mountains, deserts and canyons dating back more than 300 million years. They are in effect a living museum, since the earth-shaping processes they represent are continuing even today, though so imperceptibly they go unnoticed when measured against the span of a human lifetime.

At almost every bend of the road, you'll see examples of the many processes: the uplifted, faultblock backbone of middle America we call the Rocky Mountains; rocks in places like Utah's Zion and Bryce Canyon National Parks, that were sculpted into a thousand bizarre shapes and sizes by centuries of erosive wind and water; canyons gnawed deep and wide by rivers; peaks thrust skyward by volcanism; valleys carved by the glacier giants of the Ice Age.

Much of the evidence of this earth building is seen in national parks and monuments of the West. If geology interests you, most park visitor centers have special exhibits and displays on the subject.

You may want to purchase a few basic books and booklets which are also available in the parks. In addition, rangers are well versed on geologic history, and will be happy to answer questions you have. Geology can be complicated, but how it applies in the Rocky Mountain West can be divided into five or six simple "chapters," each spanning millions of years.

More than 300 million years ago, most of the West was covered by a vast, shallow sea, its surface broken only by a few hills and low lying plains. Wind and water gradually wore down some of these peaks, but another group of mountains, known as the Ancestral Rockies began to rise from the same sea in a chain that extended from Wyoming to Texas. About 230 million years ago, the eastern floor of the sea was tilted by gigantic forces within the earth. The climate became tropical in nature, and dinosaurs flourished. Although the soft sandstone and limestone materials that built these earliest Rockies can be found even today, the mountains themselves were almost completely worn away by erosion by about 160 million years ago.

Then occurred a period that geologists call the Laramide Revolution, lasting about 100 million years. More mountain building occurred as the crust of the earth, weakened and strained by the great weight of the ancient sea began to buckle and fold upward.

The Laramide Revolution ended about 60 million years ago, this entire portion of the continent had risen above water, never to sink again.

Next, volcanoes added their fury to the process which, as by the geysers and hot springs of Yellowstone National Park, continues to a lesser extent even today. Much older clues to volcanism can be seen in rock formations like Devil's Tower in Wyoming, 865 feet high, designated a national monument in 1906- first in the nation.

Finally, there were the glaciers. You'll see their handiwork here, too, in the distinctive canyons, valleys and plateaus sculpted by their tremendously heavy, slowly moving forms during the Ice Ages.

Notice:

The fall of 1999 hunting season revealed the body of fugitive Pilon. Those remains were discovered by Navajo men hunting on the reservation downstream and in-land of Mexican Hat. A reward of $150,000 was split between the men.

An Outline for Dealing with Controversial Issues

The following is an outline of the steps you might take while investigating a controversial concern or issue. These are guidelines that can help you and your audience begin to understand the various perspectives and factors involved in an issue. This outline is a summary of a 30 page lesson plan developed as a part of the U.S. Forest Service "Investigating Your Environment" Series. A copy is available free from Susan Thomas, Leavenworth ranger District, 600 Sherbourne, Leavenworth, WA, 98826. 509-548-6977, Ext. 237.

Guidelines for Investigating an Issue

Describe the Issue:
- What is happening?
- Where is it happening?
- Why is it happening?
- Who is affected and how?
- What is the impact?
- What are possible alternatives?
- What formal statements are involved?

Collect and Record Information:
- List factors that might contribute to the issue.
- Describe what you want to know about these factors.
- Describe the kind of data needed.
- Identify information sources for this issue.
- What more do we want to know?
- How will we find out this information?

Interpret Information Collected:
- Describe what the information tells you about the issue.
- Identify cause-effect relationships, comparisons, and contrasts that can be inferred from the data.
- Identify the parts that can be investigated further.

Analyze the Impact:
- Identify impacts on other environments, social patterns, economics, politics, etc.
- Identify questions each interest group is concerned about.
- Summarize points of view of the interest groups.
- Identify interest group history.

Analyzing Factors and Alternatives to Present Conditions:
- Identify factor.
- Identify how it contributes to the issue.
- Develop or describe alternatives.
- Describe how change will affect issue.

Analyzing Possible Courses of Actions:
- Develop list of possible courses of action.
- Identify advantages and disadvantages of each course of action (impact).

Develop Action plan that could be used to Implement Recommendation:
- Identify recommended solution.
- Identify action necessary to implement recommendation.
- Identify who could help implement it.
- List steps to implement.
- Establish Criteria to Evaluate Recommendation
- Analyze Information Sources (newspaper, TV, Interview report, etc.)
- Evaluate Overall Process

Milkweed

Asclepias speciosa Torr.

PLANTS

The plant name refers to its milky white sap, or latex. It contains a proteolytic enzyme, *asclepain*, which aids the stomach in the digestion of meat. Also, the milk has acrid juices effective in some softening of warts. Its seed pod is covered with short prickles, and contains a large quantity of silky down. Milkweed was once cultivated for the silky down, which was used to stuff beds, pillows, and – during World War II, lifejackets. Underground, there is a white rhizome giving rise to true roots and small or large stands of plants.

from *A Field Folio of Indian and pioneer Medicinal Plants* by Dr. Wes Larsen

Filaree

Erodium cicutarium

Worldwide in distribution, probably introduced into the southwest by the Spanish. The plant is found in open places, moist or dry.
The height of the plant depends on the available moisture. During wet years they reach a height of 2 feet and in the early days of Southern Utah, farmers harvested filaree as hay. It was an important winter and early spring forage for livestock.

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(435) 259-3598

Email: cprgutah@hotmail.com

Trip Leader Logic ~ printed originally in *Paddler Magazine* innuendos

A puzzle, Give it a try!

By Kristy McGill

While planning your next trip, you realize that although you have four rafts and 12 people, you might have a difficult time figuring out where everyone will go. You have two oar rafts – a yellow one and an orange one – and you have two paddle rafts – a blue one and a red one. The rafters' names are Adam, Betty, Cody, Diane, Eric, Fiona, George, Heidi, Ivan, Jane, Kurt and Lois. Each raft will have an equal number of men and women. Remember: a person must be qualified to row an oar raft. Use the following clues to help you place each person.

1. Fiona won't ride in the same raft as Betty.
2. Adam and Lois always ride together.
3. Cody wants to ride with Diane.
4. Betty is allergic to yellow, orange and blue.
5. Kurt knows how to guide an oar raft.
6. Ivan wants to captain the red raft.
7. Jane and Betty are best friends and want to ride together.
8. Diane will paddle in the blue raft.
9. Heidi won't go in a paddle raft.
10. Eric wants to paddle with Diane.
11. Lois will row the yellow oar raft.

Answers: The yellow oar raft will be rowed by Lois. Adam will ride along. The orange oar raft will be rowed by Kurt. Heidi will ride shotgun. The blue raft will be paddled by Eric, Diane, Cody and Fiona. The red raft will be paddled by Betty, George, Ivan and Jane.

NPS SOUTHEAST
Arches
Canyonlands
Hovenweep
Natural Bridges
UTAH GROUP

SPECIES NUMBERS FOR VERTEBRATES
Compiled by Charlie Schelz / Biologist

	ARCH NP	CANY NP	NABR NM	HOVE NM
MAMMALS	35	40	21	20
BIRDS	182	194	175	74
REPTILES	21	17	18	19
AMPHIBIANS	6	7	7	4
FISH	5	32	0	0

The Confluence

Volume 7 ◊ Number 3 ◊ Fall 2000

The Confluence

vants to be the quarterly journal of Colorado lateau River Guides, Inc. (CPRG), which is a ıember of a 501 (c) (3) non-profit organization ılled Canyon Country Volunteers. CPRG is ɔdicated to:

Protecting the rivers of the Colorado Plateau
Setting the highest standards for the river profession
Providing the best possible river experience
Celebrating the unique spirit of the river community

uide Membership is open to anyone who works or ıs worked the river industry of the Colorado Plateau
eneral Membership is open to those who love the vers of the Colorado Plateau

Membership Dues
$20 per year
$100 for 6 years
$195 for life
$295 Benefactor

General Meetings and Board Meetings will be announced

Officers

ɾesident	Dusty Simmons
ice president	Dave Focardi
ɔcretary/Treasurer	John Weisheit

Directors

luff	Clay Hamilton
rand Junction	Darren Smith
reen River Moab	Shane Edwards
ernal	Herm Hoops
loab	Eric Thompson

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(435) 259-3598
Email: cprgutah@hotmail.com
Faxes accepted: Please call first.

ɔeded: articles, oral histories, poetry, stories, and ɔinions. This journal is composed using Microsoft ıblisher. If you use a word processor, we can ınslate most programs. Otherwise, please send ɔur text typed. Please include useful photos, charts, agrams and artwork. The really is no deadline, but e beginning of each quarter works best.

Managing editor: John Weisheit
(jweisheit@hotmail.com)
Editor of this issue: Michele Hill and Dave Focardi
ISSN #1078-425X

isclaimer: Opinions belong to the author and are not representation of this organization. Free speech.

CPRG wishes Dave Focardi a strong recovery.

Check out: **allaboutrivers.com ♠ weather.com**

Elevation Magazine ◊ Post Office Box 3183 ◊ Sun Valley, Idaho ◊ 83353
Also at elevationmagazine.com & 208-725-5900

TABLE OF CONTENTS

Species Numbers in NPS (Cover)
Information Project CNHA
Press Release
The Professional Guide
On the Lighter Side
River Runner s Etiquette
Fort Uncompahgre
Colorado State Parks
Uranium Mining History of Canyonlands
Photography — Eliminate Bad Shots
Tom Kleinschnitz
Memorial Felix E. Mutschler
Sheri Griffith
Jim Sartan
Southeasten Utah Group (SEUG) News
From the Vice President
California Condors
The Dam Disagreement

\n Information Project Needs Members' Help

ıgust 30, 2000
›lorado Plateau River Guides

r some time now The Bureau of Land Management has expressed a desire to increase the formal information ıilable to passengers on the Westwater section of the Colorado River. As their partner, Canyonlands Natural ıtory Association has begun the process of developing a comprehensive guidebook for Westwater Canyon. rgeted for the more than 15,000 visitors, running Westwater each year, we hope that this guide will become definitive work on the subject.

e guide will be devoted entirely to the Loma to Moab portion of the Colorado River and will included 2,500-rd-essays on geology (written by Don Barrs), pre-history (by archeologist Chris Coder), human history from late 1800's forward (written by Michele Hill) and an essay on natural history by an author who is not yet ermined.

vill also include a mile-by-mile strip map that we hope to enrich with abundant notes and illustrations or ›tos of natural and/or historic features. That is where CPRG comes in. No one knows more about the river n professional river guides do. More than likely, no one cares more about the river canyons than you do. HA appeals for your help as information is gathered for this map. What special features, sites, information, rky or otherwise interesting hydrology, side hikes, stopping places, wildflower patches, wildlife hangouts, k formations, thrilling or placid stretches of water, favorite sunrise or sunset spots would you like passengers earn more about?

hope is to use your information in twenty-word bites along the margins of the mile-by-mile map, perhaps in CPRG Info-bite" format. Our essay authors will give us their essays, but we think that your thoughts and ces will add a special meaning to the readers of the map.

at kind of safety information do you think should be included? This guide will be crafted for passengers, not erienced river runners, per se, nor is it a 'how to' manual.

want to produce the most usable, enlightening, and inspirational river guide that has ever been done! We ıt Westwater passengers to realize that, while they may be having an extreme recreation experience, they are ing it in one of the Earth's very unique places. We want them to truly understand and appreciate that ıtwater is not a theme park but that it is the real thing. Please help us expand the perceptions of your river to nts by submitting your ideas and participating in this project. CNHA will donate $25.00 to CPRG for each ›-bite' submitted to us to a maximum of $500.00. Let's work together to make this project a reality.

goal is to collect rough draft materials for this project during the winter of 2000, please submit your ideas NHA before December 15th. Please submit materials to CNHA at 3031 S. Hwy 191 Moab or email to l_wallis@ cnha.lasal.net.

nk you,
l Wallis
cutive Director

gestion: Photocopy your current Colorado River map and jot your 'info-bites' in the margin indicating the oximate river mile of that point of interest. Thank you, too, CPRG

Press Release: New Whitewater Safety Study Completed

By Christopher Smith, Regional Reporter, Salt Lake Tribune, 8/31/00

Apparently whitewater tragedies make good press; after all, most kayaking, rafting, and canoeing accidents are widely reported in local papers and on the evening news. This creates an illusion that the sport is extremely unsafe. Reality, however, paints a different picture of risk.

In fact, a new study by American Whitewater finds that the fatality rate for whitewater recreation is 15 times lower than driving and twice as safe as bicycling. It is also much safer than recreational boating as a whole.

The good news is that the risks of whitewater paddling are quite manageable and are mitigated through training, use of a personal floatation device (PFD), and development of good personal judgment. The drive to the river is probably the most dangerous part of any whitewater trip.

American Whitewater has just completed a five-year study to determine the risk of drowning from whitewater boating. We collected use data from 30 whitewater rivers of various difficulties from across the country. The result: less than 1 fatality per 100,000 whitewater participants. The complete study will be printed in the September/October issue of American Whitewater.

As Jason Robertson, Access Director, observed, "While whitewater drowning are tragedies of a very personal nature for the victim's family and friends, these accidents, fortunately, are rare. Most Paddlers will never encounter a serious accident at any time in their boating career."

Among whitewater kayakers, who have a higher accident rate compared to canoers and rafters, the fatality rate is only 2.9 per 100,000 participants. When compared to other active outdoor sports, kayaking is safer than scuba diving (3.5) and climbing on rock, snow, or ice (3.2).

7,420,563 whitewater boaters visited the 30 rivers in our 5-year study period between 1994 and 1998. Of these, there were 5,732,683 commercial boaters and 1,687,880 private boaters. During this same period there were 64 whitewater boating fatalities, including 26 commercial passenger deaths and 38 private boater deaths. We calculated that there were 0.86 whitewater fatalities per 100,000 participants, or 2.25 private boater deaths per 100,000 and 0.45 commercial boater deaths per 100,000. The river with the most whitewater fatalities was the Arkansas in Colorado, with 17 drownings over five years.

The overall whitewater fatality rate based on user days would be even lower if we could obtain more accurate data on the number of private boaters. Whereas commercial rafting companies were required to turn in passenger manifests each season, private use counts were collected by river management agencies via a wide variety of registration systems over different monitoring seasons, and private use counts often-included self-guided trips in rented boats as private visitors.

Lee Belknap, Chair of American Whitewater's Safety Committee, observed, "Safety in the sport is related to experience, training, and personal judgment. However, the ONE item that makes the single greatest contribution to personal safety on the water is the use of a life jacket or personal floatation device (PFD)." Although not really a problem among experienced whitewater paddlers or passengers on professionally guided raft trips, American Whitewater has found that improper use of a PFD (including the failure to wear one on the water) is responsible for at least half of all fatalities in both flat and moving water.

Charlie Walbridge, another American Whitewater Safety Committee member and author of many swiftwater safety books, agreed with Belknap, saying, "Life jackets truly save lives. Whether you are kayaking across a lake, floating your canoe on a pond, or rafting the Class V Gauley River, you can cut your chances of drowning in half by properly wearing your PFD."

The Professional Guide

A quick recommendation to guides to document their credentials, anticipate expiration of important required documents and keep a log of your river mileage! A river log can include the put-in, take-out, water level, dates, river, what type of craft you were operating, what crafts were also on your trip, how many people, indicate commercial or private, trainer or trainee and allow for paragraphs describing unordinary events and such. Here is a suggested form that can be copied to help you with keeping records as well as hinting at things to know as a guide in the workplace. A professional will ascertain specific information about an employer, this form may help organize you.

GUIDE REQUIREMENTS

ITEMS	DATE	DATE	DATE	DATE
Medic Card Filed type/expiration				
CPR Card Filed type/expiration				
Guide License Filed type/expiration				
Driver License Filed state/#/expiration				
DMV Record Filed				
River Log Filed				
Date of Tetanus				
Declination of Hep B signature & date				
Dates of Hepatitis B Shots				
Personal Emergency & Health Info Filed				
River Skills Course				
Exposure Control Plan				
Food Handler Card				
Universal Precautions				
Fingerprint Clearance				
Resume Filed				
Training Checklist Filed				
Winter W-2 Address				
Employee Handbook				
Personnel Policy				
Premises Orientation				
Program Orientation				
PFD, Rigging, dry bags, med kit, tent, sleep unit				
Key				
Vehicle Orientation				

On the Lighter Side

Being a professional guide means maintaining a bunch of skills and certificates, mastering the knowledge of many sciences to impart to your guests, plus stashing a repertoire of entertaining tools, perhaps, a talent like flute playing or telling jokes. Try this monologue; though it is not for everyone, in the right audience, it could be pretty funny. Stolen from an e-mail sent by Sandy Bernstein.

The lineage is finally revealed. Many people are at a loss for a response when someone says, "You don't know Jack Schitt." Now you can intellectually handle the situation.

Jack is the only son of Awe Schitt and O.Schitt. Awe Schitt, the fertilizer magnate, married O.Schitt, the owner of Needeep N.Schitt Inc. In turn, Jack Schitt married Noe Schitt, and the deeply religious couple produced 6 children: Holie Schitt, Fulla Schitt, Giva Schitt, Bull Schitt, and the twins: Deep Schitt and Dip Schitt. Against her parent's objections, Deep Schitt married Dumb Schitt, a high school drop out.

After being married 15 years, Jack and Noe Schitt divorced. Noe Schitt later married Ted Sherlock and because her kids were living with them, she wanted to keep her previous name. She was then known as Noe Schitt-Sherlock. Dip Schitt married Loda Schitt and they produced a son of nervous disposition, Chicken Schitt. Fulla Schitt and Giva Schitt were inseparable through out childhood and subsequently married the Happens brothers in a dual ceremony. The wedding announcement in the newspaper announced the Schitt-Happens wedding. The Schitt-Happens children were: Dawg, Byrd and Hoarse. Bull Schitt, the prodigal son, left home to tour the world. He recently returned from Italy with his new bride Pisa Schitt.

So now when someone sez, "You don't know Jack Schitt", you can correct them.

River Runner s Etiquette and Responsibilities

Department of Natural Resources
Colorado State Parks

Know Before You Go

Read the river guidebooks, agency publications and topographical maps before running an unfamiliar section of river. Ask experienced friends, outfitter employees, agency rangers and local law enforcement agencies about unfamiliar runs before you go.

Know the boundaries of the public lands, managed by federal, state and local agencies, and understand that not all publicly owned lands have unlimited access — check with the managing agency for any restrictions.

Respect private property. River Runners should know which lands are privately owned.

Commercial river guides must understand that criminal trespass subjects the responsible outfitter to the loss of their Outfitter License, at least in Colorado.

Equipment

Every Trip:

Must have a solid human waste carry out system for overnight trips. This system must be adequate for the size of the party and length of the trip. Many day trips may require the same. Reusable, R.V. clean-out compatible toilets are recommended.

Must have a fire pan for overnight trips and a charcoal carry out system, if planning a fire.

Must have adequate storage for and carry out garbage and trash.

Should have first-aid supplies adequate for the party size.

Must comply with all federal, state and local boating regulations that apply to the river segment.

Respect Others

Respect other river runners and private owners space, privacy and solitude while on the river, in camp, on hikes and at the boat ramp.

Group your boats and equipment, leaving room for others at put-ins, take-outs and attraction sites. Expect another party to arrive.

Please be particularly considerate of fishermen, respect their need for space and quiet. River runners, regardless of how careful, can ruin a fishing experience, particularly on small to moderately sized rivers. Try to group when passing a fisherman, avoid splashing paddles and oars and avoid their eddy or general quadrant of the river.

Avoid lunches at attraction sites or at least move off to the side of the trailhead or boat ramp.

Yield on the river where appropriate. If other parties are going faster, allow their boats to pass. If you are going faster than the party in front of you, be sure your boats are grouped together before passing. Avoid extensive, unnecessary contacts with other parties while floating.

Abstain from water fights with other parties.

Radios, tapes and CD s should be turned off within earshot of other river parties and landowners. Using headsets is appropriate in section of river that have extensive contact with others.

Noise and loud partying is inconsiderate within earshot of another group.

Always be discrete when changing; nudity is inappropriate in a public setting.

Explosives, firearms and fireworks ruin the solitude of a river trip and present a safety hazard.

When encountering other parties on the same schedule communicate regarding planned lunch, attraction and camp stops.

If your party is small consider smaller camps, leaving larger, more impacted camps for large groups when the canyon is busy.

Respect private property.

River Runners should know which lands are privately owned.

Resource Protection

River runners must agree that river corridors contain extraordinary archaeological, scenic and biological values. River runners tread lightly when traveling rivers and endeavor to leave no trace of their river journey.

All garbage is hauled out. All food scraps are removed to avoid skunks, flies, ants, mice and other pests from congregating. Cigarette butts, twist ties, string off fabrics, dental floss, candy wrappers and other small traces are to be meticulously disposed of.

Liquid waste such as leftover beer, pop, juices, coffee and so on must be deposited in the river current.

Solids from dishwater, soups, coffee, and so on should be strained and hauled out. Grease from cooking should be hauled out. (Or burned in grease bombs. Ha! Ha!)

All campfires should be contained in a fire pan. When practical, fires should be built near the river, away form vegetation. The use of driftwood, charcoal and wood brought from home is appropriate; the use of standing timber is unacceptable. When breaking camp there should be no trace of the fire, all charcoal is hauled out, excess firewood is scattered and unnatural wood (milled, sawed, etc.) is removed. In very arid time frame fires may be restricted or banned altogether, check with local land agencies or the county Sheriff s Department before planning a campfire on a river journey.

River runners carry and use toilet systems. All solid human waste is removed from river corridors. There are only two places to urinate in the river canyons. One is in the river; the other is far away from any camp or tent site. Urinating in gravels and sands are best, then organic soils. Urinating in wet sand, silt or shallow water with no current, after the river has peaked and receded, causes algae to flourish.

Tread lightly on land by using low impact hiking; stay on main trails and avoid fragile soils. Be sensitive to trampling native plants and grasses and refrain from picking wildflowers. Pets should be restrained around wildlife.

Treat archeological sites with respect. They are sacred places to Native Americans. Petroglyphs and pictographs are not to be touched. Ruins should not be entered, sat on or touched. Potsherds and arrowheads are to remain in place. Report violations to authorities. Historic structures, such as cabins and other buildings should be entered with care and all tools and artifacts are to remain in place.

Leave natural objects where they are found. Leaving fossils and petrified wood for future generations is the right thing to do.

In some areas river runners must follow specific rules designed to protect natural and cultural resource values. Ask agency offices and visitor centers if any special rules apply to the river you plan to run.

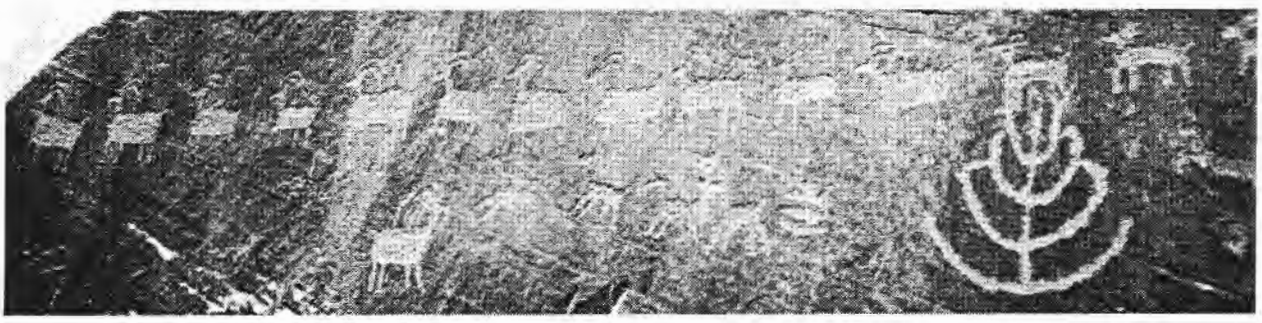


Photo by:
Sandy Bernstein

Fort Uncompahgre

Delta, Colorado

From a brochure depicting Fort Uncompahgre

Fort Uncompahgre was established as a fur trading post around 1828 by Antoine Robidoux near the present site of Delta, Colorado. The fort has come to life again as a city funded living history museum that is located at the entrance to the Confluence Park complex.

Antoine was born in St. Louis, Missouri, in 1794 and was a member of one of the most influential families in the history of the west. As a young man Antoine became involved in the fur trade. He became a citizen of Mexico — a prerequisite to obtaining a trading license — by marrying Carmel Benevedes, the adopted daughter of the Mexican governor at the time.

Antoine established Fort Uncompahgre a short distance from the confluence of the Uncompahgre and Blue, or Eagle Trail, (now Gunnison) rivers. Little has been written about Fort Uncompahgre, but the one brief description of the post states that Fort Uncompahgre consists of a few log buildings enclosed in a quadrangle of pickets.

Furs were brought to the fort and traded for goods that had been brought in from both the United States and Mexico. There are also references to Indian slaves being traded at the post.

The fort remained in operation until September 1844, when most of the occupants were killed in an attack by the Ute Indians.

When you visit Fort Uncompahgre today you will be greeted by interpreters clothed in appropriate period attire. You will be given a hands-on guided tour through the past where every aspect is maintained as authentically as possible. You will see the trade room where Indians and trappers exchanged furs for guns, knives, beads and other prized trade goods. You will experience the Hide Room where stacks of deer hides and packs of beaver pelts were stored. You will visit the living quarters, the adobe forge, La Cocina (the kitchen) and the horno (adobe oven). You will also see Churro Sheep, the oldest and rarest breed in North America.

OPEN: March — mid-December, Tuesday — Saturday, 10 a.m. to 4 p.m. & June-August, Tuesday — Saturday, 10 a.m. to 5 p.m. Fee.
More Information: 970-874-8349; 530 Gunnison River Drive, Delta, CO 81416. See Robidoux inscription pictured in Belknap map.

Colorado State Parks
Colorado River Accesses

Colorado State Parks surrounding Grand Junction integrate a trail system which links these parks which will be described herein. Funding for facilities came from the Colorado Lottery, afterwards, it is up to Park management to make the park earn it s keep .

East of Grand Junction proper out of Clifton is Corn Lake. This park is to be found off of 32 Road. In the acquisitions plan Corn Lake was the first park to be installed in this series of parks and trails from Island Acres to Loma. Corn Lake has a ramp to access the Colorado River.

Not far downstream the efforts of the Colorado State Parks and the U.S. Bureau of Reclamation joined to purchase wetlands consumed during the Grand Valley Salinity Control period. (Someone take an interest. Write about this period). This park primarily focuses on protection of habitat and has little development of facilities.

Connected Lakes was once worked for gravel pits. It is now set-up for fishing, picnicking, walking and does have another Colorado River launch site.

The newest State Park addition, is just off the Fruita exit. The ramp design is interesting. The incline parallels the Colorado River aimed downstream. The ramp empties into an engineered eddy. It is hoped the varying water levels will not erode this ramp, plus provide a consistent access in many water levels.

The State Park Ranger wants to be clear that any vehicles remaining on the premises a series of days must have day use passes for each day the vehicle remains parked in the park.

Uranium Mining History of Canyonlands

By Dusty Simmons

Uranium and Potash Mining of Canyonlands

The Canyonlands region of the Colorado Plateau has often been referred to as the land of, "Standing Rocks". For centuries, humans have been trying to inhabit and make a living in this desert. Ancient cultures of the Fremont and Anasazi did succeed in living here for a period of time, but they eventually moved on. Modern day tribes such as the Navajo and Ute also succeeded in living among these towering rocks. The first white men into the area were probably Spanish explorers. Father Dominguez and Father Escalante passed through here in 1776. The next wave of white explorers came a half-century later. The U.S. government sent explorers: Gunnison, Simpson, Macomb and Fremont to find a route through this desert wilderness. They did not stay long. The late 1800s saw a movement of people into the area such as: John Wesley Powell, and his exploration of the rivers, Mormon settlement of Utah and their infiltration of the south by land. The late nineteenth century also witnessed the beginning of the mining era. It began with small-scale placer mining for gold and found uranium. Although many placer mines remained functioning until recently, the emphasis was always on uranium and vanadium. The oil and potash development of today began in the middle of this century.

I. First discoveries of the element uranium in the Unites States.

A. In 1879 the Talbot brothers from Paradox Valley Colorado, found a fissure vein carrying an odd material. They assumed it to be silver. They sent a sample to the American Smelting Company at Leadville, Colorado where it was determined it was not silver. The brothers ignored it and moved on.

B. In 1898 Tom Dolan found the same vein and sent a sample to the Smithsonian Institute in Washington, D.C. It was high-grade uranium.

1. A claim was made at Roc Creek in Sinbad Valley, Colorado. This claim became the famous Rajah mine that produced thousands of tons of very high-grade ore.
2. The ore was sent by mule to Paradox, then by wagon to Placerville where it was loaded on narrow gauge track and sent to Montrose. In Montrose it was loaded on standard gauge and sent east, then to France.
3. The Roc Creek uranium was carnotite, a yellow earthy ore, (Named carnotite by Madame Curie in 1920, after A. Carnot, a French mine inspector).
4. Carnotite is found in blanket veins or pockets. The Roc Creek fissure vein turned out to be an odd geological blanket vein.

C. March 9, 1898 Frank Silvey and Tom Francis alone with Young Howard Balsley staked several claims for uranium in the McIntyre Canyon District in the Paradox Valley. They became pioneers in the discovery of this rare mineral.

D. In 1898, Madame Marie Curie a polish physicist and chemist, with her husband discovered the element radium in uranium.

1. They sent two French chemists to the Paradox area. They built the first uranium concentrating plant in the world on the banks of the Dolores River at Camp Snyder. She visited the plant in 1899.
2. The plant was concentrating mainly carnotite ore, which occurs in the Salt Wash member of the Morrison formation, which also carries uranium, vanadium, and radium.
3. Madame Curie visited the U.S. again in 1922. She was given one gram of radium, which retailed at $120,000 by certain members of Congress.

E. The first ore discovered in Moab was grub staked by Al Rogers and Howard Balsley between 1910 and 1912. It was found right before the turnoff to the M-4 ranch (now Pack-Creek) on Poverty Flats. The claim was called Blue Goose, and the ore was shipped directly to Madame Curie s laboratory in Paris.

F. The second largest find was Yellow Circle, property in upper Cane Springs.

1. In 1915, Charles Snell while working for Howard at Blue Goose had a dream about a block of sandstone with a yellow circle on it marking the location of a rich uranium strike. He told Howard about his dream. Howard believed Charles to be sincere so he grub staked with him for a few weeks. And said Go find it .
2. Ten days later Charles came in with tears yelling, I found it . He had staked 5 claims in both of their names. Twenty claims were staked overall at Yellow Circle.
3. The workers of this property had some troubled times in the bad winters, such as 1918 when Moab had a minimum of three feet of snow on the ground for 3 weeks.
4. Several tons of good ore came from the Yellow Circle; more than a million dollars worth by 1950.
5. Howard sold most of the shares before the big boom of 1953, but he held on to _ interest in the Property. He had the rock with the yellow circle moved to his house in town and in 1978 he donated it to the Dan O Laurie Museum.

G. 1934, Vitro Manufacturing Company of Pittsburgh, PA came to Moab looking for a uranium supplier.
1. Vitro was set up by two German immigrants for the purpose of supplying ceramic colors from mineral pigments for pottery and glass factories all over the world.
    a. They made 26 different shades of reds, greens, browns and yellows from the ore. They also infused vanadium red cake in the ceramic colors.
    b. Vitro extracted the vanadium and found a market for vanadic acid in the steel mills of Pittsburgh.
    c. Vitro also recovered radium and radium salts which were shipped to Philadelphia to a Czechoslovakian scientist who inserted it into cancerous tissues. The radium was shipped in a lead cask by truck, the railroad and post office refused to handle it.
2. Howard signs a contract to supply all of their ore. This began a mini-boom in the area.
3. The ore was guaranteed to run a minimum of 1.50% of uranium oxide and a minimum of 5% vanadium oxide. (Most mines were lucky to meet the 20/100ths of 1% minimum).
4. Thirtyfour, fifty ton carloads of ore averaging 1.57% uranium and 7.35% vanadium came from one mine alone, (Polar Mesa).
5. The ore was blended throughout the years to maintain percentages.
6. All ore was delivered in 50-ton carloads, no less, from facilities all over Utah and Colorado.
7. Howard used an electroscope instead of the modern Geiger counter; he thought it to be more accurate.
8. The market went up and down for years, then pitchblende was found in the Belgian Congo and everyone went out of business.
9. Vanadium came back for a short time in demand for a steel alloy, but the Vanadium Corp of American found a whole mountain of ore in South America and everyone went out of business again.

H. 1942 the U.S. Government sets up Metals Reserve Company, to buy vanadium quickly.
1. A buying station was set up in Moab and H. Balsley was in charge of it.
2. February 1944, the Government ceases buying at midnight on February 28. Howard got several tons in at five minutes to midnight.

II. Atomic Bomb Program is rapidly evolving.

A. The Manhattan Project evolves into the A.E.C. (Atomic Energy Commission). They badly needed uranium.

B. In 1945 the U.S. Government commandeered all the uranium in the nation and took over all the plants at which uranium was handled for any purpose. Vitro was taken over and a fence was built around it manned 24 hours a day by armed guards.

C. As of 1947 no program had been set for uranium extraction of large amounts in the west.

D. In 1950, Howard met with the A.E.C. and was told there was not enough high-grade ore out west to make it worthwhile for the government. There was definitely not any pitchblende. They continued to buy from South Africa at 46 dollars a pound.

E. In 1953 a Texas geologist named Charlie Steen struck pitchblende at a claim south of Moab called Big Indian Wash.

1. Buddy Cowger determined the strike while observing the specimen in Cisco, Utah. Overnight a millionaire was born and a boom started.

III. The uranium boom of the 1950s and 60s.

A. The federal government went mad. We had struck a domestic source of pitchblende. It was bought at 8 dollars a pound saving the government a billion dollars.

B. Millionaires were made overnight in the field and in the stock marker. Thousands would lose everything or die trying to become one of them.

C. Money was pumped into the Canyonlands region for blasting access, roads to get to potential sources.

1. Thousands of miles of road would be chiseled into the desert in a matter of a few years, all at the federal government s expense.

D. Moab grew from 1200 farmers and prospectors in 1950 to 20,000 by 1956. The town went insane. It was never quiet. Trucks carrying ore rushed up and down Main Street all hours of the day. Bars were being built as fast as the motels and gas stations. Every square foot of property in the valley had families living in trailers, carts and shanties.

E. By 1956, Moab was declared the richest town in America.

1. There was one millionaire for every 250 persons. At a local spot such as the Uranium Club or the Club 66 one could easily see at least 20 persons worth a million and that many more were within reach of it.
2. The odd thing about Moab was the rich may own Cadillacs and personal planes, (42 in the county) but they still lived in trailers and broken homes. (Though most millionaires in Moab had phones and nice bathrooms). Texan Dan O Laurie made 3 _ million from one transaction, lived on a ranch worth $15,000.

F. 1957 Charlie Steen builds a uranium processing plant on the banks of the Colorado River.

1. The plant produced yellowcake by adding sulfuric acid, which extracts an oxide of the uranium.
2. Yellowcake is shipped to another plant where flourine is added to produce hexaflouride. UF6 goes to an enrichment plant where the isotopes U235 and U238 are separated producing enriched uranium 235. Nuclear reactors use 3% U235 and nuclear bombs use 90% U235. The enriched uranium goes to a fuel fabrication plant where it is converted to uranium dioxide (UO2), compressed into small pellets and placed in hollow steel rods where they are stored until needed, or used.

G. 1958, Charlie Steen runs for Senate and wins.

1. He was the push behind Grand County getting the potash plant and not San Juan.
2. He also tried to change the tobacco and liquor laws in the state, but was told to like it or leave it, so he left. He resigned in 1961, and moved to Reno. While in Reno he gets caught for tax evasion and loses everything.

H. Miners start getting sick around 1960.

1. Tom Van Arsdale from Nucla visits St. Mary s for complication of the flu, his urine shows 34.4 picocuries of polonium-210 per liter radio lead the final product of radon decay. He dies two months later from lung cancer. He had oat cell carcinoma of the left lung, fast growing and inoperable, the same as the miners of Germany. He was the first documented uranium miner to die.
2. 1961 Mr. Johnson dies of the same cancer. His widow was awarded the first radiation settlement of $12,000.
3. 1958 four uranium miners die of similar cancers.
4. 1959 five die.

5. 1960 nine miners die.
6. The deaths will eventually total in the thousands by the end of the 1980s for miners alone. (This does not include fallout victims).
7. The miners families will always remember Joe Deal, President of Applied Biophysics Branch of the A.E.C. Division of Biology and Medicine stating publicly over and over, Prospecting for uranium ore involves no health hazards to the miners involved.

I. 1956 The A.E.C. decided it was no longer in the interest of the federal government to expand uranium production.
   1. The canyonlands region produced 9 million tons of uranium worth 250 million dollars, along with 71 million tons sitting in federal warehouses or reserves.
   2. 1966 the A.E.C. would only purchase ore from reserves developed before November 28, 1958. It was necessary to slow down but not kill the industry.

J. The boom was OVER.

K. 1967 Moab was gearing up for another boom this time for private enterprise, nuclear power plants. 19,521 claims were staked in San Juan. 5,810 were staked in Grand County.

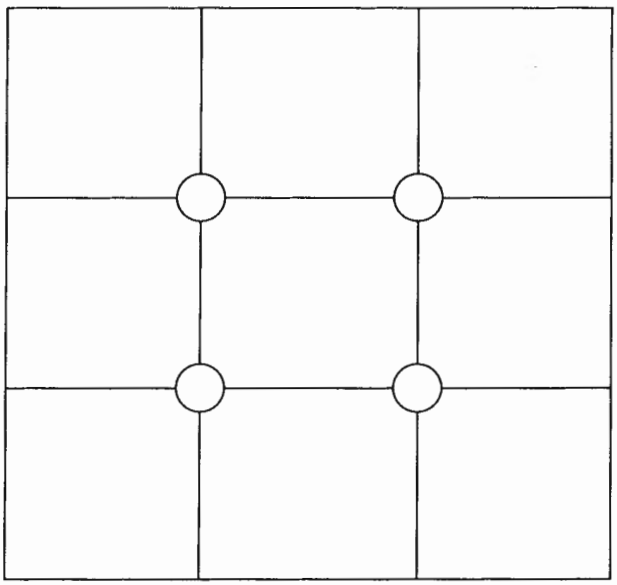
L. The A.E.C. envisioned 230 power plants by 1987 nation wide. This never materialized because of problems associated with waste and the fear of a national disaster.
   1. All uranium isotopes form what is called nuclear fuels, releasing 10,000 kilowatt per pound if they completely undergo fission.
   2. Natural uranium cannot be used as an explosive, but the isotope U235 can be separated from it and used like plutonium.

M. Atlas closed down completely in 1984; Moab would have been deserted if it had not been for the potash mine 20 miles away.

Photography
Eliminate a lot of bad Shots

Information provided by Tom O Keeffe of **Action Shots**

1. **USE GOOD FILM.**
   Rather than in-house or super-saver brands, choose Fugi or Kodak. Otherwise you are apt to lose vibrant and true color.
2. **Shoot 100 or 200 ISO** for this desert region. Commonly, visitors use 400 (film speed) ISO, which is for indoor or cloudy days. The wrong film speed makes for ugly color.
3. **Shoot at Sunrise or Sunset.**
   90% of the best shots are taken within the first hours of sunrise or sunset. The desert light is so bright that the shadows are very black and the contrasts take away from the subject.
4. **Understand and utilize the Golden Ratio .**
   Focus of interest is best shot in the intersections (at the circles) of the diagram depicting the frame through which you would focus.



Jennifer Johnson started Action Shots in 1991 and sold to Tom in 1993. Action Shots develops black & white, color, print and slide film, produces enlargements and digital images and offers one hour processing on some services. Photographers can also be found shooting visitors at play.

THOMAS JAMES KLEINSCHNITZ
2392 H ROAD
GRAND JUNCTION, COLORADO 81505
970.245.5428 ab@raft-colorado.com

Professional Objective: To run the best outfitting business on earth

Work History:

Adventure Bound Inc., River Expeditions

1985-Present	*Owner/ President/ General Manager*
1980-1985	General Manager
1975-1980	River Guide
1974-1975	Crew Driver
1971-1974	Warehouseman

Experience: Manager and Administrator of a River company with a staff of 25 full time employees. Responsibilities include schedule coordination, purchasing and contract negotiation, marketing and sales, promotion and brochure design, training and public relations.

Education:

1975-1976	University of Colorado — Business Major- Boulder CO
1970-1975	Iver C. Ranum High School Denver CO

Honors & Activities:

President of Colorado West Tourism Council
Chairman of Colorado River Outfitters Association
Volunteer- Grand Junction Riverfront Commission
Volunteer Ranger- Bureau of Land Management
Volunteer Representative- River Surface Recreation Form- Colorado Department of Natural Resources
Volunteer Representative- BLM Black Ridge Ad-hoc Committee
America Outdoors Board of Directors -present
Colorado Tourism Board / Advisory Council
Colorado River Outfitters Association Board -present
Grand Junction Visitor and Convention Bureau Board
Friends of Westwater Board —present
Utah Guides and Outfitters

Guide Assets: National Park Service interpretive contacts in Dinosaur National Monument and Canyonalnds National Park; Special use permits from the Bureau Of Land Management in Ruby, Westwater and Desolation Canyons.

TOM KLEINSCHNITZ

September 9, 1995

Adventure Bound

My rafting began when I was 14. My first raft trip was actually with Adventure Bound River Expeditions back then. My father taught school with Keith Counts at Adam s City High School in Commerce City Colorado. So that s how the acquaintance was known. My father went on raft trips with the high school before I went on raft trips in the 60s, so.

In 71 I saved my money through the winter and went on a raft trip. By coincidence a few things fell together that led to a lifetime of being around the river. It all started when I saved $75 to go on a four-day Yampa trip. We did it in the middle of June. It was a high water, wonderful trip. And I remember my first moments on the river up there in Dinosaur. They were magical and wonderful and I knew wanted to be around it.

Arvada West Junior High School, the 7th graders were in one boat, the 8th graders were in one boat, the 9th graders were in another boat. It was a bunch of row twenty-seven footers. We were headed down the river about thirty of us. Ten kids on a boat. I look back at those boatmin and wonder how they did it. (laugh) It was a good time.

We were assigned to camp at Echo Park. We pulled into Echo Park. I had brought some Kippered snacks with me to make sure I had enough food because there were plenty of fellers. I ripped open a can of Kippered snacks and ripped my hand open causing a pretty major laceration in the palm. There was a road into Echo Park so I got out went to a hospital. They smiled. Put me back together. I was back in Craig getting put back together and they said, Well, do you want to go on the next trip since you missed the last one? I ended up going on four or five trips in the next month as a swamper. Ultimate first time headed out swamper guy.

That s how I started. It was just a matter of calling my parents saying well I got hurt on this trip, but they say I can go on the next one. The owner of the company, Keith Counts, at that time his father was having some pretty severe health problems so he had gone back to Kansas to check out what was going on back there. And all these boatmin being what they are and I was a good pot scrubber they just kept inviting me. Hey, you want to go on the next one? You want to go on the next one?

My parents finally told me to come home a month later. I was invited back for the month of August. So I spent a lot of that summer just out there. Fourteen years old, an opportunity, that unfortunately isn t there for a lot of fourteen year old kids anymore. I ve drawn a check from the company for thirty years ever since then. It has just been an automatic love of what is all about. I felt immediately comfortable. I remember to this moment what it was like to get on that river and float out there and look around and think, My God this is great!

The first time I ever rowed Gates of Lodore was in a 27 foot boat. Number 9. It had two ends that went down, I think, so that both the bows were in the water fully, a fully flat boat. The kind of thing that had no upturn ends at all. They let me row that all the way through Ladore. I was fifteen years old. The other two guys were in another boat just having a party and having a good ole time. I will always appreciate the fact that I got to row a boat down there right off the bat. That s kind of the crazy old days that happened at that point. That s how I got started. I just kept plugging on.

I got my drivers license at sixteen. Didn t have to scrub pots much anymore. I got to drive crews around. Then when I was eighteen I got a dam boatman s license. I went over to Vernal, Utah and took my test. I started into that kind of thing.

Jerry Wischmeyer was Keith Counts partner. Jerry was an attorney in Denver. He had a home and he had the Adventure Bound World Headquarters at that point in Littleton in his home, in his place. His wife Sandy Wischmeyer was truly the real partner and the real driving force that made it all work. She ran the office. She had an assistant Lovey Joe in those days. They

were good characters and did all the bookings and everything out of Littleton, Colorado.

The original base for the actual operations was in Craig. There were a few different complexes up there. Most people came out of suburban Denver went on our raft trips. That s how the company got started. It got started with Counts doing a lot of youth trips and high school trips and the Boy Scouts and those kinds of things. It evolved into more the mass public in south suburban Denver then all of Denver. Then we all know that it all exploded and we were taking lots and lots and lots of trips. I was out there in the middle of it all. On many a many double launch Deso with eighty people running around camp doing the same things.

In those days Keith Counts was always on the trips at the beginning of the year and getting us all squared up for the season and getting us ready to go. He was always tough at the beginning of the year in the training trips. He was getting us whipped into shape so we would know the rules for the year.

Keith was a creator. He went out there and worked real hard to make it what it is was. He was a bandleader. The next phase, the next person who needed to step in was somebody who had a keen level of the river and was keyed in on the equipment and understanding a guides life to make it survive. That s how I changed things, but you got to have a creator. That s what he was. He was a crazy man. Everybody knows it. He was a good man and he created Adventure Bound. He did a helluva job.

In 1980 I was offered a job with Adventure Bound to manage the Craig operation. I was working in Denver at the time. I made a change to be a manager. For three seasons I managed the operations for Counts. Then he had put in a little over twenty years in the company himself. I think a lot of his focus was turned to real estate. He was making some great Real Estate complexes. He created a great complex for us on South School Street in Craig. It was a boatmun s quarters and huge, huge warehouse and then another home for him, a whole lumber yard converted into, what today, is one of the finest looking boatyards you could ever imagine. And he sold that!

He made a ton of money on it. The boom was on. He went out south of town and created another thing. That was larger. It was acreage and it had all the elements of being another thing that was going to be big. The market fell apart in 82. In 83 it was in it s depths. In 84 we were on a plunge. I think a lot of what he had done is saddled himself with some rough real estate. As well as the complex he had built in Mack. That was a really large building. Instead of staying with boats he got into buildings and real estate. Things got kind of tough.

Keith sold the business in the fall of 1983 to a couple of guys who had a construction company in Vail, Chris Sewell and Ron Buchan. I worked with them briefly into the winter. Didn t even make it to the next season. It wasn t meshing. It wasn t working. They ran the 1984 season. They had the permits and everything that Adventure Bounds was. They didn t make their payments and defaulted. That s when an opportunity came up for me.

I had left the river business briefly at that time. That winter I was contacted by Keith Counts and the people who were holding the notes and the bankers. Got a hold of my Grandfather, borrowed some money, got everything together, presented a package and picked everything up and ran with it. At that time they had some poorer times with another sale that they d had. The bank wasn t willing to let me run with the situation. The actual transfer of permits needed to actually have a scope of time that they needed to look to see if I would be successful.

The 85 and 86 season were up in the air. I had a lot of time, money and everything invested and the official Park Service and BLM transfers happened in 87. 85 was the first season I had run on my own and this makes the eleventh season (1995). I have simply done it my way. To date I still have one more payment left on that massive loan we took on eleven years ago. We are pluggin on. That s a quick view.

A big change in equipment we did in those eleven years, we were in Telluride, one of the Boatman s Rendezvous, at that time, we were looking at some of the inflatable kayaks the guys brought down from Salt Lake City. I think that was a big change for us. **(I NEED TO GIVE ROBIN KLEINSCHNITZ —my wife- CREDIT FOR THIS, SHE**

WAS THE ONE THAT LOOKED AT THE INFLATABLES AND SAID I WOULD REALLY LIKE TO TRY ONE OF THOSE, THEY LOOK LIKE THEY WOULD BE A BLAST) Rather than rowing the people down the river, which is something that I had done for a number of years and all of us had. We were looking for some kind of focus to make our company a little different than having all of us being exactly the same. The same permits, same formats and so many things being so similar, let s get into these kayaks and be part of it. Today we ve got forty of the dam things. They are on every trip. We run them in Cataract, Westwater, we run them up on the Yampa. Everybody looks at us like we are crazy. We probably are but we have developed a good, strong, loyal clientele who want us to have inflatables out there all of the time. That s the biggest change. Cargo-ing up the big 18 footers, even running a 27 down the Yampa at times to focus on putting our guests in the water. Letting them play hard.

That s the biggest thing that has changed for our company. It meant different training for the boatman. It was whole different scheme of things. There are a few trips we run that are old format. That have that clientele who just want to be rowed down the river. It is so easy. It is unbelievable. (laughs) You just have to cook a meal and get them down like the old days.

The kind of communication about what they have to do to survive, rapid by rapid, and then everybody in the water is a swimmer. You have to look at it that way and be ready for it. You have people scattered around. Running those Westwaters, somebody blows out in Skull, you hope they don t end up in the Room. Every few weeks someone does. You gather everyone up and go again. We have no fear of them. A lot of people look at them as a very fearful thing. As long as you properly psych everybody for them and scare the hell out of them. You usually scare the ones who don t run and that s cool too. We run them now. Had them down there last week. People are actually getting better at it.

We do traditional things still too. We throw a 27 on to run the Yampa still. At least once a year, to be obnoxious and make sure that everybody knows that it is there. It s fun to have people walk up and look at it and ask, what in the hell is this? It s a boat! It s a boat! What do think this thing is? (laughs) It s fun to have pieces of tradition around too. I pride myself on a scope of that, tradition mixed with keeping ahead of what is new.

Mack and Craig had boathouses for guides. As I see it, most companies aren t anymore, however, the booms are on and real estate is getting tough. Now I am hearing a lot of probably what counts is experiencing the late seventies, early eighties in Craig. There was no housing available. There was a need to start finding some way of dealing with these poor guys who come in from all over the country to find a place to live temporarily and real estate values have gone nuts. In Grand Junction in 1983 we had guides who would come in here and rent a house for $300. There would be nine, ten of them in there and they would have a great ole time. That s how they dealt with it as *my* transition happened. But before we had boatmun s quarters. Counts hired a cook for us. We had breakfast and lunch every day. It was quite an operation.

I managed under those kind of things and I was real glad to change that. That was tough. Get everybody do what they need too. Also, guides have matured quite a bit too. I remember when I was nineteen, I was running a trip with forty people down Desolation. We left Craig at three in the morning and got to Roosevelt. Had breakfast on our way into Sand Wash. Not one of was twenty-one years old to buy beer. Of course, we found a place that would sell us beer anyway, but imagine that dilemma. I mean . . . that s the kind of guides that were out there. We were all nineteen or twenty or eighteen just barely going . . . The average age of the guide these days is twenty-eight. It is a whole different scheme of things.

I find it interesting you don t have young people particularly interested or on top of one of these jobs. I think it is consistent that twenty-four, twenty-five year old people are applying. It is just a different crew of people. A lot more mature. They want their own house. They want to have their own place. They want to go away from the company after they are back in the boatyard. Those things have changed. The old gang mentality. We were part of, whatever we were, back then. Thank God it is over.

I couldn t wait to be a boatman. I wanted to run a rig bad. I snuck on and did it as much as I could. I am not finding that love of the

river out there in younger people. At least, what I experience myself.

I used to do turn-arounds. They would come in at nine o clock at night because all the boys were out at the boatramp drinking and out raising hell, barely making it back in and we would have a trip the next day. Counts had me up scrubbing pots at midnight, I was fifteen years old, and putting boats back together. You ask somebody to do that today, they would look at you like you are absolutely mad. (laugh) I think I was making a hundred and fifty bucks a month and feeling, all the trips I could get on, that was the best deal I could ever imagine.

After Counts strata of managers and co-owners, I learned to be really independent. I decided on an operation the size I could manage, be hands on. Maybe I am too much of a control person, but also that keeps the finances in order. The finances were something that got out of hand in the past operation. I don t owe anybody anything that I am not current on. I pay my bills and I like being on top of it. That might be an over reaction to past situations. That s how I like doing business. I like knowing that we are under control.

I am satisfied with the amount of permits I have. Right now I have a great fishing guide, so if I could find something on the Gunnison in the Gorge. I think that could be a little branch that I could go to. I am content. I guess I am content with the two acres I bought ten years ago and the operation size that it is. I don t have a lot of on-going crazy drive to make it insane. I like where it is.

Prospectus on permits is going to be a good challenge out there. They are not out yet, but they re trying to be written and supposed to be approved so we can get them. That hangs over your head. Doing business with the government is a scary thing. It always is. Every year there s a new rule. This one is another scare. I ve been through a lot of them before I owned the company as I own it now with Park Service requiring insurance that you would not be able to attain. You can t purchase so you are out of business. Permit fees being so high, you couldn t possibly afford them. That would put you out of business. Constantly you look at things like that. It s a hard way to knock around, especially, from my view, I was raised that the government was there to provide that stability for you. It is a strange turn of events to find out that s the most *in*stable thing about running an operation on public lands right now. It is not stable. The public debate is raging on. It needs to, to have a foundation so I can go on, so I can develop a business for my daughter, which she may be able to run some day. The public debate needs to get done. We need to figure out what the fees ought to be. We have to figure who should access to these public lands. Figure out the criteria for what a good outfitter is. Those are all good things. I see bad outfitters out there. I also see people abusing the system on the private side. That debate needs to happen. It would be nice to tie up some loose ends. I really feel like I am a conscientious guy. Then the prospectus comes out and requires something that would be impossible for me obtain because I am not a trust fund kid. I m not somebody who is wealthy. Not be able to react to it. It is scarey. Talking to the people who are the micro-managers over my life, trying to get the inside information of what that prospectus has, they tell me they can t tell me. They tell me we can t tell you what will be required until everybody can see it. And then you will have sixty days to react to it.

God! It is like going down to the Chevorlet dealer and saying I d Like to buy a Chevorlet. Well, we can t tell you what is under the hood, or if it has brakes or not, but by God it is going to be ready and you need to buy it in a couple of weeks! But even more than that, I have dedicated my whole life to this thing to have just a sixty-day window open for your next shot to happen. It is the cards that are dealt right now.

The insurance issue was dropped. What was happening then?
There were a lot of strong outfitters that get listened to, that are good at not keeping some things back. They went out and did the fight. At that time, Western River Guides was the name of the organization representing the area. Sheri Griffith was out there with her bantering and when they said this is the way it is going to be. You gotta have two million dollars, three million cumulative to operate next year. Politically she and others got it done so that wasn t the way it was and they back off those limits so there was

something available for us to purchase (insurance).

There are bigger issues behind all of that. You have to run to your political people. You got to write your letters. It is not like a guy that owns a liquor store that s sort of has to make sure he takes care of the mayor and the city council every once in a while. It is a bigger scale. You have to run to Washington D.C. and beg to make twelve thousand dollars a year. It is incredible. You have to enter a national stage pretty quick to maintain our way of life. That s the scare that happened. That s the scare that banded some outfitters together, wrote the letters and got the political side going. Some of the beaureaucrats underestimated the power of some of those people. So outfitters made it through that scare, the insurance scare.

My daughter has been on the water and she has shown an interest. A neat thing is she started sixth grade this week, she is writing down the things she liked and all the little stories that the teacher had about where you have been in your life, what you have done for field trips and all this kind of thing. She mentioned her future included owning and running Adventure Bound. I enjoyed seeing that

(September 2000, KATE IS NOW 16 and WORKING FOR AB)

A Memorial -- -- Felix E. Mutschler

April 10, 1933 - May 9, 2000
Courtesy of "Black George" Simmons

Felix E. Mutschler was born in New York City, New York on April 10, 1933.

His academic degrees included: an A.B. (1954) from Hunter College of the City of New York with Honors in Geology, a M.S. in Geology (1956) from the University of New Mexico, and Ph. D. in Geology (1968) from the University of Colorado.

Dr. Mutschler's, professional employment spanned almost five decades combining classroom instruction, research and field work. Dr. Mutschler taught at the University of New Mexico, Hunter College of the City of New York, the University of Colorado, and most currently Eastern Washington University. There he served two terms as Chairman of the Department of Geology, from 1988-1990, and 1991-1993.

Dr. Mutschler was employed as a geologist with Kennecott Copper Corporation, field mapping and evaluating property in Utah, Colorado, New Mexico, and Arizona. From 1960-1964 he was in charge of the company's Durango, Colorado, exploration office.

Dr. Mutschler's love for his work took him to many places throughout the U.S., as well as to New Zealand, Norway, the United Kingdom, Iceland, French Polynesia, South America, France, Australia, British Columbia, and the Yukon Territory of Canada. In 1970 he was a participant in the NASA--Boston College Surtsey-Heckla (Iceland) expedition. It was on this expedition that Felix was baptized.

(Note from John Weisheit: Felix also contributed to produce a river guide of Canyonlands for the Powell Society.° And in 1968, he took part of an expedition to repeat the Powell photos on the Shoemaker/Stephens Expedition.)°

Though officially retired in 1995, Dr. Mutschler never stopped working. During his illness and up until a short time before his death, he was preparing to present a paper on Porphyry--Related Metal Deposits along with two colleagues from the U.S. Geological Survey.

Felix Mutschler died at home surrounded by his family, his wife "Bunny" and sons, Charlie and John. He will be remembered for his appreciation, love, and sense of wonder for the natural world. He will be remembered for his honesty and integrity as a teacher, giving one hundred percent of himself and expecting no less in return. He will also be remembered as one who advised others not to be in such a hurry, modeling in his own life, how to take time and enjoy the view.

Sheri Griffith

October 13, 1995 Interview

The place to start is with my two brothers and myself in 1971 rafting in rivers in Colorado. Originally, it was a way to increase tourism in summertime in the mountain communities that did well in the winter. Specifically, we started with Steamboat Springs, Vail, Breckenridge and Copper Mountain. It was a way to get people into the Rocky Mountains in the summer. Because they just didn't have that kind of business.

We started on the upper Colorado and did all the exploratories from Kremmling (Colorado) down to Glenwood Springs and I-70. We picked our routes and started going from there. Then we went over to the Arkansas (River near Buena Vista, Colorado) and did some of the exploratories with a couple of other companies and started rafting there as well. Did that for ten years myself.

At that point, we as a group, and me individually, were wanting something more than just daily trips and the mass of business. It became a cattle-moving operation.
We spent more time and energy coordinating vans and buses to get people to the river than we did coordinating the actual river trip and there wasn't a lot of satisfaction in that. So we had started looking for other things to do.

The complicated and growthful business is certainly what we had built and that's what was going, but it wasn't feeling like we were doing much of anything in terms of self-satisfaction or development of the environment for people to enjoy and to people themselves. We were giving them a quick Rocky Mountain Disneyland ride and sending them home.



Sheri 1987 on the Arkansas River
with Guide Chaz della Porta

We started looking at other opportunities and a business in Grand Junction came up for sale (permits previously belonging to Western Adventure Safari). And we ended up buying it of which I took over and ran and eventually, over a couple of years, bought it out and ran it exclusively.

I moved to Moab, Utah. That was in 1981, with '82 being our first running season. So we had one year to sort out all the details before running '83 high water – 115,000 cubic feet per second. Gosh, trying to make transitions from my first ten years with the business in Colorado then another couple of years in Moab the driving factor was staying in business and making money and making the payments to the banks in which everyone was in hock to at that point.

And '83 was devastating year with mudslides and high water. People couldn't get to us and all of that so through those tough roads it made me a better businessperson, but it also made me do something really important, which a man named, John Hoffman, helped me look at one time which was what do I want out of a company? Is it just there to be there or is it there to do something for me and to do something for people?

About 1985 I sat down and got really, what do you call it, insightful? Introspective? I looked at what I was really trying to do. Why wasn't I feeling satisfied? In those days we'd take on any trip. We'd take on anything from a half-day to a daily to long distance trips. We tried everything from half-day trips to fourteen-day trips. Leaving from Desolation Canyon down through Cataract, which I still think is great trip. It is just hard to sell. I got real clear on what I was trying to get out of the company because if I wanted money out of it there were other places to go. I could go to the big city and make a heck of a lot more company then the best potential in a river company could ever provide. So I came up with a mission statement of what the company was about which helped everybody else

get clear on what we are about. It was basically to enhance people's lives through self-discovery on outdoor adventure trips. With that we set a bunch of goals everything from resource sustainability to giving a very top class trip where everyone could stay in their comfort zone as much as possible. Things they were used to back in the city then you could push them out of their comfort zone subtly on a river trip into nature in ways that they felt safe and taken care of, but they could explore parts of themselves, they could explore parts of nature and in the end come out feeling connected to nature. Hopefully, with the idea they would go home and protect it in their own backyard.

I'm not a strong proponent of joining environmental groups. I feel like the best thing you can do is teach people at the grass roots level and take care of it yourself. The ole adage: think globally, act locally. That's when we got clear on that. Then we started doing very well. People then knew what they wanted and they knew if they wanted to come with us or go with someone else that had a different kind of mission statement. Over the years, we just boomed for business, but also boomed in types of people. The kind of people we really wanted to host out on rivers.

It's funny how things come around, how it evolves from one incident to another. Originally, what had happened, my father had been a successful contractor in Denver, Colorado. I was driving him to work one day because I wanted the car to go to high school. As I was driving, I was going through an intersection, a car came the other way and smacked into us head on and broke my father's neck. Basically, out of that he spent three years in traction and in intensive care, thus losing his business, because as an entrepreneur you have to be there to run it. And as he worked through all that and we worked through it as a family, because my younger brothers were still in school, he ended up starting over and moving to Steamboat Springs. They moved. By then I was out of school.

They moved to Steamboat Springs, Colorado and my dad started the first management company, managing condominiums. Out of that came how do we get through college? At a round table one night, we talked about what our futures were. Being the type family that we were, we considered how could we help each other out. By the way, dad's injury is what helped to pull us together. Out of a tragedy comes strength. And we found our strength in each other. My dad said what would be nice would be if you could do something that helped me as well in bringing people in the summertime because we don't have people and we can't rent condos in the summertime.

My one younger brother, Mark, sez, well I went rafting once, let's start a rafting company. Being in our young naïve state we all thought that was a wonderful idea. We then preceded the very next chance available to go down to Denver to the army surplus store. In those days, that was the only place you got anything river-wise. We bought a couple of boats and came back and started trying to figure out how to build frames and how to row them and how to make it happen. What we didn't know was that a lot of that technology had already been developed in the Grand Canyon area. We also felt like if we had gone over there it would be like spying and that was unethical.

So we spent the first year figuring out how to row the boats. Then the second year we took down fifty people all season long on full day trips for twelve dollars including lunch and transportation to and from the river. Things have definitely (laugh) changed from then!

In those days you only had the May West jackets or the horseshoe jackets. You couldn't sit on the May West because they would pop and turn into 'sinkers.'

There also weren't any regulations on that pump house to state bridge (or further) stretch on how many people to run or how much. They didn't even know how much to charge us at the BLM. When BLM finally figured it out, it was .25 a person. Which, you know, back then that was plenty. It has changed substantially since then but that was the start of it. We went through a lot of working with them to figure out to regulate us. (laugh) That was their ball of wax up there. They like to do that.

That's pretty much how it started. We started out in Steamboat with one van and a truck at the beginning. [The yellow truck, I bet.] Gosh, you remember the yellow truck? Yes, because that yellow truck and the brown truck were snowplow trucks that plowed out the condominiums in the winter. We pulled the plows off of them and they became our river trucks in the summer. It was multiple uses at its best. A lot of that equipment was equipment that could be used in the wintertime.

For the first ten years we were together. Rafting rivers together. I always felt I like I would be the last person to stay in this business. I really thought that my brother Ron would do this the rest of his life. After I got out of school, I was going to vet school at the time, I figured I'd be off being a veterinarian somewhere and he'd end up doing rafting. My other brother, Mark, would spin off and be in business somewhere. Now today both of them are long gone. I think back and I am not sure. One of the reasons I am here and they are not is that I came to Moab and that they stayed in Colorado. After a couple of years they ended up selling out. They sold their company. I think part of the difference is I came to a great place because we all were good boatmin and we were all good at what we did and we all loved people. I don't think any of us could be in a business that wasn't around people.

All of us including myself ended up getting on all of the boards to walk through the regulations. When the state decided to regulate in Colorado they were way off base. So my brother Ron got on the Parks board so that he could have some input on that.

I think to run a business is very different than to just run rivers. I think you can see over time how many people spun off of running rivers because it got to be a hardcore business. More and more regulations came in. That was frustrating. You really had to manage the company. Liability became a real issue. In the beginning we didn't have liability insurance. Everybody was out there for themselves and everybody accepted the risk. It became a hard core business and if you didn't figure out how to run a hard core business then you were gone whether you sold out or just shut your doors and left. It started out to be a way to take people into a great place then turned into business.

As an example, my company, by worldly terms is a very small company, responds to twenty-seven government agencies and to twenty-five of them we are paying money. If you are a day late, they are just like the IRS; they can come in and shut you down! Unless you are willing to play all those games, which a lot of those old people weren't, and today frustrates all of us, I think that's where we lost a lot of good interpretive river people, outfitters-guides.

Colorado Adventures, my brothers' company, was sold to some people and it stayed Colorado Adventures a long time then they got frustrated and they just shut the doors. They walked away.

He said, "I've been reading and I think the fad of river running and outdoor adventure is waning and it will be over with soon."

Mark and Lee went to Denver and did a Travel Agency and Adventure Travel Company. They sold all kinds of adventure travel. They sold everything from my trips to the Grand Canyon and jeep trips and every kind of adventure trip because it was difficult to find a regular travel agency to sell adventure at that time. Travel agencies were still into the selling of cruises and cheap trips to Hawaii and Cancun and they didn't want to pick up adventure travel.

As a matter of fact, five years into our business, our CPA came to us and said I suggest you sell the Moab river part of the business. Why? He said, I've been reading and I think the fad of river running and outdoor adventures is waning and it will be over with soon. So you should go ahead and sell out now while you can get something for it. I guess that is why he is a CPA (laughs) and not a forecaster of travel, because that was just the beginning. River running was in its infancy.

Then Lee (my mother) came over here because she started the first reservation systems in the Rocky Mountains for free-sale and sale of all different resorts,
condos, hotels and the activities under one roof – a central reservation system. Did that for a number of years then six or seven years ago came over here to computerize my company and then asked to stay. So she runs our reservation department. So there is definitely some family that has evolved back into this business. It helps it stay a family feeling business even though it has to be a business, unfortunately.

My older brother Duane and his wife Margaret moved here to Moab

a few years ago. He worked as a mechanic and with film production. Margaret does work here too. She is our marketing director. She is the one who carries all the details when all of us run astray.



DESO 1982, when SGRE ran as Western Adventure Safari

You know a lot of these river companies have family involved with them. On one side that is the struggle of it because you are running part of your family in a business and it's emotionally hard and a real challenge to keep everybody pulling together. On the other hand I walk away from here on my vacations and I don't think about it twice because I know everybody here has the same interest as I do and will take care of this company in the same way I would take care of this company. So that is the payoff of it. Now the difficulties and the struggles and the personalities in your family in running a business is paid-off in the fact that you don't have to worry about how that business is run while you are gone.

What happened when I moved to Moab was that Moab was crashing. I am sure in the history books of some of the people who live here I will be cursed. When it crashed, I was asked, along with other people to sit on an economic development board and look at what the strength and weakness of Moab were and what we could do to put Moab back on the economic chart. Actually bring it back from being almost a ghost town. I mean, the bank had repossessed half of the houses here. The people were gone. One winter there were two restaurants open because people didn't even have enough money to even go out to eat. It was a really hard, sad time. So we came up with this plan, still today twelve, fifteen years later is still a great plan, of what the strengths and weaknesses were.

There were three things identified. One was tourism; the second one was film development. This had been a film community from 1949. It had the first film commission ever on the face of the earth. And had dwindled partly because of the aging of two people that were instrumental in it and partly because the big film companies had split off into small independents. The people who knew how to market Moab in Hollywood didn't know how to market to these small independents. So it had really fallen off and they hadn't seen film or commercials here for years. So we said, well that's a good thing. And that's something we could pick back up on. Then the third thing was small industry. What we were trying to balance was the environmental sustainability verses the huge uranium mills and things like that. Get away from big industry that would pollute. And creating a job market for different kinds of people, everything from the professional to the entry level, right out of high school kinds of jobs to keep kids here.

We started back up the film commission and hired an incredibly talented woman by the name of Bette Stanton. The first president was Ken Sleight and he brought me in as vice-president. I knew very little about film. After that first year I was President and remained president for a number of years after that and on the board for years after that. We were trying to bring not only major features but also documentaries and commercials so that there was always something going on here that was creating jobs for people. Now it is done very well. Because of people coming in, I started getting asked to supply services. These were services that we didn't have in town. We started retrofitting SGRE buses, vans, trucks, boats and, ah, others kinds of equipment; everything from pulling out our generators that they could use for lights ... we tried to supply everything they needed so they wouldn't rent it from California nor bring the California people out here. Out of that spun off the company, known as Griffith Production Services that my brother Ron took over. He moved out here and took that over and ran it for a number of years. You get creative because also in those days it was hard to make it through the winter. So you look for

things to do not only for your own employees but also for your own business because you have to be quite the financial manager to have five months to make money and then make it last for twelve. Providing for the film industry was one of the ways.

I think this company evolved like all the others. It started out in somebody's garage. There are many people, especially as I spent time in Washington, that think we are small businesses that work out of our garages. Educating them to that has been a real challenge, none-the-less, we came here and started in a warehouse in town, which is now known as Eddie McStiffs, which is a highly successful restaurant and microbrewery. From there we moved up the street to a little rock house (between 378 & 426 N. Main Street) and then as Moab continued to fall, a business that was called Plateau Supply, which supplied mining and piping and drilling equipment to all of southeastern Utah fell by the wayside and it was huge complex. I mean, I looked at it and thought number one I could never afford it, and number two I could never fill it and now we are, of course, over flowing. I didn't even look at it originally because of the size and perceived price. This is where the wisdom of parents comes in. My father, as I discussed it with him said, don't ever say no for the other guy. Let's go make him an offer that we can live with then if they say no they say no, but unless you try you'll never know. We went and made them an offer and they accepted. It was a good offer for both since they were basically bankrupt.



For the first five years I had people, I mean locals, stop in here and comment on how they would never have expected a rinky-dink river company, all outdoor companies were considered rinky-dink and on the edge, to ever take over a major corporations mining and drilling operation. If anyone had ever asked them they would have said that was ridiculous. Well now you can see all over the states that river running equals big dollars. It is big business to take people outdoors and keep them safe, safe as possible. So that's the history, we've been here, 2231 S. Hwy 191, for a number of years. The production company started out of here then I bought the building next door which was a seismographic helicopter operation, which again I got the same feed back, we never thought ... People basically thought that mining and drilling was a sustainable economic industry and were quite surprised when it didn't work. Here we are with two big warehouses that were spin offs of a whole different era.

One of the important things about Moab is how it got back on its feet. With tourism, river rafting and hiking those kinds of things were always here. I think more of what happened is all those businesses were prompted to really go out and market and push the community and there were a lot of partnerships formed: the Travel Council, the Chamber of Commerce and such. What we saw was a real big push with rafting and a big push with jeeping, motorcycle riding. It always amuses me, people say get rid of the motorcyclists on the slickrock trail and yet motorcyclists are the ones that built the slickrock trail. Now the mountain bikers want them off.

All of the sudden this new thing evolved called mountain biking. There were two people in town with a yearning to get in business for themselves. Their background was the mining business as well, the Groff brothers. They just jumped onto this mountain biking thing and turned Moab into what is now the mountain bike capitol of the world. They truly put Moab on the map in no other way that had been done in the

past.

The Groff brothers went out to bicycle magazines and got them to come and do articles and really pushed these people to get out here and get Moab on the map.

Now we have that and that is a big economic plus for the community. I still think the parks are the biggest draw. What makes tourism great is all those activities fill out a year. The bikers are here spring and fall. River rafters are here in the summer. Hikers are here all of the time. Your National Parks people are here all of the time. So you are getting it all when you used to get a season that was three months goes almost ten months. Now people can start making a living at providing tourism.

Thinking about things that shape what makes us the way we are today. Probably my father's accident and my adventure travels with my brother Ron were two of the key things that made me do two things. One, it made me embrace life and two, realize taking risks in business was only business. It is very different than taking risks with your life. All of the sudden taking risks in business wasn't such a big deal anymore.

It was 1980, just before I moved to Moab, that Ron and I decided to go down to South America and run the ever-famous river we had just started to hear about – the Bio Bio. There were only a couple trips on it and we were part of another exploratory with Sobek. We had gotten to know those guys. They had invited us down as well as another company. What an exciting thing to do. We had always wanted to go to South America.

We scheduled it. Put it on our books to go down there, January and February. Had a friend of ours join us at the last minute, Charlie Rowe. The three of us took off and we were supposed to have our own boat and go along. We got down there to find no one and we were stranded at the airport in Santiago for about a day trying to figure out where everyone was. We ended up finding a train that would train us to the base of the Andes Mountains and found all those guys with their boats in little wooden sheds. We joined the tour. It was a ten-day tour.

In those days a couple things held you back on the Bio. One, there were no self-bailing boats yet, so every rapid would fill you raft with water and you would have to get to shore and bail it out. Most places you could hike the rapid. Procedure was that we would all pull over, scout and a few people would hike down below with throw bags. You would run the rapid and they would throw the throw bag to you and you would hook it onto your boat and get swung into shore because the next rapid was so close that you couldn't get bailed out in time to get set up. So they would swing you in, we would bail out and go on.

We did that well; we actually lined a couple of boats and portaged a couple of boats. I think we were five days, six days into the trip and we got to a rapid which had been named around that time, Lost Yak Rapid, and below that is what was later called Lava Falls South. We went out to scout, no problem. The people went down below as usual with the throw bags. A couple boats went through. Got thoroughly trashed. Throw bags were thrown to them, swung the rafts into shore. Then Ron, Charlie and I went down. My brother was rowing at that point.

We went down through the rapid and had to hit one big hole side ways to be able to make the cut to get into the next area around the rocks. As we hit that toward the bottom, the only thing we can figure, because we still don't know today, is that when Ron shipped his oars, he didn't actually ship them (Swing the oars parallel with the side of the raft), he just pushed the grips down so the blades were up in the air. We dropped into that rapid so side ways that the oar went to the bottom of the river. Caught on a rock. Shot off of the rock and went right through his leg. This is quite a well-known story, that's told in many different areas and different stories. But it went right through his leg, a whole oar, three feet out the other side and pinning the clip, hose clamps etc. in his leg. At that time I heard, oh, shit. I turned around and I didn't think I saw what I saw, so I turned back and sort of blinked my eyes and turned around again and there it was.

He never stopped rowing with the other oar. I jumped to the back and pulled him to the back trying to hold onto the oar in his leg. Charlie got the spare oar in place though it was a very poor rotten oar. Charlie tried pulling to shore of which we had a very difficult time doing. Because in the meantime everybody thought we had such a clean run that they didn't need to throw a throw bag to us. There was so much whitewater, it is hard to describe, the people on shore couldn't even see what had happened.

We were on our own sliding into Lava South. At that point . . . it is hard to tell the story without a lot of emotion . . . we did row into shore very difficultly with a lot of finagling and yelling at each other. The boat got tied off. I just held my brother and tried to stop the bleeding. The other boats in the end came down. There were two things we didn't have. One was a saw to deal with the oar and two was any pain medication.

We ended up having one of the trip leaders, Dave Shore, which was a tremendous trip leader; he had to go fifty miles for help. He ended up getting to a town that fortunately the trip before, Dave had gotten to know the mayor of this little town called Santa Barbara. He got to that town by walking, catch-

ing a ride on a motorcycle, and riding in the back of a pig truck to this little town late at night. Dave was getting help which we never knew if it was going to come or not. It happened that this mayor's brother was in the air force and this mayor's brother called out an army helicopter that came and got us the next morning.

In the meantime, we are sitting there in a rocking boat because we are at the edge of whitewater so the boat is slamming into shore, trying to stabilize my brother not wanting to move him. And all we had was a Swiss army knife with a saw blade. We proceeded to saw the oar off on both sides with a Swiss army knife. It took hours. Just dealing with thinking that my brother could die at any time, catch an artery by the movement of sawing, and also looking at panic myself, because when you see somebody you love in a life-threatening situation it is really easy to panic. What I realized about panic is panic is a way of avoiding. You don't have to deal with anything because you freak out. You make somebody else deal with it. As I started to panic, my brother looked at me and all the color went out of his face, he said, wow, I'm going to die aren't I? (A moment of silence.) At that point I realized that panic was going to have a strong effect on him too. It also made me realize that you have a lot of control over your own body. I came out of it and said, No, you're not. We are going to make it through together.

I was an EMT. I started working him down on his heart rate trying to get his blood pressure stabilized. He was going in and out of consciousness. Stopped the bleeding and he just got it under control. He started doing it himself. He ended up getting the oar cut off being in and out of consciousness. I talked to him the whole time, which he says is one of the things that held him there. I don't even know what I talked about after hours you have to run out of things to talk about. Got him on shore and the poor guy spent the night with an oar, hose clamps and clip in his leg, his upper thigh. Of course, then the muscle spasms set in. They would jam the oar up against the bone. I don't know how he dealt with it. He sez today it is a good thing that the mind can't re-enact pain. Or you'd have nightmares for the rest of your life. We all sat around the campfire and we all sang songs and we all talked and we all made it through the night with him. The next morning the helicopter came and flew us to a hospital in Concepcion. When we got there they couldn't imagine what I had explained to them, what had happened. So I made them take X-rays because they wanted to start pulling on the oar. They came out and their eyes were bugging out of their head when they saw the size of the clamp and clip in his leg. There was a long surgery. Ron came out of it. We spent a month in Concepcion.

He still rafts today and he walks with a brace. It killed the nerves from the knee down. And he still loves life! But it was through that that I realized two things. One, taking big risks with your life, it isn't worth it. We are out here, rafting out of Moab, to have a good time. We aren't here to risk lives. So it made me get real serious with our safety programs at Sheri Griffith River Expeditions. It also turned me into a teacher. I came back, took instructor training and started teaching people first aid because I didn't want anybody to ever be in a situation like ours in Argentina and they not be able to do anything about it.

For twenty years now I have taught classes on first aid. Just to help people to never be in a position of not having some resources to do something about life threatening situations that can occur in the wildest of places or the easiest of places. The Bio Bio is a well-known story I've heard it in a lot of different places. It is a really good story about how you pull together. What is important. It checks your priorities and I still get off of my priorities and get too involved in business but it makes me, when I think about it, recheck my priorities of what is important and who is important. Hopefully I remember to run my business that way.

[I think as a businesswomen some other priorities entered: protecting the land and the rivers and had made you get involved with a group called Western River Guides Association.]

The outfitters association, WRGA, that was twenty some years old I did end up on the board of directors. Primarily I was there for a few different reasons. One was to enhance safety, two was because I was raised with a strong belief that you give something back and three, I was asked to be on it. I was on the board a few years then I was elected president and I was the first woman president and the only president to ever run two terms, which the joke was always that if you were president of WRGA people could steal your business from you because you were too busy running the organization. It was the outfitters organization of river runners that involved the twelve western states and about 200 rivers.

Involvement with Western River Guides Association is what got me into Washington D.C., going back fighting for the rights of continuing to run business on public lands. How that ties to the environmental effort is that there are not enough rangers out there to educate people, so they were starting to regulate instead of educate. I saw that as a big job of outfitters to go teach people how to take care of the land instead of locking the land up and that is still the contention I have today. I am accused by many that it is a fool-hearty attitude. Bill Hedden is one of them. He says it is a joke. He says you got to close land. I have a belief people don't want to ruin the land; that if they are taught how to take care of it, they will do so. Thus there is a reason to have

an outfitter working on public lands: to expose people to lands that they could never go do themselves. There are people who don't want to invest in boats, not learn how to row boats and they have a right to see land by water and we have a great opportunity to teach people how to take care of it. On rivers you have a hundred percent of their attention. In a jeep they are paying attention to the jeep, on a horse they are paying attention to the horse, hiking they are watching where they are going, on a river they can just float and reflect. It is a great teaching opportunity.



Kitchen scene of an SGRE Cataract row trip. From left: Dave Focardi, Gene Boyle, Larry Hopkins.

I spent a lot of time in Washington working with a lot of different kinds of bills, conservation bills, environmental bills, business bills, insurance, liability all those kinds of things that could put outfitters out of business. I made a lot of alliances I still keep today with Senators who are still Senators or Senators who are not there anymore. I really cherish their belief in trying to do what is right for the country as well. Along those lines, after a few years, we realized we weren't big enough to really fight the issues alone. We didn't have the economic power to do so. We ended up aligning ourselves with an organization from the east called Eastern Professional River Outfitters. I was the one that joined those organizations together during my tenure. I was the last president of WRGA. It then became what is now known as America Outdoors. That was the culmination of the two organizations then we opened our doors to all outfitters. They didn't have to be just on rivers. If we are going to take this conservation message and this public message, because between all of us we take millions of people out in the wilderness, I feel like we represent them, that we needed to include others and not be exclusive. Mountain bikers, horse packers, horse-riding companies any of those who take people into the outdoors are invited to join the organization. We are seeing sea kayakers. What's been fun about it too is that we specifically called it America Outdoors because we wanted to include all of the Americas and all of outdoors was to be included. We now have members from Costa Rica, South America, Canada, Alaska; all of the Americas have joined to work on their particular business and environmental issues in their area. Now there are hundreds of people and we do a lot of different things in terms of education as well as still working in Washington, in fact,

I was just back there a few weeks ago even though I am not on the board anymore, I have the contacts back there to work on some issues. That's a real challenging, but satisfying opportunity to go. Washington listens to us because we make a living off of the land. The only reason we make a living off of it is because it is protected. Not so much protected but conserved, sustained and well managed. I never have any trouble talking to anyone back there because we are one of the few that can talk from both sides, the business side and the sustainability and management side. So it always easy to get back there and talk to people.

The new outfitter Prospectus has only come out in the Grand Canyon and currently what is happening there is an air of getting more money back into the agencies because they are getting cut from the Federal end and they are looking at other ways of funding themselves. How do you regulate? There's a new concessions Act that is on the table on how to regulate concessionaires. Unfortunately, outfitters fall into a concessionaire big pool which includes everything form the big lodges

in Yosemite and Yellowstone and everywhere else so you have these huge conglomerates Yellowstone, Fred Harvey and all of those down to us who are considered pretty small the river outfitters and the mountain bike outfitters, the people who actually take the public onto the land. We are all concessionaries. There are bills that have been going through Congress for a number of years that are trying to more tightly regulate concessionaire. The way it is written it pretty much works for them but it doesn't work for us. It is detrimental to continuing river outfitting. If some of these went through the way they did, you wouldn't see outfitters the way you see them today. They would either be part of the big conglomerates or fly-by-nighters that come in and leave. There would very little strength and consistency in the outfitting industry, as we know it today. It is scary. AO has spent a ton of money on it and individuals have gone back. I go back on my own dime because it means whether I am in business today or whether the public gets to see these lands, if these bills aren't brought through in a manner that works for us and works for the public.

Something I think is interesting is how the types of people have evolved over the last twenty some years. Historically, originally, it has always been the educating public, the universities and such that wanted to come out and see rivers and see nature and study it. Then into the late sixties and seventies you started getting people who were adventurous that wanted to be outdoors. Now we see people that want the feeling of adventure without the risk, almost like, make me feel like I am having a great time but don't hurt me, make me feel like I am out in the middle of nowhere but I want to be an hour from a hospital if something happens.

Perceptions have changed. I think a lot of it is the same kind of people, now they want you take more responsibility for them. Yet there are the other kinds of people that are yearning to get out of the city and touch the earth again. They are living on concrete. It is such a strong desire. Surveys show that people now don't want to just go lay in the sun. They want to take something home inside of them. Memories, changes and evolution and education and they want to take something home. Now we see more that people are out on a bit of a quest. Even though they want to stay in their own comfort zone, they are questing. More people questing for more than what they are getting out of their fast paced jobs. They say that they want nature. But when you first bring them out here they want to be on the clock. They are used to such a fast pace that you put them on the river and it makes them antsy, uncomfortable. I think how we deal with that in the future is going to be interesting for all of us. How we satisfy the questing mind and slow people down so they can hear their own questing mind. Then have them going home happy. With that comes the kind of guide you have to hire. In the old days all you focused on was the ability of the guide to get them down the river and prepare them a meal. Now customer service has come into it. Now people want a lot of customer service on the trip. We train more. You have to look harder for guides who want more social interaction with the customer, are willing to provide this higher level of customer service. They are not the tough guides that the customer looked up to and don't have to interact with. They can sit on their boat and look like an outdoors person. The guide has to integrate into the group and pull the group together. They have to have these social skills. It's a different kind of guide because people are demanding a different kind of guide. We are training more for safety, certainly. We are training more for people skills, conflict resolution, Super Host training. No one would have talked about conflict resolution skills twenty years ago. So they can deal with the interactions of people out there. Companies are rated on how much customer service they provide for the guest. There are older guides that I call corporate dropouts. They have a corporate education. They've been in the corporate world. They are still doing the same things though. They are rafting in the summer and working the ski areas in the winter. They have chosen a life-style that works for them. I don't know if they will do it forever. But they are taking a big leap of faith that the corporate world wasn't what they wanted and they are going to do this for eight or ten years and then go back to whatever works for them at that point.

They are doing the same sorts of things the younger guides are but at an older age. I have even had retired, in their late fifties people contact me and wanted to see about rafting. One had retired from the Army another from a government agency another one from a law firm and an x-insurance salesman, we have had psychiatrists, CPA, chiropractor. People who are taking a conscious life change make up a whole gamut, very different from the social drop out who fell into it because they didn't know what else to do.

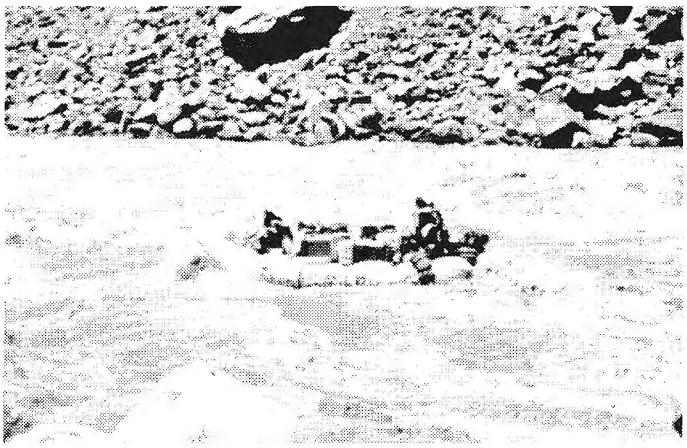
I think people leave this industry with a strong sense of self, sense of accomplishment, high level of skill. They are also used to being in charge. Moving into a new industry they take with them a lot of skills. I have seen them go from everything from Green Peace to corporate jobs. They have taken these skills that they have learned here, which brings me to something that other outfitters that were interviewed have articulated, I think it is worthy of a note though, that when you hire guides you have to hire the most self-confident, independent thinking, strong willed person because they are out there with peoples' lives. So you hire these strong willed people and they come back into the warehouse and you have to try and tell them what to do. They are used to running their own

show out there, being their own boss and they come in and you tell them what to do and it is a hard transition for guides. It is very difficult as a manager. It would be a lot easier to manage people who didn't want to bosses themselves. There is a real strength of character in guides. There has to be. First of all they won't make or last very long. Secondly, they have to be confident out there because they are interacting with very strong people. The level of our customer has changed dramatically. What used to be college kids and younger twenties now it ranges form twenty to sixty. From retired people, high level corporate people that if you don't have the strength of character to deal with these people you certainly aren't going to tell them what to do and how to behave on a river trip. There has to be diplomacy and strength and skill. The guides rise to that occasion. Guests go home raving about their guides. 91% of our evaluations talk about the guides, as it should be, they are the ambassadors of the company.

You have to hire these strong people then try to direct them. That is a challenge in management to direct these guides you bring in and give them all the authority to
go out and do what they need to do to pull-off a trip.

A memorable natural phenomenon? How about flipping a j-rig at 115,000. (laughing) Is that considered natural? Cataract Canyon at 115,000? In 1984 it hit 115,000 and there were 5 j-rigs down there and three of us went upside down below Niagra at 115,000. That's quite a natural phenomenon swim. It takes you about two minutes to get from Little Niagra to Imperial. The details were we washed the motor up at Big Drop 1 and there were eight of us on our raft. There were six on another and eight on another and we went through Niagara backwards. So I got firsthand experiences since I was at the back of the boat. The other boats went through the wave were they were supposed to go through but didn't make it at that water level. It was a very quick swim. Everybody got to shore. Everybody was fine.

Michele -Well our time has run out with Sheri. She is already on the phone. (Sheri can be heard in the background.) Trying to catch up with her day, her week coordinating some more river trips with one of her employees.



Kenny Devore operating an SGRE jrig in Big Drop 2. Zane Taylor in training.

♥ *There's a real strength in character in guides.*

There has to be.

JIM SARTAN

1995

North American

I saw probably one of the last remnants of the guy who does it, just to have a good time in a way. A guy like Dee Holiday is a lot better businessman. He is a little bit more serious about it and I don't take it that serious. Lin Ottinger is sorta like me, you know, hell, we just take it as it goes and it is just a lot of fun. I'd like to say that all my competition, anymore, is getting tougher and tougher. The reason for that is, they are all younger, first of all. They are all better educated by far. And they are all coming in with a lot more money. (He chuckles). It is pretty tough when you got competition. They only thing I can say is I am still here. I ain't making any money, but I ain't broke either. It's been up and down. Sometimes I had money, sometimes I didn't. It is a lot more technical.

I never dreamed ... I never even finished high school. I couldn't even type a letter. My wife used to type all my letters. I got lucky. I did take typing in school so I knew the basics about a typewriter. Somehow, how come I did? I don't know, but I spent about four thousand dollars on a computer about six years ago. At that time this 1088 was really the best thing around. It had 8 megahurtz speed. I thought that was really something. I learned to self teach on this computer and I am really getting pretty good at it especially with spreadsheets. From the moment I got that my wife never answered a letter for me. I always type them myself because I can put spell checker on it. I think some of the people who receive a letter from me probably think it pretty cornball. It is so like a country boy talking, so to speak. I don't know the difference between a verb and a noun. My wife reads them, tells me, you're repetitious. But it says what I want it to say and I get the reservations off of it, so . . .

That was just the beginning technically for me. Now the BLM and Park Service and accountabilities... Talk about changes, one of my boatmin met me on one of my trips and became a boatmun, Dean McGee. We were reminiscing the other day. I remember the first First Aid class he took with me was over in this Red Rock Elementary School. It was five bucks for the class. That was for your Red Cross book. Now it has become a mini-fortune to take these courses.

I can't even talk to an applicant anymore if they don't have First Responder. You get your card and I can guarantee you work. Until that time unless you're in the office or out in the yard here, every position I got has to have those first aid cards. We've never has to use it in all the years I've been in the business. Probably one reason is we have a motto that I pound into all the employees' heads: No matter what, if in doubt, don't.

We have instincts. You can look back at some of the things you goofed up on and knew darn well you shouldn't have done it to begins with, but you said, geeze, it's such a little chance. No big deal. I tell my employees, if you've got a gut feeling in the pit of your stomach, that this is a bad deal you abort the trip. Now at a rapid, you can't abort the trip. You have the people walk that sucker. If necessary, if you're on a jeep trip or a daily and you abort it and the trip don't go? Come back and I will return the money. I might cry after they leave. I know, from wisdom, observation, it is a helluva lot better to give back that little bit of money then to have to be in a hospital or be in a courtroom. Whether they are just devastated or hurt. It would cause the end of your career. It wouldn't continue on if you hurt a person or caused a death. If in doubt don't and you will never be chided for it. Even though I might grit my teeth afterward, it was a dumb mistake to abort because I knew it wasn't good business. I would never chide the person because next time if I chewed him out, next time maybe they would take the chance and that's when the accident is going to happen. And I won't dock their pay either. If I am paying sixty or seventy dollars wage for that trip and the employee aborts, I still pay them because they did what they had to do. They won't get docked because I want them to do the same thing next time. Of course, if it happened too often I would have to take a pretty close look at it. There could be a guide with a psychological problem! It is sort of a funny thing. There aren't too many old boatmin left. I've noticed throughout the years

there's not very many who go beyond eight or nine years. There are a few. They are good boatmin. Boy, let me tell you, from an outfitters point of view, ah, you can't do anything wrong if you got good boatmin. I mean they are absolutely critical. I noticed some companies use first year boatmin for Cat. I don't think I have ever had a person that didn't have two years usually three before they got to Cat. I have always tried to hire from within. If he stays with me, like a daily boatmun, going into a third year, he's getting to be where he is in Cataract or out of the business because he doesn't need to be in dailies that long. He ought to be advancing.

We ran j-rigs on a two-day Cat trip. We are making modifications this year. We are running right now with six people and planing at twenty miles an hour. I had a guy who is an expert down yesterday. He showed us how we can modify that quite a bit. What we have is our proto-type there. We know that it is possible.

This is one of the reasons I have survived. I figure any fool in the world can go out and invest $15,000 dollars in a boat. Hell, anybody can do that. The boat itself is successful, but the boat may not be successful commercially. For instance, me and you, if you had a $15,000 boat out there and I had a j-rig that could plane, I can haul nine people and you can haul six, and I got $3000 tied up while you got $15,000 tied up in yours. There's got to be a price difference someplace. We couldn't be charging the same price. I don't have the investment you got. Basically, if you got a sport boat, you are selling a philosophy. You are selling glamour. That's pretty hard to do.

Promotion has changed a lot. Everything I do, pert'inear, is a little bit different than everybody else. Like I do the paddleboats. The reason I do paddleboats is not because they make more money. The first thing the customers would ask when they came in was, how much is your raft trip? Well, what are we selling raft trips or price?

Then I was walking downtown one day and there was a store with a whole row of Kodak film. Next door there was a whole row of Kodak film. In the third store there was a whole row of Kodak film. God, they are all selling the same thing. Why should I buy from one or the other one? It all boiled down, in the rafting business, everybody was saying mine is more exciting because my boatmun was more experienced. I serve better food. I got better equipment. It is still the same trip in reality. Anybody can say that. That's when I converted over to paddleboats. I don't make near the money I would with a row rig. We all pay about the same to the boatmun. A row rig carries ten people; the paddleboat carries six. We all charge about the same per trip too. At least, it gives me a little niche to say, hey, we have made a departure here.

I tried this two-day about eight years ago. I wasn't successful because the way I was operating it, it was too expensive. I was jetboating down to the Park (Canyonlands' boundary) and jetboating out of the Park. When my deals fell through with John (Williams, proprietor of NAVTEC), I didn't run last year because of the sale. So when he backed out first of February, last of January, I decided I had better get in there and start doing some trips cause the Park Service isn't going to like that even though they do not have a use or lose like the BLM has. I was anxious to get back in. The easiest thing for me to get back into, starting the first of March or April, was to do one or two day Cat trips. We figured out we could do a two-day Cat trip. It is too slow with a j-rig. I've got to figure out how to do that. I am a little bit of a gambler, not with money but with ideas and concepts. That's why I don't really want to sell out right now. I want to go at least another year because the challenge of running this Cat trip. I have some time right now to do some promotion. We didn't start promoting our one and two day trip until, well, this sign out here wasn't put up until the twelfth of July. It is all impulse business. No brochures, no nothing, just start from scratch. We still run a hundred and two people. Not too bad for not spending a penny on advertisement. So I believe in the concept of a quick Cat trip. I only have one competitor and that's John Williams. And he's running a different kind of trip than I am running. He runs a sport boat trip. I don't like the one-day. I think it is too short, too quick, just too much.

Just like my paddleboats, there are a lot of drawbacks to what I'm getting ready to do and John's already doing. Who else is going to do it? It is a niche thing.

There's no way in the world Tag-A-Long Tours can have a four day trip that's $700, a three day trip for $500 and a $250 two-day trip because the people will say jeeze, why not take a two-day trip this year? See what it is like. It's cheap enough. Then next year if we like it, we can go out for either a $700 trip or two two-day trips for $200 less or the same price as the $500 trip.

This parallels promotional-wise with years ago they ran buses across the United States. Greyhound and Trailways, when I was a kid was big business, every town in the United States had a bus station. Here came airplanes. In a nutshell, why would you want to spend four days in a bus going across the United States when you could do it in one-day in an airplane? You pay more, a lot more than in a bus.

I remember when Keith Counts had Adventure Bound. He was the only guy in the industry who ran a three-day Cataract Canyon trip. The rest of us were running five, six and seven day trips. Long trips were not uncommon. Keith Counts, all he ran, was a three-day down in Cat. Everybody looked at him and said what a nut that is.

In fact one time I went into a group of his people who were just getting off the bus. It was more of an investigative type thing than anything, but I got a helluva awakening out of it. And it backfired on me. I went in there purposefully to dig the people a little bit. Outfitters despised the three-day, they though it was a rotten trip. I walked into the crowd. I don't look like some boatmun. I said, Where you been? Oh, we've been down Cataract. I said, Wow! It must been a great trip. Oh, it was wonderful, he says. Now, my sticker. How long did you go? He said, Three days. I looked at him. I had a really surprised look on my face, Three days? How in the world could you enjoy such a quick trip through that beautiful area and not spend four or five days? Oh, he said, the trip was good. We decided that we'd go through in three days and if we decided we liked it and wanted to came back for a six day trip, by golly, we'd just come right back. Boy that just knocked me over. It taught me a lesson there.

Now, of all the motorized operators, except Western, Dee doesn't do motorized trip, at least 85% of all the motorized companies run a three-day. What ever happened to the old six and seven days? It is too long. Does this parallel the American's life-style? Fast is why McDonalds is so successful. People don't want to wait around in some good 'ole ma and pa café anymore. Wait for them to catch a chicken or something. They want to walk in grab it and go. That's what's happening to our rafting industry, I think.

So nobody is going to compete with North American. I don't think you can sell a seven-day trip and a two-day trip without they flop over to the cheaper two-day trip. Mile to mile it is the same thing. If a guy can figure out how to run a Cat trip in two days and do every single hike you can do on a four-day, it would be pretty tough competition. Problem is you aren't grossing per person what you really should. Travel Agencies don't want to sell a $300 trip. They want to sell an $800 trip. Commission is bigger. A longer trip eats up a guy's travel allotment.

Fortunately when the Park Service estimated the potential impact down there. To the industries benefit they over estimated so it leaves outfitters with a pool. I am sure if Park Service had hindsight to do something about it, they probably would have cut the amount of people through Cat in half and not have a pool.

Of course, companies like Western who always uses the pool, they probably wouldn't be here, because 365 paying passengers wouldn't have done them that much good for the amount of costs. They always do 7, 8, 900 or a thousand passengers. Western, they are businessmen. Big promoters. Guy like me is not a good businessman. I have a boatmun's mentality. I am thinking about the boat, thinking about the people, thinking about the food or the geology, or, stories, not, well, my kind need to get out of the business. And the guys who come here to take over the rafting company have got to be less boatmen and more businessman. It is sad in a way.

I remember years and years ago we had a different kind of clientele. At the campsite, you had a big party. You brought out a bottle of whisky, passengers had some and you had a helluva a good time. Somebody'd fall in the water and almost drown, they'd pull 'em out then they

would all sleep it off. The next morning they'd hit the rapids. Now, boy we prohibit liquor. We don't take it and we don't encourage it. We just don't like it. And I like to drink. But, boy, liquor is not a good place on the river. Liability is horrendous. I got that gut feeling. If in doubt, don't. We serve wine. It is limited to about a seven ounce glass and that's it. If a boatmun sneaks more out, I'd fire him, if we catch 'em at it. I never had problems like that. You know, even if you had a beer two nights ago, then two days later somebody dies or is hurt seriously, and there's a lawsuit, you can bet, your drinking *that* beer is going to be brought into it.

I say there is change. I had the chance one time to read the book of Buddah. I never got a religious experience from it, but he tells stories in parables. It is really, really, interesting. The sayings are logical as anything.

One of the things he says is forever. Forever there is change. As you go through and remember that it just blows your mind how much quicker than you think how much change there is. Just look at what has happened to our little city here (Moab).
It is no longer the little Moab I used to know. I've been here for thirty-four years.

When I came here. My dad built the Townhouse Cleaner. I ran it for ten years. I used to be a dry cleaner and I used to do laundry for the people here in town. We didn't know a thing about ecology then. I sat there sucking this chlorethylene, which is a dry-cleaning fluid, chemical. It goes through your skin. Was breathing that stuff. Your skin absorbs so much so quickly. They can put medicine into your body with patches. Stick it on like a band-aid. Like nicotine to help you stop smoking. My God, I wonder how many years those chemicals took off my life. Would I get to be eighty? Of course, I don't think old is good. Very few old people can have a good life-style. My father is one not having a good life-style.

In fact when we get through I've got to call him. He was a great guy in his younger days. Now he is 85. If I even see I am going to live like him, I won't even do it. I won't permit myself to do it. He is healthy as bull, but his mind ... He gets argumentative, can't remember where he is at, he gets lost and lives in the past.

I am pretty burned-out on the business now. I am disillusioned with it. I *love* it when we are in the season. When the customer walks through that door and we are prepared for a trip, oh man I can go a 15, 16-hour day. I just love every minute of it. My wife gets mad at me all of the time. She was raised in a family where her father would come home at 5:30 in the evening and her mother would have a meal. That's the <u>last</u> thing to expect from me or any other outfitter!

You'd have to be a pretty big outfit to have the organization; the department heads and stuff to let you go home. I am here for waiting on the customers (I am a good salesman) and I like to buy the food because I can't trust anybody else to buy the food because others spend too much. What are you buying Kraft Mayonnaise for @ $1.97 when you could have bought Food Club, which is good by the way, not all house brands are good, but Food Club's got a good Mayonnaise @ $1.19. Or you are using navel oranges instead of regular oranges. Navel oranges are 89 cents a pound. Regular oranges are 19 cents a pound. God! You know?

You got to feed good. That's the one great fear I have. The worse sin you can commit is to run short on food. Boy, if you got a four-day trip and you somehow blow that first meal, you've ruined the whole trip as far as meals go. They'll never get caught up. Food is not that expensive to be honest. I use butter on my trips. But, I don't use butter at home. Butter has a lot better flavor than margarine.

I get angry in a café. I like hotcakes and they serve me margarine, my god! It's the only time I get to eat butter! So I use butter on the trips. I don't mind that. And I use good steaks. That's pretty important. All the meals should be really top notch. We've even gotten into granola - especially on shorter trips. I like to go shop for granola. It is really good stuff when you're hungry like late afternoon. You can get dried pineapple and M&Ms in the granola.

I just came back from the East - the outer banks. I think Moab is the center of the World, but it is a big world out there. There is a lot of stuff coming. There are a lot of people outside of Grand County, outside of Utah that are

making a lot of money. It is just amazing.

We were coming back from Mississippi. My wife likes to pull slots. There's a couple places, one in Vicksburg another in Fredericksburg. Fredericksburg is an Indian Reservation. We didn't have much luck in ten to thirty minutes so we were ready to go. No big deal. We don't spend a lot of money. Maybe drop ten dollars, if you're not getting anything it loses the fun of it. We don't expect to win, but like to win a jackpot once in a while and put a jackpot back in. We took a country route out of there. A little out of our way but it was early enough in the day to see the hills and the dales. I was just shocked.

I was looking for the poor black sharecropper. Didn't see none at all. I saw hundreds of beautiful houses of what are selling here for ninety thousand, hundred thousand dollars was selling there for fifty-nine, sixty-nine thousand; little lakes, trees, pastures, just miles after miles.

Compared to the outer banks, we are so far behind times it is pathetic. There's another North American River Runners out there in West Virginia. It is big business. Class V water had nothing to do with it. Moab outfitters are out in the boon docks. There are 5 million people within half a day's drive of the West Virginia operation. Those people out there make a lot of money. How do you use that discretionary money? (Snap, snap, snap.) You do everything. Go to Las Vegas, work a few months then take a small three-day Caribbean Cruise. Airlines are relatively inexpensive, a person can zip around.

I am not an advocate of the two-day. The four-day is the best trip. I can tell you how shallow visits can get. I had a group of French people. We went to Needles to camp for two or three days and drove one morning in Mexican Hat, couldn't get reservations at Gouldings, which is a better experience. I like the local color. I like to eat at the local restauraunts and go to local places. I don't like tourist places like Gouldings.

I made a mistake. I went early to Gouldings. Gouldings has a concession into the Monument. Gouldings put these French folks into a pick up with bench seats and an Indian guide up front speaking in a microphone to you. So myself and the other driver decided we didn't want to go because we had gone before. So we hung out. There was a Curio Shop. Then came a big beautiful bus. Really, really fancy. They opened the door and out came these Japanese people. Just like ants following each other. Out of the bus, down into the Curio Shop. They were approximately 20 to 25 minutes. They came back up and got into the bus. So we wanted to see what happens and we followed the bus. It got to the highway and turned to head to Kayenta. They didn't hire a guide, they saw some of the spires from the bus window. See how shallow it can get? Maybe there will be electronic probes on your head! You sweat and get some water at least psychologically because they can trigger all this. (Jim laughs).

As fast as things are getting, I have a dilemma. What do I promote? I am more inclined to think I want to be promoting the two-day trip. You don't have to buy much food. It gets over and you have another trip going out. They are easy to sell because they are cheap enough.

I got to the point my five-day row trips were hardly selling any more. It was the three and four-day. I am going to promote, a two-day trip. Why waste the extra money just because a boat can't go fast enough to get you down there in less time? I think 85% of the people don't realize how long a five-day is or even a four-day trip.

I don't have my guides write reports. I have old time type boatmin like, Dean McGee, Joe, Brad Hansen. I don't need them to be telling stories on each other. That's not the kind of company I run. I am too loose for that. I am not that restrictive. How I would determine the trip outcome? I wouldn't even ask my customers, all I got to do, I've been in the business a long time, let me meet the people at the airport at the end. When they hit the ground, get off that airplane, I can look in their eyes and I can tell by the expression on their face. I can tell you in three minutes how that trip went. I can read expressions.

The biggest thing I saw between the two-day and four-day customers: the four-day were cooked when they come in. You could see it in their face. They were pooped. They were tired. When you are in that sunlight from 6 a.m. until dark everyday...

I started realizing with my jeeps you can drive too much in one day. For instance, if I had a permit to go to Lathrop, I wouldn't. I think it is a long drive to go to Lathrop Canyon. That's why those Tag-A-Long drivers drive like oh, hell. That's when I learnt you can give customers too much. Of course, there are people looking for five-days. Now, Dee Holiday, he lives off of five day row trips.

I discourage groups even though they are good money. I like smaller trips.

Outfitters were doing Cat. There was no one doing dailies. I was one of the first ones. I did Westwater before Tag did. I owned that hotel across the street (Inca Inn) and owned that restaurant (Hacienda). The first time I was going up to Westwater I invited Mitch and John (Williams) to go with me. They sat over in that café with me. We were getting ready to leave out that morning. Stan Hollister was the guy who got me trained in the boat business. It was raining. Miserable day. Mitch and John decided not to go because of the weather. So myself, Hollister, and his brother, I don't recall nobody else, we went up there and that first time we couldn't find how to get in there. My first trip through Cataract was with Stan. I remember we had a brand new 20 horse power engine. We went on the right side of Big Drop three and we bent the skag.

We went to Harely's Dome over the top of it then headed south, oh, all around the dirt roads passing oil well pump stations, gas lines. We found that sucker the first day late in the evening. So we found we had to go up through that old sheep ranch there (behind the present ranger station at Westwater). So we dropped our equipment and come back out of there that night. Then we went back in there the next day. And did our first trip through Westwater.

I used to run j-rigs through Westwater.

When we first started doing the daily, we did them with motors and my very first boat was designed, in such a way, it was two rubber duckies. Yellow rubber duckies that Montgomery Wards sold. We put two of them together. I wish I had pictures but I don't. We built a frame around the whole thing. And then I bought, I still've got the motors, two little Sea King Air cooled engines. We'd come humming clear down through there. We'd put in at Fisher Towers. You could drop down and go the other side of that island. Big Flood of "84", I guess, ruined that. Now it's private. We put in there. There was no Hittle put-in. Then we would come all the way down to the dock down here by Hwy 191. Many a time as you are coming down, after you are leaving Big Bend, about a mile or two you see a big rock sticking out up on the right side, way up high. I remember seeing that and thinking, 'Oh, my God, another hour." (laugh)

I remember one day coming by what we called Big Sandy Beach, just up above the BLM (take-out ramp), and there was Sidewinder and they were taking their boats out. We looked at each other and said, my God, what a rip-off! They are literally cheating those people from going from there all the way to Moab. All that distance they are cheating the people out of, because they were rowing. Now, what a bunch of rip-offs. Next spring every dam company in the business was rowing. (Laugh.) That was the end of the motors, right there. By the time July or August came everybody was rowing. This is back in 1969, '70.

I was already going into Mexico in '71. I was running a river down there called the Rio Grande de Santiago. A bunch of rich hippies contacted Lin Ottinger and said they had heard of a river named the Rio Grande de Santiago. They wanted to go down it and they would finance it. Well, hell, I'm the guy. I didn't know beans from Shinola. Would you believe I had something like twelve or thirteen people and they paid for everything? I didn't even know what the hell it was, but Georgie White had run it. We tried time and time again to try and contact Georgie White and find out anything we could about the river. We had maps and started to figure it out. I took two j-rigs. Two j-rigs. I didn't have boatmin. I couldn't get anybody to go. There were no boatmin around. This is back around '71.

This river is the outflow of Lake Chapala. It flows from Lake Chapala to the Pacific Coast. So when I got down there at Topeak, I hired me a Mexican pilot from the airport. I said let's fly this river. He flew at about 800 feet above the rim. I was looking for wate falls or something that would cause me problems. We

followed the thing clear out to a dam called Santa Rosa which is below Lake Chapala. Probably a thousand feet drop. And it was probably about a four thousand feet drop between where we started and where we ended.

I had two j-rigs, four motors and one boatmun. I met the group at the Hilton. Later it converted over to a Sheraton. I was staying in the El Burro Hotel and they were staying at the Hilton and I was probably having more fun, but anyway, we had breakfast there and Fred, the coordinator of this group, was a pilot. He had flown his 206 down. We got into that plane, and by God, we really flew that river this time. I mean wewere right down there below the rim looking for things. There were hunards and hunards of rapids.

We got back and we determine that Fred and he's this kind of guy and he still to this day that kind of guy, ah, he would take the second boat. Looking back I was pretty amateurish, it was about 4 o'clock in the afternoon, and hour and a half before dark, they were all anxious to get going, we shoved off.

I said, I'll lead, you follow me. We started off down the river and right off the bat here come a rapid. I was a good enough boatmun that I started hanging that boat right around the corner a way ahead a time. What he did was hit a big rock. I got down through these rapids and turned around to wait for him. The first thing we saw was some heads bobbing in the water. 'Oh, my God, the boat tipped over!' somebody said. We got all the people, got over to shore. We run back up. Fred wasn't there and about two other people weren't there. They were on the boat still. What he had done, he'd come down, and hit a wall knocked five people off and pinned the thing on there. My boat is tied down below. Now it's getting sort of late in the evening. I said hell the only way to get his off is to get five or six of us on it. You guys push us off the rock while I start the engine and pretty soon we were down and around and I pulled up aside my boat.

By the time we did that it was dark. We were tied in next to each other. Somebody woke up, it was still dark, I can't remember the detail, but somebody said, Oh, my God, the water is gone! What had happened was the dam had stopped the flow of water. In the early evening, when Guadalajara needs it, they let that water out to supply electricity. About 11 o'clock or 1 in the morning they stop that water because they don't need that electricity. It left us high and dry. There was a maze of boulders as big as this desk.

Engines are sitting there with the props down. We did not tilt the motors, so the props are supporting the whole boat, you know? God. The next morning there was a discussion. Do we abort the trip now? Or continue on? A couple of them wanted to abort the trip. The conclusion was we would continue on downstream. It was a small river about like the Dolores River.

I made four trips after that first one; we used row rigs. How we ever got down with j-rigs that trip I will never know. The Rio Grande de Santiago would be a super-duper kayak trip, hundreds of little rapids. None of them big like Big Drop, they were all nice little rapids. I got pictures of one place where we had gone into a hole. I missed the hole, Fred hit it. It was such a deep hole that when he come up and out of that, the frame was bent straight up, way out of shape. So we went to shore took the frame off, turned it upside down and jumped on the thing to straighten the frame back out.

This frame I had built in a little town called Tequilla, where they make tequilla. I had a fellow there copy the frame I had. You got this soft Mexican metal, really soft, cheap metal. We pounded the thing back down. Then Fred, he's this proverbial outdoors guy, inventive as hell, he had a hatchet. He went out and chopped down a little tree, put it across the frame. We took rope and stuff and tied this brace across the top to keep it from bending back up again.

We always offered it for free, everybody just go. Later on it got to the point where they wanted mordeta (money) and that's when we quit. This was about '74, '75. But we always encouraged the Mexicans to ride with us the first rapid or two, some would take us up on it. One trip we bought chickens. Live chickens, three or four live chickens, you'd take a string and tie it to their leg and tie to something on the boat. If they shit, you take a bucket of water and wash it off.

Back then there was quite a bit of pot smoking going on. Once we started the trip and got away from the original village, we wouldn't

transport any Mexicans. It was just for our general policy. The area we were going through grew a lot of pot. One day, one of the boatmin, on a row trip, we had three or four boats, this young Mexican, about twenty years old got him to let him ride the boat. It was about our second or third day out. That night we were close to an old dam, an old hydro-electric dam, that was deserted, made out of big rocks. I've got pictures I can show you. So the kid went home. We were in camp and the guy came back and said I want to give you presents for giving me a ride. He had a big beer box, probably fifteen, twenty pounds of pot. Green. Everybody was laying it out trying to dry it.

Anyway we got down to the end where you expect the Federalies, who we are just scared to death of. You get caught with pot down there you go to jail, there's no, nothing, you just go to jail. They don't fool around with it at all, I mean, forget lawyers, forget everything. We got down to the last day and near the Pacific Coast Hwy and civilization, I made them take the pot and there was so much left, it was like taking chunks of bail hay and throwing it in the river. I remember big ole chunks of it floating.

I got interested in going down to Baja. I spent about $30,000 bucks down there. I bought a sailboat, paid $16,000 bucks for it. Went down there and found out a sailboat is not the way to go down there. Then the next boat was this one here, because what I wanted to do was go down the coast of Baja, like we do here in Cataract. So I bought that motorized boat out there. I have quite a bit of money tied up in that. It is twin engined. I needed to be able to plane. Sailboat was too slow. I needed twin engines and a boat big enough to carry eight or ten people. Camp out on the beaches at night and use the boat as a home base. Now, the big thing is sea kayaking. It would be a great support boat for sea kayaks.

Once business gets popular, gets organized, the Mexicans will do like they do in the United States. You can't do it unless it is an organization. I was doing this 16 years ago. Bought the boat 14 years ago, but that boat has never been in the water. I did put a lot of money into the engines. They are in top shape. All I got to do is a lot of cosmetic work on it. I could pull it down to Mexico and hire me a Mexican crew for $4 an hour and they will do everything I want.

When I was running through Westwater, the j-rig, we put three army surplus bridge pontoons together, now, how the hell was that? We put the center tube forward. We didn't cut the center tube in half we set it forward about four feet. We built a little chariot thing in the back with two by fours, or two by sixes, running up toward the front of the boat to keep the motor from going up under us.

The first one I ever saw was right up here at the Moab dock with Verl Green. He had a twin j. Two tubes. I wanted him to build me one because I seen instantly the potential. I wanted him to build me one. He lived down at La Sal at that time. I think he was maybe deputy sheriff at the time. I owned this motel at the time and we had somehow changed the beds so the only metal we had was those metal bed rails. My very first frames were made out of metal bed rails and they were really good steel because they were high tension and could really take the beating. It was better than regular ole angle iron. Anyway Verl made my first frames.

My first tubes were bought out of Buck's War Surplus out of Las Vegas, Nevada. I bought six tubes, now I got about twenty of them. Phew! Most of them I bought fifteen, twenty years ago. Every time I got a chance to get a good buy on tubes I'd buy them because I never knew when they might not be in existence again. I guess if a guy looked hard enough he could find hundreds of them all over the country, someplace. I was paying two hundred dollars a piece for them at the time. I paid Verl a couple hundred bucks for a frame and I was in business. Motors you could buy for about $1100 dollars. Green Rivers at that time were selling brand new for $900 dollars.

Jim Sartan has since sold North American to George Wendt of O.A.R.S.

Biologist, Resource Management, SEUG

March 08, 2000

Subject: 2000 Research and Collecting Permits

Matt Johnson of Northern Arizona University has requested a 2000 Research Permit and Collection Permit to conduct research in Canyonlands National Park. His project is entitled "Avian species inventory and monitoring in riparian areas of the Green and Colorado Rivers in Canyonlands National Park".

INTRODUCTION/BACKGROUND:

Recently, attention has been increasingly focused on the conservation and resource management of southwestern riparian habitats. Although riparian habitats cover only a small percentage of the landscape, they provide habitat for a disproportionately large amount of the Southwest's wildlife (Felley and Skogge 1997). Birds, in particular, use these green corridors as cover, food, and breeding sanctuaries (Walters and Sorensen 1983, Gauthreaux 1991, Howe 1992). For example, 51% of the region's breeding bird species are closely associated with riparian habitats (Johnson et al. 1977). These areas can also be heavily affected by human influences including upstream water developments and urban pollution, livestock grazing, recreational use, etc. (Knoph et al. 1988). The Colorado and Green Rivers in Canyonlands National Park has one of the largest riparian corridors of the Colorado Plateau and the Southwest that is under management of a conservation-oriented agency, the National Park Service. The river corridor is habitat for a number of threatened or endangered species, such as four species of endangered fish, the peregrine falcon, the bald eagle, and the southwestern willow flycatcher. Other Utah sensitive species includes the river otter, western bluebird, ferruginous hawk, Swainsons hawk, Mexican spotted owl, osprey, and the white-faced ibis. Besides the importance of the river system to the ecology of the area, it also provides a very popular recreational experience represented by rafters, canoeists, and hard-hulled boaters. For these reasons, these areas are unique and of special importance for conserving natural resources in the Southwest.

Historically, few formal bird surveys have been conducted along the Colorado and Green River corridors of Canyonlands National Park. What studies have occurred have been sporadic inventories bereft of long or short term trend data. These riparian habitats consist of scattered areas of light to dense stands of tamarisk (*Tamarix chinensis*), willow (*Salix* spp.), box elder (*Acer negundo*), or cottonwoods (*Populus fremontii*). All these environments represent ideal habitat for many bird species. Intensive surveys are needed to provide a basic inventory of what species are using these areas, especially in light of the possibility of future control efforts of the exotic tamarisk. These surveys will also form the foundation for the establishment of a long-term bird monitoring program that can be conducted by park personnel to detect trends in bird populations and quantify the effects of resource management policies. Information gathered in these surveys will enable National Park Service managers to devise an updated resource management plan for these riparian habitats that may benefit and preserve the wildlife populations that currently use these areas. It may also lead to an alteration of visitor use and resource management activities.

In the past, walking surveys have been used to monitor breeding birds in the riparian areas of the Grand Canyon (Brown and Johnson 1985, Brown 1988). They found this method to be fairly accurate in the relatively small patches of vegetation in the Grand Canyon (Sogg et al. 1994). However, it is labor intensive and lacks strict methodology (straight line transects, constant travel speed, etc.) to control observer variability or maintain constant survey effort (Emlin 1971). The point count survey has become a generally accepted method of avian monitoring and has some advantages over walking surveys (Felley and Sogg 1997). By revisiting permanent sites every year, or every couple of years, and observing a designated area for a specific amount of time, point count surveys control survey efforts, minimize observer bias, and collect a sample adequate for statistical analyses of population trends (Hutto et al. 1986, Ralph et al. 1993).

Given the tenuous status of riparian habitats in the Southwest and the Colorado Plateau, of which the riparian corridor of the Green and Colorado Rivers is a considerable fraction, monitoring riparian avian populations in Canyonlands National Park should be given a **high priority**. This data can also be presented as a comparison to the avian monitoring efforts of the Grand Canyon and used as an almost non-water regulated control. Understanding the effects of any of the aforementioned disturbances can be most accurately done through a carefully planned long-term monitoring effort.

OBJECTIVES:

Gather baseline data and develop a long-term monitoring program on avian presence and use of riparian areas of the Green and Colorado Rivers in Canyonlands National Park.

1) Determine what bird species utilize the riparian corridor of the Green and Colorado Rivers at Canyonlands National Park. Record and estimate species density and abundance, species richness, and frequency of occurrence for selected permanent sites. Also, determine the riparian community type where each species is more commonly found.

2) Determine what bird species are breeding in the riparian corridor of the Green and Colorado Rivers at Canyonlands National Park. Also determine the community types where breeding occurs for each species.

3) Develop an avian long-term monitoring program for the riparian corridor of the Green and Colorado Rivers at Canyonlands National Park. Specific sites will be identified as monitoring sites where permanent point count stations will be established. This program will then be continued in the future by NPS personnel.

5) Produce a final report, and lay the foundation for annual reports, that will assist National Park Service managers in developing resource management plans that could protect habitat for threatened and endangered or sensitive avian species in the riparian corridor of the Green and Colorado Rivers at Canyonlands National Park. This information will also help in assessing impacts of internal operations.

METHODS:

In order to use information from the sites to represent the entire area of interest, they should be a random sample of all possible sites (Sauer, 1998). At least 20 survey sites containing stands of riparian vegetation will be randomly selected using a list of available sites that were chosen using field reconnaissance and aerial photos of the Green and Colorado Rivers in Canyonlands National Park. These photos are on file at Canyonlands Park Headquarters. Ten sites per river will be selected. Due to logistical and economic constraints, these areas will all be located above Cataract Canyon and accessed via motorboat, canoe, or raft. Locations of each survey site and associated vegetation components will be recorded using a Global Positioning System (GPS). This information will be stored in the Southeast Utah Group geographical information system (GIS) database. A minimum of three complete surveys, spread out over the field season (April -July), will be conducted at each site.

Permanent point count transects will be set up at each of 20 survey sites. With this method the observer locates a permanent point and is stationary for a set amount of time and records all sitings within and without a fixed radius. In our work, here at Canyonlands and elsewhere, we have found that the stationary observer spends more time searching for birds and less time watching the path of travel (Fagan 1993-7, Reynolds et al. 1980). These methods and analyses will be coordinated with those of similar studies (Sogge et al. 1994) in the Grand Canyon so that data can be compared. This will standardize methods for most of the Colorado River corridor.

POINT COUNT METHOD:
Birds will be censused in spring and summer using the fixed-radius point count method with a 50-meter radius as described by Manuwal and Carey (1991), Ralph et al. (1995), and Barker and Sauer (1998). Standardized recommendations of Ralph et al. (1995) will primarily be followed. Depending on stand size and shape, three to ten point count stations will be located 250 meters apart in each stand, so that the survey intensity will be equal over all stands. Stations will be established along a transect that runs parallel to the river and about half the distance between the river and the beginning of upland vegetation (in the middle of the riparian zone). Visits will be started at sunrise and completed by 1000. No visit will last beyond 1000. At each point count station one observer will record all individual birds seen or heard for 5 minutes within 50 meters and beyond 50 meters. Juvenile birds or birds that fledged during the current breeding season will be recorded separately. Counting will begin immediately upon arriving at a station. Bird detections will be recorded in two time periods: 0-3 minutes, 3-5 minutes, with distances being estimated to the nearest 5 meters. Flyover species will be recorded in the same time periods but with no estimates of distance. Additional notes will be taken regarding whether detections were songs, calls, or other (drumming, wings), whether the detection is aural, visual or both, and whether the bird was detected from previous point count stations to avoid double counting individuals. Birds flushed while walking between point count stations will be counted and their distance estimated to the nearest point count station. Field sheets will be modeled after those recommended by Ralph et al. (1995).

NEST SEARCH:
If time allows after the morning census the observers will return to a survey site and search for nests and observe breeding activity. All nests found will be recorded on 7.5 minute maps and entered into GIS. Their habitat characteristics will be recorded.

HABITAT CHARACTERIZATION:
Each point count station and nest site will be photographed and the dominant plant species listed. Habitat characterization will be described in the 25 meter radius by collecting the following data: number and height of structural layers, dominant plant species per layer, height of dominant vegetation per layer, and the approximate cover of dominant plant species, bare ground, cryptogramic soil, and litter using Daubinmire cover classes (Mueller-Dombois and Ellenberg 1974). Tree diameter will also be measured for all trees within the 25 meter radius.

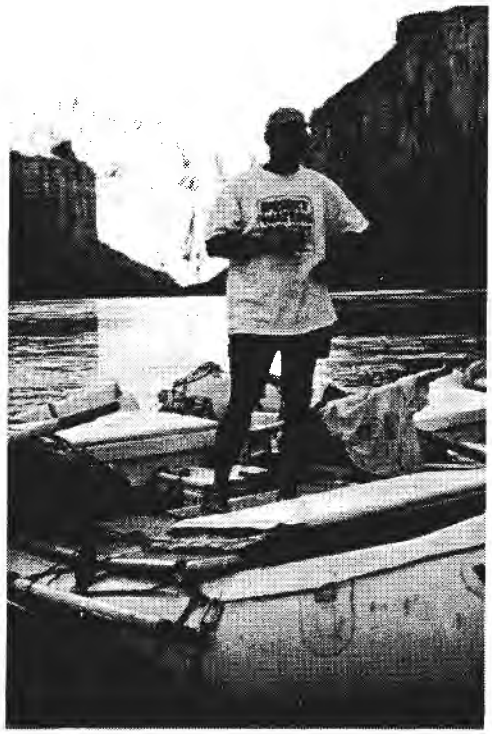
ANALYSIS:
Relative abundance and species richness will be calculated. Species Richness will be determined for all species and for neo-tropical migratory birds. The actual number of individuals per station will also be calculated. Distance sampling data will be used to estimate density and abundance of species populations (Buckland et al. 1993). Habitat type and yearly climate data will be correlated with relative abundance, species richness, and number of individuals per plot. All of these will be compared from year to year as more data is collected. A final report will be required and annual reports will follow.

The presence and location of any species on the Special Concern Avian Species of Utah list (Howe 1993) will be noted. Cowbirds or other potentially deleterious exotic species will also be listed.

No specimens will be collected, however, blood samples may be drawn from some species to determine accurate taxonomy.

Please contact me if you have any questions or concerns. Otherwise, a 2000 Research Permit and Collection Permit will be issued on March 13, 2000.

Charlie Schelz



Message from the Vice- President

First of all, I am embarrassed to be calling myself the vice president. I haven't done a thing, although I can sort of plead one OK reason and one outstanding reason why I haven't done anything.

Shortly after taking on the position I got a lucrative geology contract in New Mexico from January to June 6th. Then I had a weird abdominal pain that took me out of the early season. When I finally figured out what was causing this pain, it turns out to be testicular cancer. If you want to know the whole story on that disease I highly recommend Lance Armstrong's book "It's not about the bike". It's a great read, even if you don't have cancer.

As I write this, I am about to undergo my third and final round of chemotherapy up in SLC. After that, I wait around for a year to see if it comes back. With a cure rate of 90%, I should be fine. So I really haven't done anything as vice president except make a few phone calls last spring helping T-Berry set up the spring on the rocks or whatever we called it. So that's my story and I am sticking to it.

I should look like the preceding picture by the time I get back on the water in the Spring, unless I manage to keep off a few of the excess pounds I shed while on the special chemo diet plan.

So my life philosophy has changed radically- If you want to stay healthy and happy, 60-100 commercial and private water days per year is obviously not enough. I recommend shooting for 150 or more. Also, if you have some nagging health problem, get insurance while you can still fake being healthy, and then don't take no for an answer until you track down what the problem is. I had two and a half months of normal tests of all kinds before we figured out what was wrong. Jenny and I fortunately had a basic insurance plan that covers catastrophic stuff with a big deductible- this will cost us a few thousand, but we get to keep the house and toys. That's all the lessons I have learned so far- now on to some more fun topics.

I want all you readers to think about next year's guide training trips on the various rivers we run. We need volunteers to help put them on. It's really simpler than you think.

If you have ever TL'd a 5-day trip you can organize the training trip. There is a formula and timeline for getting things done- It is like a template for making it happen. The main thing is to find an outfitter to head the food part, and the rest is lining up interpretive people and keeping track of who decides to come. Its been done on a cost per person basis and usually runs less than $100 per guide, and is calculated after the trip. So if you want the training trips to happen, call me and let me know which river you want to do.

The following is a real rough sketch of the timeline, but it gives you an idea of what goes on. I have additional notes that cover a sample participant list, the sample sign up sheet, letters to outfitters, and general notes

By November/December:

CHOOSE DATES – Based on CPRG input at meetings in the fall after the season is over. Try to coordinate the Outfitter willing to do the food, at this time. Coordinate logistics, etc. with the person responsible for organizing the trip.

Winter Issue (Dec/Jan/Feb) – Publish dates of the interp trips in the Confluence. Or contact the outfitters sooner. *Continued on the following page.*

California Condors

Have you seen any lately?

by Steve "T-Berry" Young

Have you seen any large birds flying around the Colorado Plateau larger than Eagles? If you have then you might have seen a California condor. If you are a birder and you want to see a condor, your best chances are to go down to Grand Canyon National Park, specifically the Marble Canyon area. The Vermilion Cliffs, which are west of Marble Canyon, are the home to some 27 California condors.

During the mid 80s the California condor population had dropped so low that all the remaining birds were caught and bred in captivity. It was a large undertaking to trap all the birds and an even larger task to get a captive-breeding program together that would work. One of the issues that make the condors breeding program a difficult one, is that it takes six years for the condors to reach a reproductive age. With time and effort the program produced and by 1992 California condors were again flying in the skies of California.



©Glenn Oakley, 1997

As the birds were slowly released in California, it was decided to release another separate group of birds somewhere else. A separate population would protect against any single catastrophic accident in their habitat. In the fall of 1996, acclimation pens were built on top of the Vermilion Cliffs over looking Marble canyon. It was the Secretary to the Department of Interior, Bruce Babbitt, who lead the ten-second countdown to the opening of the pens. Within moments the condors were making the first flights over Arizona since 1924. By the next summer some of the birds were flying as far as Grand Mesa in Colorado, looking for boundaries of their new home. It was June or July of 1997 when several condors landed at the Visitor Center on Grand Mesa looking at the visitors with some curiosity.

The Condors use the Colorado River as a navigational tool as humans would use lines on a map. So far there have been 35 California condors released in Arizona and 25 in California. There have been 8 fatalities in Arizona, which leaves 27 still flying around the Colorado Plateau.

I wish there were a way to identify the birds with a copy of a flight pattern, which could be added to your resources while traveling the Plateau. One thing to look for is a wingspan of 9 1/2 feet, which does not compare too well with an eagle s 6 foot span. The condor is related to the vulture, so condors have some similarities in flight pattern.

If you wish to follow the plight of the California Condor, look and learn from:

Arizona Game and Fish,°° http://www.gf.state.az.us and The Peregrine Fund°° http://www.peregrinefund.org

---

Continued from Message from the Vice President on the preceding page.

March — Notify Outfitters of dates and start lining up interpreters.

This stuff gets done during first two weeks of April — Get firm commitments from interpreters and outfitters. Organize the trip handbook; urge interpreters to add reprints of scholarly papers, copies of their books, etc.

Week before the trip — Finalize interpretive handbook. Print a list of participants; fax to everyone; point out participants are to organize themselves for the put-in and take-out shuttles. Notify Outfitter of the tally (timely) so they can shop the food. Go on trip. Have a good time.

Blank Page

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(435) 259-3598

Email: cprgutah@hotmail.com

The Dam Disagreement

by Rebecca Martin

It's an unbreakable pact involving water, gravity, space, and time—a natural partnership. The agreement is: rivers flow to the sea. It eventually works out that way even in cases where humankind, who temporarily believe themselves to be outsiders to the sacred bond, may disagree.

But are we really so far from that kinship? At seventy-some percent water, we can float on our backs in the current without physically dissolving. Yet what proof is that for those of us who join the flow as a way of life? We drink the river for breakfast and lift our sarongs in the wet sand at noon. Surely we sense, down deep, that we often fail to remain aloof. A few percent different is not enough to keep us from a subtle merging with the ebb and flow. Somehow, drop by drop, we do splash, ripple, surge, and plunge on that same unstoppable journey, and we know it. Our very souls seem to depend on it.

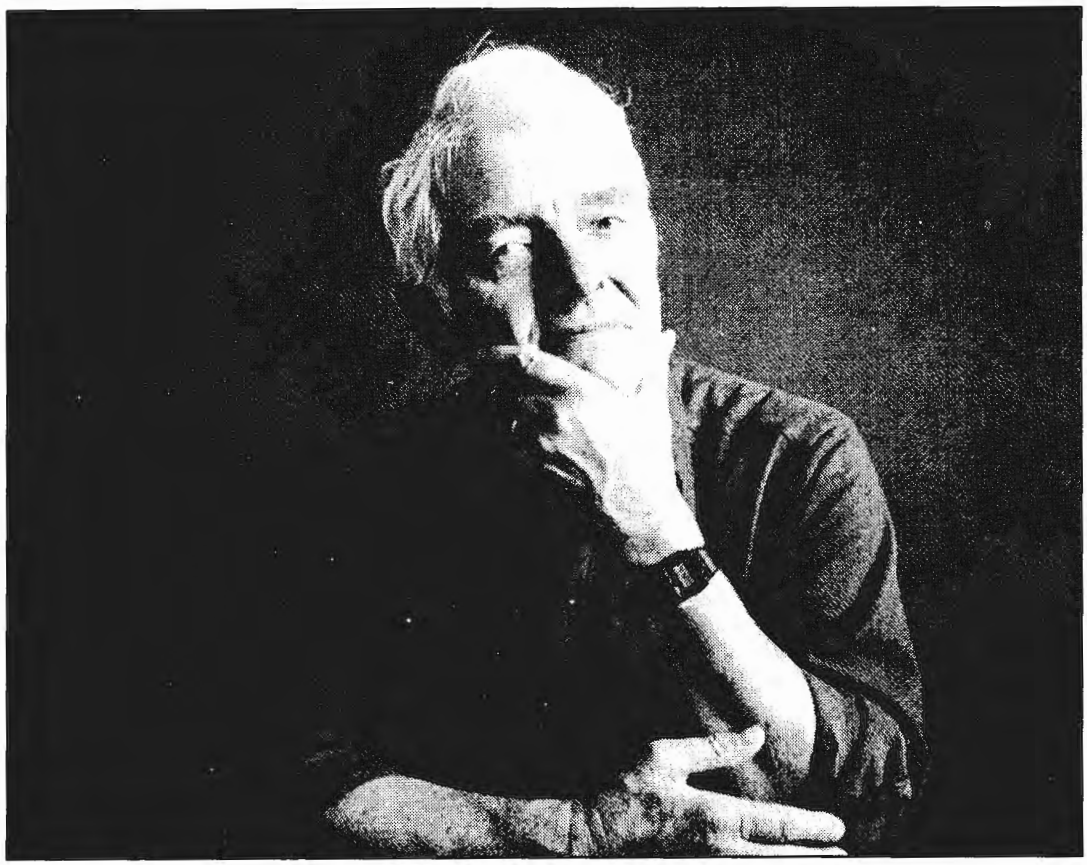
So what is it with our species? Are we so obtuse that we cannot read the writing on the wall? Are we so caught up in our own denial that we can't pull the plug and ride the wave? Sure a big, fat, ugly mistake has been made. Sure it's embarrassing, especially when we habitually forget to turn off the lights at home, or clutter our countertops and workshops with nifty electric conveniences. In building the dam, people probably rallied themselves saying, "We can do it if we try." Well, now it's time to admit that we were right and we were wrong. It's time to let it go. We can do it if we try.

We will never convincingly separate ourselves from our rivers any more than we could ever permanently hold the rivers back. We are responsible and we are part of the solution. And the solution is eminent, murky as it may sometimes be made out to be. Sending the river on it way is only natural. That flood from behind the dam, when it comes down, will be less than a hundred percent water just as we are. And we will be there too, giving up part of our pride and ourselves to the turbid swirl of silty mire, traveling the distance, sharing the journey, joining the agreement. Let the water come on down. Then we can get on with the business of forgiving ourselves for this "dam" disagreement.

The Confluence

The Journal of Colorado Plateau River Guides Number 22

David Brower
Charlie Eggert
River Education 2000
River Education 2001
Articles from the Board
Richard Jones
Weeds
David Rust in Glen Canyon
Filian Stud
G. M. Wright
Lost, Misplaced or Mistaken?
Kolb and Loper
Echo Park Dam
Spanish Bottom



Saying Goodbye to a River's Best Friend

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (c) (3) non-profit organization dedicated to:

*** Protecting the rivers of the Colorado Plateau.**

*** Setting the highest standards for the river profession.**

*** Providing the best possible river experience.**

*** Celebrating the unique spirit of the river community.**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau.

General Membership is open to those who love the rivers of the Colorado Plateau.

Membership dues:
$ 20 per year
$100 for 6 years
$195 for life
$295 Benefactor

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Annie Tueller-Payne
Vice President	Dave Focardi
Secretary/Treasurer	John Weisheit

Directors

Bluff	Clay Hamilton
Grand Junction	Joe Keys
Green River	Shane Edwards
Moab	Molly Taylor
Vernal	Herm Hoops

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077
E-mail: cprgutah@hotmail.com
Faxes accepted: Please call first

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Microsoft Word on an IBM PC. If you use a word processor, we can translate most programs. Otherwise, please send your text double-spaced. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

Managing editor: John Weisheit
Associate editor: Michele Hill
Editor this issue: John Weisheit
Printing: Times-Independent
ISSN # 1078-425X
Date: February 2001

DISCLAIMER

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing or supporting viewpoint please send your comments to CPRG.

Special Thanks To:

Robert Webb for a benefactor membership
Richard Valdez for a generous contribution
David Yeamans for a lifetime membership
Heidi Domeisen for a lifetime membership
Mike Wilson for a six-year membership
Bob Quist for a six-year membership

Issue/Numbering: a correction, an apology, and a change of policy

Volume 7, Number 3, Fall 2000—should have been labeled—Volume 7, Number 2, Summer 2000 (the correction). The issue in your hand is late (the apology) and would be Volume 7, Number 3, Fall/Winter 2000, except that it is going to be called #22 (the change) and the next issue will be called #23. ***The Confluence*** is like a private river trip. We just flow down the river without wondering when lunchtime is, what the next hike is, or where camp will be. I especially enjoy having Michele lead the trip from time-to-time, and other trip leaders will be rowing this boat in the future. Here is the list of past issues and the front cover feature. To be more consistent this journal will be simply labeled by a successive number. The date of assembly will be listed in the preceding column. **Thanks for financing this river trip!**

#1—Volume 1, Number 1, Winter 1994, Don Hatch
#2—Volume 1, Number 2, Spring 1994, Steve Arrowsmith
#3—Volume 1, Number 3, Summer 1994, Atlas tailings pile
#4—Volume 1, Number 4, Fall 1994, Junction Dam site
#5—Volume 2, Number 1, Winter 1995, CPRG logo
#6—Volume 2, Number 2, Spring 1995, Frank Dodge Part I
#7—Volume 2, Number 3, Summer/Fall 1995, Deglas and Devore
#8—Volume 3, Number 1, Winter 1996, Frank Dodge Part II
#9—Volume 3, Issue 2, Spring 1996, Eugene C. LaRue
#10—Volume 3, Issue 3, Summer 1996, Bert Loper
#11—Volume 4, Issue 1, Spring 1997, 1921 USGS Cataract survey
#12—Volume 4, Issue 2, Summer 1997, downtown Moab 1914
#13—Volume 4, Issue 3, Winter 1997, Upper Colorado River Basin
#14—Volume 5, Issue 1, Spring 1998, Pot shards
#15—Volume 5, Issue 2, Summer 1998, Glen Canyon Dam spillway
#16—Volume 5, Issue 3, Fall 1998, Pinyon Pine
#17—Volume 6, Number 1, Spring 1999, Colorado River dump
#18—Volume 6, Number 2, Fall 1999, 1921 USGS San Juan survey
#19—Volume 6, Number 3, Winter 1999, George Wheeler survey
#20—Volume 7, Number 1, Spring 2000, Prop in a rock
#21—Volume 7, Number 3, Fall 2000, CNP vertebrate survey
#22—This issue
#23—The coming issue

David Brower

Friend of Flowing Rivers

July 1, 1912 — November 5, 2000

David Brower came to Moab on May 7, 2000 to participate as a speaker in a community event called *Glen Canyon in Word, Song and Film*, which was sponsored by Colorado Plateau River Guides and the Glen Canyon Action Network. How very fortunate we were to welcome him back to our community, for in six short months this ambassador for the planet would pass away with his family at his side, and in his comfortable Berkeley home, from complications due to cancer.

Think about this, please. The world's most senior environmental activist, thrice nominated for the Nobel Peace Prize, took time from his ever-demanding speaking schedule to travel to Moab specifically to address the guides of the Colorado River, many of whom were born when he was in his sixties.

Obviously we occupied an important place in the world according to David Brower. His life's work is a legacy of river protection. Simply stated, if it were not for David Brower's leadership to fight dam construction in the Colorado River watershed, we would not be doing river trips today in Lodore, Whirlpool, Split Mountain, Yampa, Marble and Grand Canyons.

Brower lost the fight for Glen Canyon Dam, a fight he blames on nobody but himself. But before his death, he opined the possibility of running that which was lost, namely Cataract (the lower half), Narrow and Glen canyons. While serving as a director of the Sierra Club's national board in November of 1996, he authored a motion to decommission Glen Canyon Dam, which passed unanimously. The simple, direct statement, "the Sierra Club supports the draining of the reservoir behind Glen Canyon Dam," is now official policy of the nation's oldest and largest grassroots environmental organization. Today, four non-profit groups are working hard with various targeted programs to make Mr. Brower's bold dream come true:

Glen Canyon Action Network in Moab
www.drainit.org
Glen Canyon Group of the Sierra Club in Moab
www.sierraclub.org/chapters/ut/glencanyon
Glen Canyon Institute in Flagstaff
www.glencanyon.org
Living Rivers in Phoenix
www.livingrivers.net

But we must not forget to mention another important non-profit group whose board voted unanimously—prior to the Sierra Club's—to drain the reservoir behind Glen Canyon Dam. That group is the same one that Mr. Brower came to Moab to address last May—our own Colorado Plateau River Guides. Mr. Brower was very aware of the advocacy work we do on our river trips in support of decommissioning Glen Canyon Dam, and now in the community, as we presented for the first time a program dedicated to Glen Canyon restoration.

We owe a huge thanks to Mr. Brower for keeping our rivers flowing free. We can return that thanks by keeping his legacy alive. Very soon, and with your help and dedication, Lee's Ferry will become, once again, one of the take-outs for river trips launching from the upper basin.

Thank You Community Leaders

For Your Programming Support

From May 5 to May 7, 2000, Colorado Plateau River Guides sponsored two events to promote river education and river conservation. The educational event called **"Boats and Boaters,"** was held on the shores of the Green River in Gray Canyon and at the John Wesley Powell Museum. On May 7, the program was called **"Glen Canyon in Word, Song and Film,"** was held at the Grand County High School in Moab.

Colorado Plateau River Guides would like to express their **thanks to the following**, who supported the educational program "Boats and Boaters:" Action Shots, Bighorn Express Shuttle, BLM/Grand Resource Area, Canyon Voyages, Canyonlands National Park, Canyonlands Natural History Association, Fat City Smokehouse, Glen Canyon Action Network, Glen Canyon Institute, Headwaters Institute, John Wesley Powell Museum, O.A.R.S., Maravia, Moab Brewery, Rio Colorado Restaurant, Utah Guides and Outfitters, and Wilderness Medicine of Utah.

For the program called "Glen Canyon in Word, Song and Film," **we also thank** the Grand County School District, and their staff, for the opportunity to rent their fine facility, and for providing our audio/visual needs. We also thank the Glen Canyon Action Network for their financial and logistical support.

We would like to give a **special thanks** to all the instructors, presentors and organizers: Al Holland, Brad Dimock, Charlie Eggert, David Brower, David Orr, Dusty Simmons, Eleanor Inskip, Eric Brunnemann, Jake Burnett, John Weisheit, Kara Dohrenwend, Katie Lee, Leave No Trace, Martin Litton, Owen Lammers, Rebecca Martin, Richard Ingebretsen, Rich Valdez, Robert Webb, Roy Webb, Sebastian Eggert, Steve Young, Susette Weisheit.

Apologies to anyone inadvertently not included.

Thank You Guides and Outfitters

For the 2000 River Iterpretation Trip Support

San Juan Canyon, April 17–21: OARS, Tag-A-Long and Jake Burnett

Westwater Canyon, April 24–26: Sheri Griffith River Expeditions, Jose Tejada, Michael Milligan, Wil Bussard, Jake Burnett, and John Weisheit

Cataract Canyon, May 1–4: O.A.R.S., Dave Bodner, T-Berry, Bob Webb, Black George, and National Park Service at Canyonlands.

Yampa Canyon, May 1–5 : Dinosaur Adventures, Tim Mertens, National Park Service at Dinosaur, Kent Frost, Jake Burnett and John Weisheit.

Our apologies to anyone inadvertently not included.

From the Vice-President

Dave Focardi

First the good news. I am in complete remission—this means they can detect no signs of cancer in my body. I plan on working on the river this summer and, to tune up, I'm doing a private 30-day Grand in Feb/March. Rowing a custom made T-Berry frame on a used Canyon Voyages 16' self-bailer. Since Jenny doesn't have to bail, she'll be able to see more of the canyon this time around!

Now let's get down to business. The interpretive trips are moving along and the River Education Seminar (RES) this year is archaeology/anthropology related. The dates and who to contact are printed elsewhere in this issue. These are two of the biggest things CPRG does—another is this publication. *The Confluence* is a great vehicle to find out what's happening now and what happened in the past. CPRG comprises some really dedicated individuals who keep an eye on what the legislative bodies are going to ask the managing agencies to do to us next. Knowing what is coming down the penstock in time to have input during the public comment period is very important. You could be one of these people too. If you are, give us a call. We can use your knowledge and direct your energy! These are a few of the reasons to go out and recruit new members for CPRG. Do you know someone you work with who is not a member? If we all sign up two new members, we'll have a broader base of information and support the next time Congress wants to make us all pee in a cup, turn over complete financial records, or work without health insurance. Get involved! Got a burning issue? CPRG gives you complete freedom to act on your own to gather the information, present an idea to the members, and make it happen. WE are YOU!

Another item: I was reading the Boatman's Quarterly Review (that publication by the Other guides association) and saw a story in there that made me say "We had that same shit up here!"(pun intended). Jim Nothnagel, the Public Health Park Consultant, had a thing in there about a 12-24 hour illness; generally associated with severe vomiting and diarrhea, with headache and chills, and usually a fever of 102+. Sound familiar? I thought so. I am not sure he is aware that this was happening upstream too. If you or a guest had this, please contact him at 520.556.2106. I don't think it was a food-handling thing, because it was so selective the way it hit people. If you are into conspiracy theories—that somewhere, someone is dumping something into the river—maybe, maybe not, but I hate to see a prime boatmun drop the night before the Big Drops—it would be nice to figure out what caused this thing. If Jim has a bigger data base maybe a correlation will show up.

And lastly: I would like to thank Annie Tueller-Payne for stepping up to the president's position as Dusty had to resign in fairness to her and us (that girl does 5 times as much as anyone else, but apparently not 6 times as much). I thought for a few days that I would have to be president. I always sound like I'm begging or scolding when I ask people to get things done. People just do them for Annie—to make her life easier—because they WANT to. She says its just temporary until someone more qualified steps in—keep humoring her. I am sure we will find someone more qualified in a year or two!

Doesn't retirement mean new rubber on an old tire?

Steve "T-Berry" Young

Hopefully this will not be my last contribution to *The Confluence*, I'm now saying that I'm officially retired from the business as a commercial raft guide. Hopefully most readers of this fine journal don't know who I am. For the ones who do, I hope you know me from my efforts to help CPRG in positive directions when I was president and on the board of directors. For the people who know me outside of this organization, I'm sorry you had to know me, I never meant to harm or derail everyone's good intentions.

During all the years that I guided, I have had the opportunity to see and experience wonderful things. I have pictures of bears from Northern Alaska and tortoises from Southern Arizona, but these pictures mean very little in comparison to the memories of the people I have met while working in some of these awe inspiring places. Some of the most incredible memories that I have acquired over the years are from friends who have past away. Other memories are from some of the clients who took the time to write about the effects of

their vacation on their lives. Vacations and journeys in the wilderness can change, effect and teach people in amazing ways.

I wish I could pass on some of my experiences to newer guides. It is my hope that this article will let people see some of the experiences that were burned into my mind that I think worked for me. Experiences that helped me to create my own foundations to how I was going to help give visitors an experience that would be very memorable during their lives. I hope that by writing this article, newer guides will see how some of the things I have learned are important and maybe learning will come from this article.

One of the memories that taught me the importance of compassion, caring for others, and the importance to give clients encouragement and support, happened years ago when I was working for Outward Bound in Cataract Canyon. We were doing a standard seven-day course that included rock climbing and a solo in the Doll House (long before there were 5 trails from the river and everybody visited it). One of the participants on the course was very over weight. The guides tried to give her the best experience we could. There was some worry, amongst us guides, about safety and health issues for this client due to the nature of the rigorous activities we would be accomplishing. On the morning of the hike up to the Doll House, we split all the equipment up amongst the clients (which included six, 5-gallon water jugs for 2 days and 24 people, climbing rope for three separate climbs and a rappel, and some personal gear for an overnight). Not sure how the heavy lady was going to do we started up with her willing to try the trail to the Doll House. Before we left we decided on a staff member who would stay with her, when she turned around and stayed at the river for the next two days. As you can imagine I forgot about her as we lead the rest of the group up to the top and to the rock-climbing site near the road. To my surprise, in mid-afternoon sunlight, here comes our other staff member with the client. I looked at the other students at the bottom of the rock-climbing site and was amazed with their reactions to seeing her. Previously the other students ignored this participant during the first two days of the course.

At the bottom of the rock climbs, all the students got up and walked over and congratulated her on making it to the top. She took a seat in the shade for some time, and again I busied myself with setting up a rappel while talking to the guide who walked with her to the top. It took some encouraging and patience of that one guide during a seven-hour walk up the Doll House trail. After an hour I returned to the climb site to get people for the rappel, and one of the students asked if it was possible for the overweight participant to try climbing. The other guides and myself discussed how we could change some things to make it work. We moved one of the climbing routes off to the side and prepared to belay her. We, as staff, decided that it was not safe in this circumstance to have another student belay. During her slow assent to the top of the rock, most of the students were at the bottom coaching and encouraging her as she made her way to the top. There is no question that their encouragement and support helped her to make it to the top. Our willingness and flexibility helped this participant do things that she would never of had a chance to do, because of her physical state.

The wonderful thing about this trip was that it didn't stop when we all departed and went our separate ways. Two years later at the Outward Bound facility in Jensen, Utah, I got a letter addressed to all the guides, who were on that trip; only two of us still worked for Outward Bound. The letter was from a lady who, picture included, after a river course, lost over 200 pounds, went back to school, and was going to help counsel children who were abused and neglected. The letter included a story that explained her life and why she came to Outward Bound. She also said that the changes that happened in her life came about because of the effort, caring and patience of the guides. She also noted that the added support and acceptance of the other students had a big effect. Looking back in retrospect from what she said and we did as guides would never have happened if we let our burned out spirits from a long season rule how and what we did on that trip. Encouragement and support to all of the participants on all wilderness trips can effect people in ways that we as guides rarely see or learn about. Even the most demanding and annoying clients, if treated with respect, given a chance and pushed a little bit, will get something from their journey.

The guide on a wilderness trip can be the piece that makes vacationers have an experience that is memorable throughout their lives. How the guide makes that happen is not through chance, but through some effort and thought. It doesn't happen by acting as a servant or wait person, and giving clients everything they want or need. Guides need to be able to help change clients expectations and desires about their vacation without the client knowing it. It is not easy and with some clients it is not possible. Some client expectations are way to far in right field or the trip was sold as a "dazzling" trip, which guides have to do everything they can to just meet the expectations of the client. As a guide you have some control over clients expectations and desires, and you can dazzle them in ways that might be easier than the repetitive "canned trip" that is becoming more popular today. Understanding client's expectations and desires is easy if you get to know your clients. Talk to them before the trip and during the first day; find out what their expectations are. Find out if they have done things like this before and what the bill of goods was when they bought the trip. If you spend time understanding your clients you can give them an experience that rewards you with the possibility of a better gratuity and you might never have set up all the equipment that is carried

to amaze clients. Maybe your clients will be more amazed by hikes then the garnish on the plate or in the salad. Maybe it is vice-versa. Or maybe you might have both types of clients on the trips and you have to communicate and juggle your activities a little.

I hope that guided trips move back towards a focus on the wilderness rather then the emphasis on meals and dazzling pleasures, which is where it seems to be going. It is sick to think of trips where guides become servers rather than people who can teach and lead people in the wilderness with an ability to make their vacations very memorable. The willingness as guides to be compassionate, encouraging, caring, and able to understand clients are skills that I feel helped me to enjoy my years as a guide. If the letters and correspondence from clients after trips is a way to measure a guide's success, I feel that I'm moving on to other pastures with the feeling that I succeeded as a guide.

Green River Happenings

Shane Edwards

What's new in and around Green River? Well, not much, but did you know there is a new, concrete ramp at Swasey's Rapid—the popular and often crowded take-out for Desolation and Gray canyon trips? Yes, there is! Hooray! No more twisted ankles, stubbed toes, or vehicles stuck on irregular, and sometimes very large, rocks and boulders. The new Swasey's ramp was finished by the end of September 2000, while the Green River was at its low stage. This enabled the ramp to be poured as low in the riverbed as possible. The large boulders that many complained about will remain in place to direct traffic and minimize congestion on the circular drive-through.

In talking with Dennis Willis, of the BLM in Price, Utah, the drive-through is designed to have vehicles pull in on a clockwise rotation to give drivers with trailers a clear shot to back down the ramp. The ramp has a fairly steep grade of 14%, so it is very important to secure your vehicle before leaving it unattended, i.e., chock tires, leave vehicle in gear, and use the parking brake—if you have one. It is also recommended that you have your own tire chocks available in your vehicle so that native rock is not being used and left on the ramp to cause obstruction and danger to others. The ramp is also finished in a rough surface for better traction to ease pulling a loaded vehicle off the steep ramp. Remember—what may be good for traction isn't always good for the skin.

In addition, the BLM has plans to stripe the ramp with lanes to provide a defined area to unload and/or de-rig. We'll see how this works. Remember, there are other parties on the river needing to take-out also, so if your transportation isn't there yet, please consider moving to the downstream side of the ramp so that others who are ready to leave can do so. Cooperation is key! Let's be considerate of others and keep congestion and frustration on this new ramp to a minimum.

Parking is limited at the ramp and is posted as day use only. Any long-term parking or overnight parking should be done at the Swasey's Beach camping area just about a hundred yards up the road from the ramp. Compared to the hazardous boulder field that existed before, the new ramp should make de-rigging after a Deso/Gray trip or daily much nicer and much safer. Enjoy!

"Boats and Boaters" T-shirts For Sale 2000 River Education Seminar

Art work by Eric Trenbeath

These shirts have a full panel on the back and a logo on the front shirt pocket area. Pictures of the Kolb Brothers, Bert Loper and the crew of the Denver Colorado Canyon & Pacific Rail Road. These shirts were designed to be worn on river trips. All proceeds form the t-shirts benefits the River Education Seminar of 2001. Buy one now—heck buy two, or three at $12.00 each. Ash grey color and sizes are small, medium, large, xlarge, and xxlarge. Send checks plus $3.00 for shipping to:

CPRG
P.O. Box 344
Moab, Utah 84532
435.259.3598
cprgutah@hotmail.com

Operation Manager Wanted

Canyoneers, Inc. is accepting applications for River Operations Manager for their Grand Canyon division. The job is full-time with benefits and salary is negotiable, based on experience and skills. Although this is not an on-river position, we are looking for a qualified motor rig, trip leader with good management and training skills, who also has exceptional communication skills. Please send resume to:

Joy Staveley
c/o Canyoneers, Inc.
P.O. box 2997,
Flagstaff, AZ 86003
Email: joy@canyoneers.com

Richard Jones

A Little Piece of Living History

Annie Tueller-Payne

The following article is satire, a slice out of the life of Richard Jones. This article is not intended to document his many professional and political accomplishments. Richard Jones is the founder of World Wide River Expeditions; one of the first outfitters to offer Cataract, Westwater and Desolation canyon trips to the general paying public. World Wide is also the largest outfitter on Idaho's Main Salmon River. He is one of the founders of the Utah Guides and Outfitters association (UGO). Entire essays and novels could be written about these accomplishments and this article is in no way meant to trivialize Richard Jones. This article's intended focus is the personal side of Richard Jones. He is a father, a grandfather and this year, retired!

I had always heard horror stories about the owner of World Wide River Expeditions, Richard Jones. His reputation preceded him. Other guides had told me that he wouldn't hire men shorter than 6 feet, that he only hired BYU students, and that he wouldn't hire women at all. I was terrified of him. I am a non-Mormon, girl, coming in at a big 110 pounds. Nevertheless, some cute boy convinced me that I should work for World Wide River Expeditions. So I did. And thus began my relationship with RJ.

I interviewed with Richard on a snowy February afternoon in his Northern Utah office. He was what I had heard about. He was staunch and serious. I smiled as I shook his hand. He nodded, acknowledging me without speaking. He sat down and fired his first question. He asked me how much I weighed. I took a deep breath, I was wearing three sweaters, as I knew the question was coming and I wanted to look bigger. "130," I said.

Then Richard did something quite unexpected. He laughed at me, right there. He leaned back in his chair, threw back his head, held his sides and laughed until he cried.

"You wouldn't weigh 130, even with all those clothes you're wearing soaking wet," he laughed. This was the Richard that I was expecting. I immediately launched my carefully rehearsed speech. "I know I don't look it, but I can row a boat," I argued. I've rowed Westwater over 100 times and never flipped" That was my ace in the hole, an irrefutable verbal resume, or so I thought. That's when Richard really got me.

"That's 'cause you've never tried," he joked, still chuckling at my weight comment. Then he told me that I was hired, he shook my hand again, smiling this time, and we have been friends ever since. Turns out they were all wrong about Richard. He's actually a really nice guy. He's been nothing but nice to me and he loves the river more than anyone.

Richard is retiring this year, and I wanted to write a little tribute to him. I guess that I just want people to realize that what he lacks in bar room shop talk, he makes up for in his genuine love for rivers and the people who run them. He is humble and understated. He, ironically, tends to go largely unnoticed in the Moab River community. After Jim Sarten retired, I believe that Richard was the last owner (founded) operated river outfitter in town (Moab). The following are just a couple of the many memories that I have of Richard.

The first time I boated with Richard was on Westwater. He ran Skull the most screwed up way ever. He was sideways, skiwampus and darn near flipped. I, consequently, decided that he clearly was an idiot. It never occurred to me that Richard might have just been messing around in a rubber boat because he could and no one would tell him different.

Richard's skill behind the oars really shined a few years ago on the Selway. We went up for one of the first trips of the year. The road was still snowed in, but somehow we got to Paradise Guard Station. I could write an entire novel on that shuttle and the drivers and rigs that got us to the put in, but not today. We put on at four-feet, but by the time we got to the canyon, it had risen to nine-feet. Ladle was solid Class V, with a 5-mile continuous Class IV run out including Little Niagara, No Slouch, Puzzle Creek and others. I still have no regrets about walking Ladle. It was as hairy as anything that I have ever seen and I truly believe that it could have killed someone that day. Richard, I could tell was apprehensive but opted for rowing anyway. He was in a fully loaded 18-footer, not the ideal boat for a swollen mountain river, but Richard's favorite craft. The Selway, at 9-feet, offers more serious consequences than Westwater in the Utah blazing sun. Reading the river counts on the Selway. I was apprehensive about anyone running it, let alone Richard. Richard not only ran it that day, he humbly greased it, with a perfect run, and it was beautiful.

Although Richard and I have run a couple of rivers together, we've run Cataract Canyon the most together. I remember one Cat trip in particular. I was motoring and as usual he was back in the motor well trying to tell me what to do. Cat was running about 40 thousand and we had a little argument about whether Big Bertha would be a wash in Big Drop Three. I prefer running a little of the gut if I have to, in order to avoid that thing but not Richard. He loves Bertha. He feels that he has paid good money to run the biggest riverboats made and he's going to get his money's worth. So we sat in the back of the motor well arguing, while entering Big Three and well, Richard won. We ran that hole, and at the last minute, straightened up with no downstream momentum. The front frame actually made it through the maw but the back frame did not. So, we just kind of hung on the fence there so to speak...for a while. The straps holding the frames together all burst. Then the outrigger straps started to go. I thought our whole boat

would come apart right there, but somehow she managed through. Richard had time to jump out of the motor well and head for the nose of the boat. I had been washed out and was hugging the motor, feet dangling in the drink when Richard came back. I was doing my best to get my feet underneath me when Richard told me to get back in the boat and do something. I told him that I was working on it. That was the second time that I remember Richard laughing at me.

Richard loves animals. I had been doing back-to-back Cat trips last summer, and had met some random, fairly domesticated goose living at Ten Cent. I started feeding it bread every week. The passengers dug the goose and somebody had even named him Ned. So, Richard came down one week and fell in love with Ned. No kidding, love at first sight. It was the darndest thing. Richard loved that a goose would jump up on his boats for some bread. He asked me if we could take the goose to Dark Canyon to camp with us. I said no. I explained that the goose would make a mess on the boat. I also tried to explain that Ten Cent was the goose's home etc, etc. Well, somewhere along the line Richard pulled rank, which he does on occasion. Next thing I know, I am at Hite, two days later, with the goose, all of the passengers calling it "Goosey". Richard, who was flying back, asked me if I would mind driving Goosey back to Moab. I explained again to Richard the logistics of goose transportation. I told him the truck (his truck) only seats six and we had seven guides, and the last thing we needed was a goose in the truck. Richard didn't care. Again with the rank thing and I agreed to drive this goose half way across the state of Utah. Richard left me with the goose and six guides. The guides later mutinied, and we ended up leaving Goosey at Hite. We returned to Moab that evening to find Richard anxiously awaiting his new pet goose, which we didn't have. No worries though, Richard jumped in his car drove 4 hours to Hite, picked up Goosey then drove back to his office in SLC, arriving at 2:00am. Goosey left Richard the next day. And, you guessed it, I saw Goosey back at Ten Cent two weeks later. This time I was laughing at Richard.

Like so many things in life, you don't realize what you've got until it's gone. I could go on and on with Richard stories. He has truly lively-ed up my guiding career and I love him for it. I have had the pleasure of doing "all ladies trips" with his oldest daughter Susan, in resident office ass kicker. I have spent summers with another daughter, sweet soul Salmon River sister Allison. She too has left commercial outfitting for other challenges and is now mother of twins. And of coarse I owe my life to his son; workhorse, swamper/sherpa, pucker consuming, one word survivor, birthday remembering, partner in crime Scooter B! It seems to be an end of an era for the Jones family. Richard has moved on to larger bodies of water. He is currently in the middle of the Atlantic Ocean solo rowing a 30-feet boat, which he crafted. I, however, cannot move on until I say thank you. So, at the risk of sounding sappy, here it goes. For the fun times, the best equipment and the best Glen and Bessie Hyde storyteller ever. For holding the shade umbrella for Sage and me, for the girl's bug hut, even for the 16-hour rig you made us do last summer and especially for the flowers when I really needed them. Thank you Richard, I will miss you.

Beginners Luck:
A Guides First Raft Trip
High Water Cataract Canyon

Daniel Anderson

My 11-feet oars are bent nearly in half on either side of my water logged 18-feet raft. Each one resembles a frown, not unlike the one on my face. Ahead, coming up fast, is the awesome sight of Big Drop 2. The ledge wave is massive and crashing, and the waves below are exploding fiercely; there is nothing little about Little Niagra. I'm pulling frantically towards the safety of the river left eddy above the drop, but I seem to be moving closer to the certain doom lurking downstream. Sweat pours off my brow like sheets of rain from a mountain thunderstorm. Veins are popping out of my arms where I never knew I had veins before; my strength is going fast. The raft behind me speeds past in the main current aimed directly for Niagra. I pull and pull, slowly and reluctantly the eddy accepts my raft. For now, I am safe. The other raft was not so fortunate. This is my welcome to Cataract Canyon at high water.

I have always been fortunate rafting and kayaking. I know there is a big thrashing waiting for me down a river somewhere but I've snuck by—so far. I was especially lucky my first raft trip down Cataract Canyon. It was towards the end of May 1998 and the rivers on the Colorado Plateau were rising daily. I was really strong that Spring, having completed a two month season in west Texas guiding on the Rio Grande and working for three weeks as a guide on the Salt River in Arizona. I'd been boating for three months when I showed up in Moab, while most guides here were still shaking off the cold of a good snow pack winter with the memories of fat powder days still fresh on their minds.

So I had just started with Sheri Griffith Expeditions that year and expectations of me were high. I did an upper Dolores river trip at 3,500 cfs with Dave Focardi and I guess I did well. Back in the office, after the trip, I was asked it I wanted to row high water Cat. My stomach immediately sank to my feet and my knee's became weak. "High water Cat—why that's certain death," I thought to myself. After a few moments of silence waiting for a response, Jose said, "Well, you

gotta do it sometime and high water may not come again for a few years." So I tried to sound confident, even with all the blood having run out of my face, and replied, "Sure, I'm ready." Of course I thought, "I really would rather be buried up to my neck in Ernie Country with honey poured on my head."

Cataract Canyon has been known as the "Graveyard of the Colorado" since the early 1900s. More people had disaster and death in the 49 miles of Cataract than the whole 216 miles of the Grand Canyon. It has a reputation to not take lightly, especially if you had watched the "High Water Episode 1997" video 58 times, like I had.

Night one on the five-day row trip: I was camped at Little Bridge with Dave Focardi the trip leader, Rob Ho the guide extraordinaire, Nancy Redfern my highsider/bailer/tubepuncher/balast and our guests. I did a nice hike up the canyon to relax, helped with dinner and then socialized until dark. It looked like rain but being a macho boatmun elected to sleep on my boat, exposed to the unsettled spring desert weather. I awoke about 1 a.m. to light rain and pulled my old worn tarp over my sleeping bag. I awoke an hour later with rain seeping through my ancient tarp and my bag wet, but I was still defiant. A half-hour later my hair soaked, my sleeping bag sopping, I decided to set up my new tent. As I walked past the kitchen, I spied Rob under a roll-a-table, with a tablecloth over him as a shelter (his tent was on his snout rig in the boatyard). He asked if I was putting up a tent. I said, "Yes." Then he said, "Do you need help setting it up?" Which really meant, "Can I share the dryness of your tent if I help you set it up?" I said, "Thanks but I can manage on my own." I assembled my tent and I started feeling guilty because it was raining even harder now. So, as I went to get my bag and pillow, I invited him to share it. "Although it's not very big," a hopefully discouraging remark. I crawled in with a few minutes passing by, and I felt relieved that I wouldn't have to share my tent, but then I heard the zipper opening and Rob oozed in. He was as soaked as I and our sleeping bags were equally saturated as well, so we each pushed our water laden bags aside and used rain jackets as blankets.

Morning came bright and sunny, and we emerged tired, with bloodshot eyes. I was glad I shared the tent with him. It had rained for two more hours that night and even though I had just met him I knew we'd be good friends, and he would be a valuable ally in the canyon. The next day of flat water passed and we camped under clear skies at the Loop. The Colorado River had risen about a foot during the day. It's a big wide river here and a foot is quite a lot.

The next day we emerged at the Confluence of the mighty Green River from Wyoming and our Colorado River that starts in Colorado. The river instantly doubled in size to about 100 yards across, swollen brown and swirling with cold snowmelt water originating from hundreds of miles away. It was the largest river I had ever been on. The current was swift as we approached Spanish Bottom, where we pulled over for lunch and a lengthy safety orientation.

After lunch, we went into a 30-minute safety talk on what to do if (and we have a good chance) we flip a raft. How to self-rescue to a raft or to shore, and essentially how to survive your $1000 vacation that you must be out of you're mind to want to do. Life jackets securely tightened, everything double strapped, we enter the canyon with sour stomachs and heightened anxiety. Rapid #1, or Brown Betty, is first. A relatively straightforward rapid but now with 10- to 12-feet tall waves for a hundred yards. Immediately after is Rapid #2 with unpredictable building and exploding 15-feet tall waves into an extremely powerful eddy. It was the biggest waves I had ever seen, but I was feeling confident and strong. Rapid #3 is easy and insignificant, and #4 is big but pretty non-threatening. There are some large tail waves at the bottom, but the biggest challenge is catching the eddy for camp directly after Rapid #4 to camp at upper Rapid #5. Well, we all made it, and the world was warm and peaceful again. The sand at Rapid #5 is wonderful; light tan and soft. And there are some nice tamarisks for shade. We set up camp and then did a hike up Surprise Valley. I turned back early to help Rob with dinner. Of course we had to start with beers to get in the mood to cook. Then we prepared a wonderful dinner of steaks and potatoes, salad and corn and a cake for dessert. That night we drank gallons of Sangria wine after dessert around the campfire as we told stories and Dave played his banjo.

I had a theory that I'd do better in the hard rapids if I was hung over, or maybe I was just quite nervous and figured putting on a drunk would unfocus my mind from the perceived terror that was looking down in canyon below. Well, either way I got hammered. I was severely hung over **the next day**, and the sunlight and any movement made my head throb like from the hit of a sledgehammer. I emerge from my tent like early life emerging from the primordial sea—slow and reluctant. I, like early life, knew it was a bad move but I didn't really have much choice in the matter. I couldn't even think about breakfast and any sudden movement sent waves of nausea over me. Not the best condition to be in prior to running the biggest whitewater in the United States.

I somehow manage to rig my boat, Dave does a refresher safety talk and we board our rafts. Nancy is in the same condition as I, though I not quite as bad. Mostly her nerves are getting her—I suspect. She knows what we are getting into. She had seen Cat in high water before as a passenger. I had only seen Cat at low water, where it is more like a kitten. The river had also risen during the night, and flows were conservatively speculated to not be as high as it really was.

Into the swollen river we go. I had to continually dunk my head in the water to cool the throb. The

current was pushy and fast now. Around the first bend we encounter the North Seas, Rapids #6 and #7 combined. From 200 yards the waves look colossal. As we drop down the quickening water into the rapid my huge 18-feet raft is met by waves at 15-feet tall, and some at 20-feet. We are buffeted by walls of water from all sides as waves form, explode and dissipate unpredictably. It is a wonderful sensation, like being on a sea-going vessel in heavy surf! Despite the force and power of the rapid, we emerge wet, but upright and intact. Rapids #9 and #10 are washed out and only quick water remains, tugging our craft onward until the slack water of Lake Cataract, 2½ miles of calm water.

Here we meet up with another SGRE trip that also has along a training boat. Sarah Klinger is rowing the big gnarly for the first time as well. We combine trips for safety as we approach the Mile Long Rapids. We decide to not scout for some reason and elect to, "Read and run baby!" Around the bend, we enter Rapid #13, then immediately Rapids #14 and #15 (aka Capsize or Hell to Pay).

Rapids #13 and #14 are just big waves but Capsize has a few surprises waiting for us. I had only seen Cat previously in a kayak at 8-10,000 cfs, so nothing looked the same. Coming into Capsize I tell Nancy, "I see a big hole in the center." She reply's, "Well don't run it, ok?," so I go right of the huge hole and ride the standing waves to the bottom. Sarah doesn't see the same hole in time and takes the big ride. She emerged at the bottom full of water and full of adrenaline, but no worse for the wear. Still fighting the hangover, I feel quite calm and continue on in ignorant bliss into Rapid #16 with more huge waves and then Rapid #17. All I had been told about the Button at Rapid #18 was, "Don't go center because there is a huge boat eating hole there." I pull with all my might through and across 15-feet tall wave towards the left, but am hit by a crashing wave that surfs Nancy and I for a few seconds and denies access to the left. We are forcefully pushed center into the maelstrom of waves and white froth. All I can see are brown walls of water and don't know the water level is too high for the hole, but I still fight my way towards the left. Next up is Ben Hurt Rapid, which is simply fast water, so I row into the eddy above Big Drop #1 at Big Drop Beach so that all the rafts can regroup. Normal protocol is to scout the next 1-mile of rapids from there, but for reasons I never found out we elected to try to eddy out at Big Drop #2 to scout.

Down the tongue of Big Drop #1 I go to be once again buffeted by monstrous brown waves and savage currents of confused water. I see Dave's raft in the scout eddy above Big Drop #2 and pull with all my might into the slack water, and make the safety of the calm pool by luck and determination alone. Sarah's raft misses the eddy and enters Big Drop #2 in the wrong spot (Little Niagara) and is instantly overturned like a leaf in the wind. I want to scout but Dave has high water jitters, and the fortunate knowledge of the run, and wants to go. I hop on shore for a moment to look, but can only see whitewater and spray being thrusted skyward.

The only knowledge passed on to me is "Hit the marker hole high and pull right." "If I only knew where the marker hole is, I'd feel better," I think to myself. So I watch Dave go and he quickly disappears into the rapid. I think I see the route so I enter the current with my heart thumping like a rabbit on meth. I hit the marker hole and the boat pivots bow first downstream. "This is just like the move at Skull, only right to left," I think. Little did I know that after hitting the marker you are supposed to pull like Hell to the right. After the pivot I start to push calmly, thinking I was in the right spot. I see a 30-feet wall of water, the Red Wall, right in my path. The river Gods are smiling on me though, because the wall isn't breaking as I go up and over the top of the biggest wave I have ever seen. Then chaos! I begin to get hit from all sides by compression waves. Nancy is punching and highsiding her full 120 lbs. We get knocked sideways, and I drop the oars and high side right, then left, and then right again. Now the raft is completely on it's side and stalls, so I put my full 180 lbs on the tube and for some reason we don't flip. Now the waves are getting smaller but I realize we're on the left on the Purgatory eddy line directly above Satan's Gut. I regain my oars and begin to pull with all my might towards the right, but the raft is filled with water to the tube tops and my oars bend almost to the point of breaking without moving the raft. Visions of the 1997 high water video race through my head and I tell Nancy as calmly as possible, "We're fucked." She gives me a blank unbelieving look and I say, "Well, Nancy, it was nice knowing you."

She yells to me in a panicked voice, "Don't stop pulling, Don't give up!! Never give up!!" The fear in her voice snaps me back to reality and I pull harder and harder, my grip on the oars slipping as fatigue takes over. We're loosing the battle and The Gut is looming just feet from us; all I see is a spot where the river disappears and a mist is rising. We can hear where a lion is roaring down below. We can't possible avoid The Gut so I square up and yell for Nancy to hold on. As we start over the edge of the drop, all I hear from Myself and Nancy is "Please God, Please God, Please God!!!" The raft drops off The Gut falling about six feet into the froth and I dig in the oars with the adrenalized strength of Hercules. We stall momentarily and slowly, the raft slips from the clutches of The Gut. We continue downstream as I pull with my body stretched out horizontally, every muscle straining, my unconscious wishing to yet exist another day to sort out all the neuroses pent up in my mind. As we emerge from the froth and pull out into the tail waves of Big Drop #3, we do a high five, and yell victory cheers. I look Nancy square in the eyes and calmly say, "Well Nancy, this would be a good time to bail."

That was my first raft trip down High Water Cataract Canyon—but not my last!

River Education for 2001

Contact your outfitter or CPRG
CPRG phone: 435.259.3598
CPRG email: cprgutah@hotmail.com

San Juan Canyon: April 23–27 with High Desert Adventures.
Desolation Canyon: April 28–May 2 with Tag-A-Long
Cataract Canyon: April 29–May 2 with World Wide.
Lodore Canyon: May 6–May 10 with Adventure Bound.
River Education Seminar at Canyonlands: May 4–5; a land-based seminar.
River Education Seminar at Dinosaur: May 29; a land-based seminar.



Charlie Eggert enjoying a beverage at Ray's Tavern during CPRG's 2000 programming "Boats and Boaters." We viewed Charlie's film, while listening intently to his narration, of the 1955 Hatch–Eggert Expedition. The film was received by an enthusiastic and, later, tearful crowd. David Brower used parts of Charlie's many films to save the Green and Colorado rivers from dams. The next day, at the Moab event "Glen Canyon in Word, Song and Film,"Brower and Eggert were reunited after many years.

A Book Review

by John Weisheit

Sunk Without a Sound: The Tragic Colorado River Honeymoon of Glen and Bessie Hyde

Boatman and river historian Brad Dimock is the author of this long anticipated book. The story of Glen and Bessie Hyde is the unquestionable favorite to tell around the campfire's glow. Because of this well-written book, which is the most historically accurate and comprehensive on the subject, river runners have more subject matter to use as the last log burns. I guess we will also have to modify our stories a bit to reflect the greater degree of enlightenment that this book provides. But hey, that doesn't mean you should turn your own story into a class room lecture.

In 1928 the Hydes took a scow down the Green and Colorado rivers from Green River, Utah, and disappeared without a trace in western Grand Canyon. The task to compile this book required a lot of original research and innovation, especially the river trip portion, as Bessie Hyde was not a prolific diary keeper. Dimock fills in the technical aspects of running a scow on the Colorado River from personal experience. Along with his river running wife, Jeri Ledbetter, they decided to build a replica scow and do a belated honeymoon river trip themselves from Lee's Ferry. The book therefore doubles its value as Dimock explains the genuine difficulty of running a scow through Grand Canyon.

The book also touches historic people, times and places throughout, and in the process continues to enlighten life aspects of other historic river runners such as, the Kolb brothers and Georgie White-Clark.

Buy two books: one for your ammo can library and one for your bookshelf. Invest in Dimock's research to get yet another fascinating book in the future!

Fretwater Press
1000 Grand Canyon Avenue
Flagstaff, AZ 86001
www.fretwater.com

Dave Rust in Glen Canyon
A 1923 River Diary

Edited by Frederick H. Swanson

For access to Dave Rust's trip logs and photographs I am indebted to the Historical Department of the Church of Jesus Christ of Latter-day Saints.

In the summer of 1923 David Dexter Rust, a school superintendent and backcountry guide from Kanab, Utah, was doing what he enjoyed most: showing his beloved canyon country to educated clients from back East. His young guests on this July excursion, Charles Berolzheimer and Arnold Koehler, were on holiday from Harvard and Cornell. Along with Rust's son Jordan, they were going to be treated to a float trip down Glen Canyon on the Colorado River.

Just getting to the river was an adventure: they had made a long horseback journey from Hanksville, crossing the Henry Mountains and riding down Trachyte Creek to the abandoned settlement of Hite. Rust's folding canvas boats were arriving by wagon from Hanksville. It was to be a voyage of rediscovery for the 49-year old Rust. He had sluiced gold from Glen's placer bars in 1897-98, using the river to travel upstream and down between mining camps[1]. During those years he had the notion of taking visitors down the river for pay, to see what he called a "wonder river and a wonder canyon." [2]

Rust began guiding river trips as early as 1917, according to his later recollection[3], but he left no record of those ventures. The following diary suggests that he was seeing the country from Hite downstream to the Crossing of the Fathers for the first time since his youthful mining days. Certainly the wonder, delight and sense of discovery he expresses are those of someone seeing the canyon with fresh, mature vision.

Rust called the 1923 excursion his "first river trip for fun," an indication that money was not the chief objective. It was more likely a test run for what became a regular river guiding venture.

They lacked gear we take for granted, such as water purifying filters and sturdy hiking shoes. In return, they enjoyed a measure of discovery, traveling without guidebooks and poking up wrong canyons. Rust had read Major Powell's and Frederick Dellenbaugh's accounts of the Colorado, yet his excitement at seeing Music Temple for the first time is contagious.

River runners will find Rust's struggles with his boats entertaining. He used 14-feet, steel-ribbed, canvas-covered collapsible open canoes, fitted with oarlocks. These were built in Michigan and seem to have been designed for fishermen on north country lakes. They had the effect of turning Glen Canyon's relatively minor riffles, ledge drops and sand waves into exciting rapids. Rust placed a high premium on safety (according to his daughter Emma, he could not swim), and on later trips he often tied a line from his boat to his passengers. Rust usually outfitted the boats with oars and rowed facing downstream, a technique he may have learned from his friend Nathaniel Galloway, whom he had met on the Colorado during his mining days.

Rust's trip diaries are written in a personal shorthand, with many cryptic abbreviations. In the interest of readability I have filled in most of these. I have also omitted some of his more mundane observations of geology and scenery. Rust was an educated man (Brigham Young Academy and Stanford) and a good writer. One wishes he had organized these notes into a full narrative, for they carry the simple charm of one who loves the river and savors a good adventure.

The Diary
Charles & Arnold—First River Trip for Fun

July 20. Launch for the big trip at 3:30 p.m. Run to Good Hope [Bar] in 4 hours including 2 stops. Arnold & Jordan have trouble breaking oars. We took an extra ash from Dandy [Crossing]. On account of broken oars (and uncertain ability) I tow their boat over Trachyte [R]apid. The Ticaboo [R]apid gave us a lot of kick — each boat paddled through canoe fashion. A good deal of the time the hind boat was cross wise. Rained at bedtime.

July 21. Find need of names for boats so for my own use I will call my boat "Powell" and Jordans's "Gilbert" since we have studied the records of these great explorers on our trip. Thankful this morning that all is well—(really something undesirable could have happened with the Gilbert).

Cool breeze, sprinkle, as we float down the graceful bends. An extraordinary panorama movie. In reality, the shapes & carvings, & weatherings are countless and full of interest & variety, in fancy, there is unlimited opportunity for personification. "Mound" canyon sure enough[4]—the river walls are deep red & usually sheer,

---

[1] Rust, David D., "Boating on the Colorado," Improvement Era, May 1901, P. 507-512.

[2] Merrill, Harrison R., "Dave Rust, Lover of the Grand Canyon," Improvement Era, April 1929, p. 471-3.

[3] Testimony in the Colorado Riverbed case of 1929 (see The Confluence, vol. 4, no. 2, Summer 1997)

[4] John Wesley Powell named the upper part of Glen Canyon "Mound Canyon" and the lower part "Monument Canyon" on his 1869 trip. He later used "Glen Canyon" to describe the entire stretch of the Colorado River from the Dirty Devil River to the Paria River (C. Gregory Crampton, Standing Up CountKy, The Canyon Lands of

the top wall has all sizes of hogans for a roof. And the variety in clouds blends to make the sweetest coloring.

Solitude — not a man on the river (they say) from here to Lee's Ferry. At Tickaboo [R]anch yesterday, we might have seen a Mr. Carpenter, but his reputation and a mile walk persuaded us to pass on. So we must put up with our own (meagre) company for 10 days. Our 14 foot specials are riding fine, but the oars are a complete humbling.

Hansen Cr[eek] boat tied just below. Lunch above small rapid, creek coming in from West. Charles feeling punk. About 3 miles to S., river turns E & at the turn we look back to see [Mount]Ellen & [Mount] Holmes—a very beautiful part of the canyon. At the next turn where the river swings back S. & then W. are big bowls & other vessels cut out of the wall. We there pulled into the mouth of Moqui Canyon but found no ground for camp so pull across opposite and stop.

Arnold in attempting to take Charles's bed out of boat drops small camera into river same—is recovered after due search—ruined for rest of trip.

Arnold sets some hooks for salmon so I suppose we will have "steak" for breakfast. All take swim. Mosquitos today noon & tonight—the first we have met. Koehler tells me they took "balance wheel" out of his head—hence so many falls. [The result of dehydration?]

July 22. Beans for breakfast, stewed apricots, coffee, bread, cornflakes, cheese, milk, sugar. Decide to explore Moki Canyon for cliff dwellings—Short distance up Canyon find yearling heifer in quicksand—boys dig her out.... Arnold falls (slips) down a slick incline rock & gets jammed. Canyon forks about 5 miles up & we explore each branch about 1/2 mile. Discover several cliff houses & granaries. Supposed to be good water in Moki [C]anyon but we find it difficult to get a decent drink. The sluggish stream was warm & polluted with cows. Surprised several cattle—visited 3 ruins of rather ordinary type. Return to camp in same place opposite the mouth of Moki. Clouds & mosquitos again. Everyone restless—watch for bites.

Up with the Son (sic)—gnats & ants—launch at 9—dredge—Mouth of Pine Alcove Cr[eek]—just below camp run close to ledge that extends half way across river—top of submerged island. Run Bullfrog [R]apid—just below can see [Mount] Hillers & [Mount] Ellsworth.... Cha[rles] tries swimming river—does very good job, a capable swimmer. Red & then grey sandstone rises & where formation dips radically to S. & W. We camp on bar in Kane [County]. No ants or mosquitos. A good sleep in store—cool enough. Cha[rles] attempts to fix shoes.

July 24. [Utah's Pioneer Day]—I hoist flag and fuss around camp for an h[our]. Then call the Boys. Cloud—big pot of rice ready for breakfast. Jord[an] & I aren't [drinking] coffee (on account of economy). Launched at 10. Arnold succeeds in dropping toothbrush in river—Jord[an] fixes Cha[rles] shoes I repair Gilbert's oar. I climb up to view formation—we are in heart of Water Pocket [Fold].... Swift again—wide river valley between dark red walls, high, 1 mile wide. River runs N.W. for 2 or 3 miles—Great for color views—red walls burnt black. 24th of July—we have colors: white river and Red walls, Blue Sky....

Quiet water to Escalante [River]. Stop to explore it. Lunch just below in Kane [County]. All of our formal stops from Moki [Canyon] down have been in my home county but a long way from home. High class canyon below Escalante [River]—Higher sheer walls, domes bisected—Arches in forming pictured on walls....

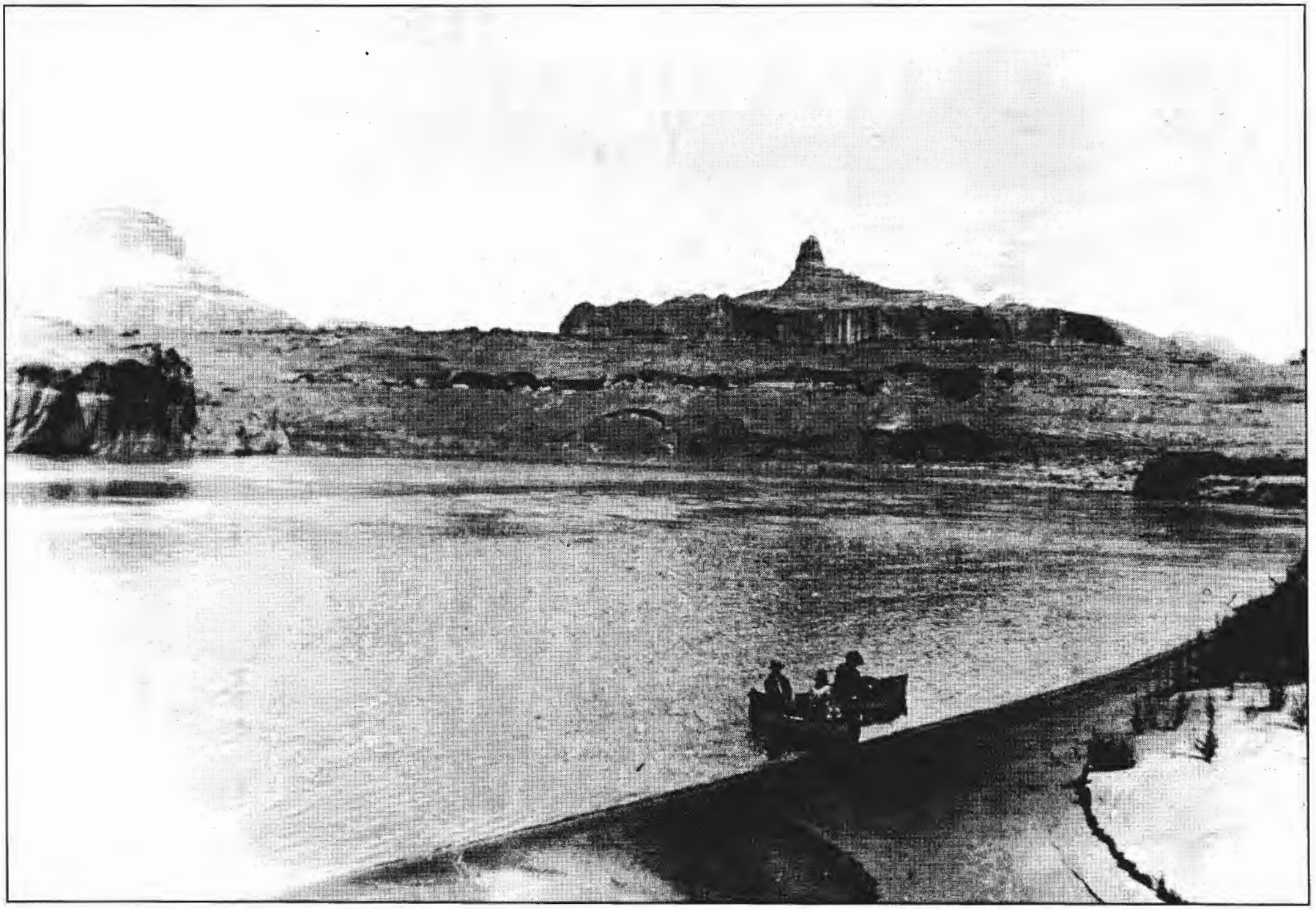
Eating young burro, ten mi[le] on the ice—Pull on 3 mi[le] to Hole-In-Rock—we climb up where the wagons came to the floor of the Escalante Desert—then to S.E. look off toward Navajo [Mountain].... An opportune time to visit Hole-In-Rock [on] Pioneer Day—one side of wagon must have rested on faith (other on rock trail cut.) Cha[rles] & Jord[an] went on point to north of H. in R canyon [Hole-in-the-Rock Canyon] to get views & pictures toward Navajo [Mountain]—I return to boats & Arnold (who was not able to hike) & I go after water—fine spring—the boys come down and we as to whether to camp. We camped for night where the Pioneers camped before—at Mouth of little cr[eek] & on the bank of Colo[rado].

July 25. Up early to repair Cha[rles] shoes. Tie boats on San Juan [River] shore & go E over pioneer road—then to high points to S. between Colo[rado] & San Juan. Arnold drops out in shade of dome before we reach view point. Excellent situation in center of Rainbow Rock land. Encircled by Navajo, Kaiparowits, Aquarius, Henry [mountains]. (Abajo hidden by local ridge) A thousand rainbow arches "in the making." Cha[rles] takes interest in photos. Return over hot rocks, deep tanks, on trail with good water, ate some jerky & raisins.... Paddle down to the San Juan (Crossing of Men, Women & Children) Cha[rles] climbs point between ridges to get pictures. San Juan not navigable, too swift & thin. 2 miles N.W. at the turn we come to Music Temple by Powell's description. Sure enough the most musical place we've ever seen. Everybody tries his voice. Too far from boats to carry stuff so we sleep on white sand in San Juan [C]ounty & the Piute Reservation. This is exquisite architecture. The Temple is not an auditorium but a music palace. More than expected. Should like to bring Miss Poll—or some other singer here. Feature this with Rock Cr[eek] Rainbow trip. Try to find names of explorers but cannot—feel the solemnity & sacredness of place.

July 26. Arnold complains of rib. Very cool night, I row Cha[rles] up 1/8 mi[le] to get pictures of temple across

---

Utah and Arizona, Gibbs M. Smith, 1983, p. 66).



Glen Canyon, undated (1920s or 1930s). Photo by David Rust. LDS Historical Department, Archives. Courtesy of Fred Swanson.

river. We row across & go up a little narrow canyon—very good water echoes.

Nat[ural] bridge 800 feet above water on our right—and right in front of us is Rainbow Canyon with the Big rapid roaring just below it. We land, look around & eat lunch. Then up Rainbow we hike. Jord[an] & Cha[rles] go ahead, Arnold & I drag along easy. The Canyon is ordinary for over a mi[le] then it becomes a subway very splendid! But after a 15 mi[le] walk, up and back, we are sure it is not Rainbow but Oak Cr[eek]—Swam 2 pools a rod long to do it—Good stunt. Shoes fading and feet sore, we reach camp & food & sleep by moonlight. Heard beavers flopping in water near my bed. Temple (high) N. of us is fine as ever even by moonlight.

July 27. Heavy rapid to run first thing. N of W around turn and we are to Rainbow. Jord[an] & Arnold are shoeless so [is Charles] & I start with [picking] of currants. 20 min[utes] up we meet 2 Navajoes who want to see [Colorado River]. They ask for chiniago [?]—we send message back for boys to come. The Navy's tell us there are 4 whites at Arch [Rainbow Bridge]. The trail we find very good—not many boulders to flounder. Canyon wide.... Good bathing pools in solid floor rock. Anybody, can walk it in 2½ [hours]. Hikers will go in 1½ [hours]. We go in 2½ [including] all stops.

We arrive at Arch to find clouds to help views — Shout but find no one answers so conclude we will take pictures & return to currants we cached below. The Arch still remains the magnificent single piece of rock carving. If we don't see these whites we keep inviolate the property. No white man from Dandy to Lees.

Just as we start back from Arch, meet the 2 Navajoes [sic] & they say boys are not coming. Cha[rles] writes note to white men—takes color view showing Arch & [Mountain]—On we go toward River. We bathe in delicious bathtub near fork with spring of excellent water near. Rest & eat currants & jog on down to camp in 1½ [hours] (from Fork) picking up boys at bath near mouth of Cr[eek]. Curious building at Mouth—what are they.

July 28. Start about 8. I run rapids, Jord[an] watches & comes down at first fine then his boat turns end for end—then he hesitates between channels below & bobbles. I holler.

High temples comes in on either side—See Kaiparowits. Fine pictures from mouth of Cr[eek] coming down from E. where we stop to get H_20. Don't enjoy the uncertain Rapid incidents—will likely run'em both myself or lead if any look rough hereafter. Here comes the boys with water.

Another Cr[eek] from E or S. 3 mi[le] below—the Canyon gets better as we go—every turn a new reel. Rock Cr[eek] in about 3 [hours]—Again recollections crowd upon me—the bar where I placer mined at 22.

And now we connect up the trip of last year with Fraser[5]. The long stretch of river below is in contrast with kinky canyons above. Called Rock Cr[eek] because big rock in river.

Lunch in mouth of small creek at turn of river. Find deer track. Jord[an] followed it down bar—we bring boats & land near lower end. We all go out and find 2 deer—one takes to river & goes downstream, the other runs by us & escapes.... Long, slim bar (willows) on E. bank to side canyon putting in from E. (Bernheimer Expedition took it to be Crossing of Padres and from this point is grand temple seen to north). Meskin Bar & more memories turn N.W. to Crossing of Fathers.—By twilight & Moonlight.—Goodnight

July 29. Up at 5:30 and went for a walk E. to follow the old trail went far enough to see [Navajo Mountain] & Soraco Pass & commanding view of Tower Butte etc.—Cha[rles] goes with me a short distance & returned home sick—camp in Reservation as has been custom since Music Temple. Cross river & explore Navajo Cr[eek] & find trail up Cr[eek] for ¼ & then steps cut out of south side of plateau. From Crossing to Navajo (Big) Cr[eek] in 2½ [hours]—Warm Cr[eek] to N. no swift water. Cha[rles] & I climb out opposite mouth of Navajo—could see Navajo [Mountain] & Kaibab Plateau and furniture between. Lunch opposite N[avajo?] Cr[eek].

Surprise 3 beavers 2 miles down—Sentinel Rock in 1¾ hrs. Boys see more beaver. High walls last 10 [miles] are imposing. Few side breaks today—straight walls & swift current—different from yesterday.

Lees Ferry Dam site—arrive Ferry to find it thickly populated—[an] auto on each side (2 at bottom of river). Had visitors in evening—[Frank] Dodge. Arnold & Jord[an] went to Ranch & brought milk & fruit.

July 30. Crossed & met Emery Kolb & wife & daughter, & La Rue & Freeman & Birdseye—& others saw 4 boats that are to leave here day-after-tomorrow for big Canyon expedition[6].... Went to Ranch for lunch. (Menu: Doughgods, curdly milk, fierce coffee, horrible molasses, very good green corn.

Epilogue

One of the ironies of canyon lands history is that Dave

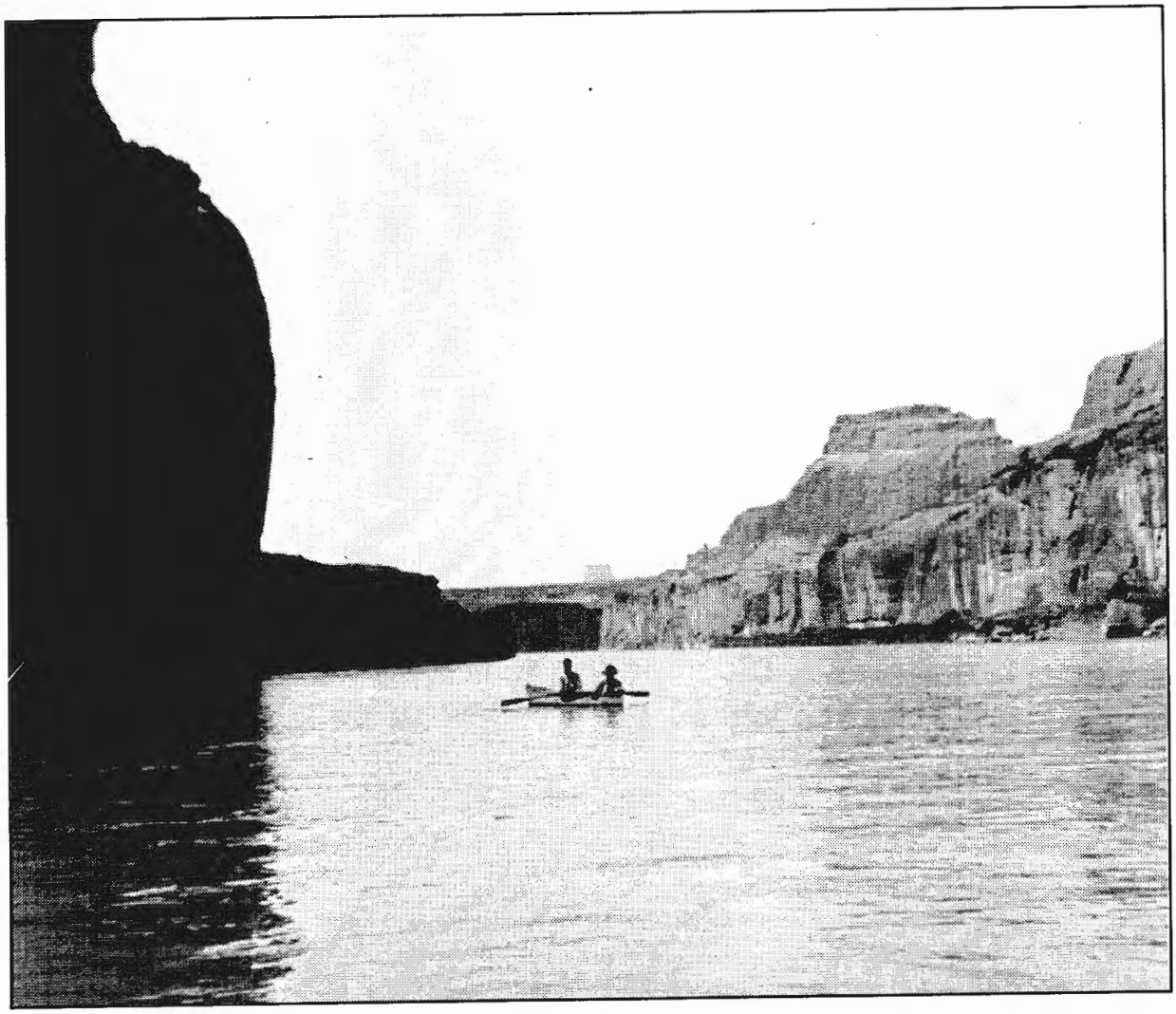
[5] Rust had led an overland trip in 1922 from Lee's Ferry to the Crossing of the Fathers with his longtime client and friend George Fraser. See Fraser, George C., "El Vado de los Padres," Natural H . vol. 23, no. 4, 1923, p. 344-357.

[6] This was the USGS Grand Canyon survey of 1923. They wound up taking one of Rust's little boats downriver and losing it on a rock. See Roy Webb, Call of the Colorado, University of Idaho Press, 1994, p. 23-4.

Rust was getting river tourism started just as E. C. LaRue of the U.S. Geological Survey was locating the site for a Glen Canyon dam. In 1926, Rust guided two trips in Glen, one including Utah Governor George Dern, who wanted to see the dam sites for himself, and another with Frank Oastler, a physician who was surveying possible new national monuments at the behest of the National Park Service. Both Rust and Governor Dern were ardent reclamation supporters, and their Glen Canyon experiences did not sway them from support of the dam. Oastler was a passionate believer in national parks, and following his Utah visit he recommended that several sites in southeastern Utah, including Arch Canyon, be given national monument status, but there is no record that he supported preservation of Glen Canyon itself. Thus an opportunity to raise public awareness of Glen Canyon's treasures slipped away. In the 1930's, Rust even proposed a "wilderness park" for much of southeastern Utah, in which horse travel would be the primary mode of tourism, but he never saw fit to question the dam building plans.

Rust continued taking one or two parties a year down Glen Canyon until World War II broke out. I consider him to be the first real, river tourism outfitter in Glen Canyon. Other guides, notably Bert Loper and Nathaniel Galloway, had taken on clients at least as far back as 1909, but these trips had as their objectives mining or scientific work. By 1938 Norman Nevills was guiding in Glen Canyon, and following the war river outfitting took off. Dave Rust had the vision early, and his trips still stand out as adventures in discovering the joys of the great canyon.

Frederick H. Swanson lives in Salt Lake City. He has written and edited publications for the Utah Wilderness Coalition and the Southern Utah Wilderness Alliance. He would enjoy hearing from others who are interested in the travels of David D. Rust, and can be reached at fswan2406@aol.com.



Glen Canyon 1925. From Dave Rust's trip with Dr. and Mrs. Frank Oastler. Probably Dr. Oastler with hat, David Jordan Rust (Dave Rust's son) at oars. Photo by David Rust. LDS Historical Department, Archives. Courtesy of Fred Swanson.

A Movie Review—Sort Of

Dear Mr. Redford,

I just saw the film you directed and starred in, "The Horse Whisperer." It was so similar to some events in my life that I thought you might be interested in the following story I wrote about a recent trip I took down a western river. Then again, you might not be interested—you've already told the story, and quite well at that, though the story seems to get a lot of treatment, given the number of romance stories in film lately. I suppose it's a theme of humanity that we always find interesting, so films like "Bridges of Madison County," "Titanic," and "Horse" stand to remind us of how we are. It takes three hours to build a romance, apparently. The woman needs a symbol by which to remember her new found lover that she would have forsaken her husband for. It takes a scene about imprinting for us to absorb the profundity and permanence of the bonding that she has with her extramarital Jack or Tom or Stud. It tests a man's patience to wait while the story unfolds the way it always does.

Please enjoy the story of Filian Stud.

Sincerely,

Lefty

FILIAN STUD

by Lefty, 1998

Stud an' me go back a long way. All the way to sixth grade. We been close with each other along this trail to 50 years old and I can tell you Stud's always been after the women. Course most of us guys is, but ain't many of us just goes on out there and cuts one out of the herd whenever we get a hankerin'. Stud does. We all get the hankerin' but some of us gets married and keeps it that way, not that married is fireworks and stampedes all the time, 'cause it ain't. Lord knows that every time Lady promises me a cup of coffee or a kiss she'll sit down to read the mail and fergit or she'll go to sleep and fergit, but were married and that means we gotta live with it and try to make it work.

But not Stud. He chases them females all the time—any of 'em, right from Lew Chalmers, in sixth grade, to Succuba, his now ex-wife, to Sherrye, his now ex-girl friend, to Dr. Hera, the best he ever used to have. He gits them women to look deep inside themselves and find a piece missin' that it takes Stud to round out. I got a piece like that myself and I'll fight like a mama badger to keep Stud roundin' me out, though that missin' piece ain't the same shape as what's missin' in them women, so don't get no ideas about me an' Stud in a motel room. Stud's like that for a lot of folks. And he sure likes fillin' that need for the women. He likes that "fallin' in love" feelin' and he keeps going back to the trough for more. When it comes to commitment, though, most often he's really more interested in the round up than the roundin' out. That marriage thing is just a little too round for Stud—kinda like a corral. Usually the women figger that out after a while and give up on lettin' Stud even round 'em out.

So, anyway, there we was at the River. We both knowed about this piece of water for 25 years but I live 350 miles closer to it so I got on it first an' I finally got around to invitin' Stud on a trip last year. It was rainy and we decided to take Stud's tent instead of mine. Turned out to be a mistake 'cause his poles was sittin' in the garage where his kids left 'em after they used it last. I gave him a good-natured ration of cow chips about it but he just strung up some oars and laid the tent over 'em and we did the best we could.

Now, the rain and the limp tent wasn't all bad 'cause I got this invitation to sleep in Arista's warm and dry place, and if I wasn't really, REALLY married, I'da made good on my evil intentions. Stud got his invitation, too. It was from Missy, from my church back home, who had been chosen as the trip sweetheart because, like Stud said, he liked it when she started nippin'.

"Nippin'?" I asked.

"Yeah. Her nipples get hard and show through her clothes when she's cold and wet or excited."

"Mighty nice," I agreed.

So, anyways, there's Stud after dinner rubbin' Missy's arm like he was tryin' to get every fiber relaxed. Musta done it, too, 'cause when I went over to say good night to my good friends, Missy said she felt SOOOOOoooooo good after one of Stud's back rubs. "He knows just where I hurt and how to make it feel better." Of course I knew that 'cause Lady and I had introduced him to Tantra, some exercises that the Indians, from India, made up about a man not spillin' his life force too often but makin' sure that his woman gets as wound up as much and as often as she wants. This Tantra shows a man how to heal all a woman's hurts if she wants him to. I think Missy wanted a few of her hurts healed, but she wanted to hang on to a few of 'em, too, kinda like she didn't want to be all that rounded out. I figgered this 'cause Stud came crawlin' in under them oars pretty soon after I did. Said it was real erotic but limited in scope.

I asked Stud if his rub on Missy passed the video test.

"Video test?"

"Yeah—video test. You just videotape what you and Missy was doin' and show that tape to Dr. Hera. If she likes it, it passes the video test."

"Jeez, Lefty, I hadn't thought of it that way. I s'pose it didn't pass, although the 'Kamasutra' says....."

Stud was always readin' Indian stuff and chanting Sanskrit ever since we showed him Tantra.

Well, that was last year. This year on the River Stud was readin' and studying' and pickin' the trip sweetheart and bringin' the tent. I told him maybe we oughta each bring one and he sez 'Nonsense my boy. We'll bunk together. Besides, I brought the poles this time.' 'OK, Pard,' sez I. 'I can live with that, 'specially 'cause I brought my ear plugs.'

Lady hates it when I try to give her pleasure by helping her control her breathing. She likes it when Deepak does it for her, but that's a different story. Let's just say that when I start, she puts in her ear plugs. Says it helps her sleep. Well, darned if she ain't right—ear plugs help. I've used 'em on trips where Stud and Dr. Hera have lighted up the night and morning with sounds that make me wish Lady liked that kind of thing, too. She knows about it, she just don't like it that much—just sticks in them ear plugs and sleeps right through a two hour back rub.

Well, sir, we was about a day into the trip when I started tellin' Stud how I ran into Filly and Wes at the hardware store. Filly's got herself a higher degree and is married to Wes, a doctoral candidate. I asked Wes why he wasn't goin' on the trip and he said he had a dissertation to write. They was buyin' paint and such so they could fix up their little love nest just like bluebirds in spring. They had fresh enthusiasm for the nest and for each other. I was glad Filly was married 'cause it made it easier for me to resist temptation.

"Temptation be damned," said Stud. "Looks to me like Filly needs a back rub." And so she did, what with all that kayakin,' simmin,' hikin,' health food eatin,' and all around looks improvin' but muscle tighetnin' behavior.

One night Filly an' Stud started out rubbing backs in Stridus's tent but Stridus came back when it started to rain and he whined so much about his sore gut that them two massagers came to Stud's tent where I had turned in. "No, don't leave, Lefty," sez Stud. "No, please stay," commanded Filly. "We won't make any noise or take up much space."

"OK," sez I, and shoves in them ear plugs. So I'm layin' there in the dark pretty darn peaceful and tired from haulin' a too-big boat down a too-small river for a couple of days, but I'm fighting with myself, too. Even though I didn't need to be chosen, I wanted to be chosen. Filly chose Stud, not me. 'Not that I tried to be chosen an' Stud did,' I argued. 'What's so wrong with me? Ain't I got all the parts? Ain't I a pretty durned good catch? Why him and not me? I wonder what they're up to. No! Don't look! It'll only build up energy you can't discharge. Well maybe just a peek so's I can see if I need to give 'em more space.'

'Dang.' 'She's workin' his glutes[1]. Now she's leanin' over and whisperin'in his ear—whisperin' so's not to bother me, I guess. Now she's hollerin' out, "Don't move your arm. If I want it moved I'll move it." Now she's puttin' Stud's arm under her lap. I better add a blanket over my head.

Now, I should explain where we was camped 'cause it helps show just how much this little romance had taken Filly. We was hauled up for the night in a place most folks don't because we was desparate. We though Constantine was dyin' on us and we might have to haul him out down stream at night. To keep him from dyin' and us from havin' to be heroic, we just stopped where we was an' put him to bed. There we was, right in the middle of some range bulls' sparrin' ground. They'd just eat all the taxpayers' grass and then tear up the bushes and defacate all over themselves and the ground and beat each other up over the love of a heifer. We figgered they'd just have to stage their fraternal show some place else for a night.

Darrin was our trip leader, kinda like the lead bull—he calls the shots and we do what he says. But Darrin ain't no cowboy. Course I ani't neither but I have rode my horse on a few roundups and I've stared enough cow-pie-on-the-hoof in the eye to know that a bull is built to stand his ground when you start threatenin' him. Darrin didn't know that but he did know the way things oughta be. There oughtn't to be guns on his river trips; there oughnt't to be cattle on public lands at give away grazing lease prices; the trip leader oughta drink the rest of his La Bomba Grande red wine and relax in his tent after saving the life of one of his deathly sick people.

Whilst Darrin was enjoyin' his Big Bomb wine, these bulls was movin' in on him from one side and another bunch of 'em was settin' up quite a racket near my tent and I was hopin' they wouldn't step on it. I didn't mind the noise on account of the ear plugs, and the noise was a little diversion from the Filly an' Stud show, so I just laid there and started thinkin.' 'You know? Darrin's a great guy but he seems just a little up tight. I think he needs some excitement to get his mind offa things. Maybe I'll just quietly roll out of this tent, grab Stud's gun and start shootin' and hollerin, makin' like I'm tryin' to harvest some hamburger. That oughta drive old Darrin right on over the edge. Har Har.'

Meanwhile, Darrin is over in his tent saying "Shhhhh. Shush! SCAT. SHOOOO!" tryin' to move them bulls, but they just keeps comin' at 'im—so close that he has to turn his head from side to side to see the right eye and the left eye of one of 'em. They ain't particularly impressed with some drunk human lisping at 'em. Then he grabs a couple of kayak paddles and starts clackin' 'em together and that really gets the old boys excited. They's standin' their ground against this kayak paddle threat.

---

[1] The gluteus maximus muscles commonly refered to as a pair with the singular noun 'butt,' or with the plural noun 'buttocks.' Commonly regarded as the center (actually very near to and spanning the center) of the base chakra which is the seat of acquisitiveness. It is the essential first chakra to stimulate for grounding purposes so that the Kundalini energy coiled there can be released througout the rest of the spinal column and other six primary chakras.

So over in Stud's tent I'm about to grab the gun when I hear Darrin shout out in perfectly enunciated English, "There are wild bulls in the camp!! Does—Any—One—Have—A—.... Gun?!"

I jumped up to keep anybody from grabbin' that .22 Colt revolver. Somebody hollers out, "Get Stud. I bet Stud's got a gun!"

Filly, bless her innocent little cheatin' heart, shouts out as loud and clear as a bell, "I don't think Stud can get up just now."

HEEEE HAAAWW. I nearly busted a gut tryin' not to laugh at the way that musta sounded to Darrin, who wasn't liking this apparent cohabitation on his trip. There weren't no real cohabitation, though, 'cause I was there an' Stud thanked me for that, later. Musta sounded real odd, though.

So rather than shootin' I picked out the biggest, meanest, grass-eatinest, defacatinest bull, figgerin' he was the lead bull, and I started walkin' him out of camp, slowly so's not to make him stand his ground—I ain't that tough. About a quarter mile down river I ran into Stud who had picked up the other flank. Together we pushed the old boy, slowly mind you, about a half mile from camp, gave 'im a lecture about castration and fences, and heard no more of his or his buddies' nonsense for the night.

Everything settled down for the night and everybody went to sleep in their own bed. Next morning, Filly 'n Stud headed up the side crick before dawn. I got up early, started breakfast, did some yoga, broke my camp and chatted with the others. Them two (they's still two and not one, but their scope is expandin') gets back from the crick about the end of breakfast and Stud wolfs down some eggs while Filly pecks at granola. I sit back to watch.

Stud starts fillin' the other women's heads with sweet talk and stories and they all twist their toes in the sand and giggle. 'Cept for Filly, that is. She looks a little extra nervous. I get disgusted with not having been chosen and walk to the table for more decaf. That gives Stud the cue to head for the boats without bein' seen. You might wonder how on earth that is a signal, but it is. Stud and me's been bunkin' and boatin' a long time together and we just knows.

Anyhow, what happens next is just like a movie Lady and me saw last night. There's this Horse Whisperer guy and he tames horses, shrews, thirteen-year-old girls, and other such intractable beasts by sayin' what they need to hear, kinda like Stud roundin' out a woman. The movie writer makes up something and tells Horse Guy to say it. He sez it and the women and horses act like it's what they need to hear. So Horse Guy tames this woman and then Horse Guy and the Woman fall in love right near Woman's husband. At a dance, H. Guy suddenly disappears when Woman looks away for a second. When she looks back around, Guy's gone and she jerks her head around about three more times hopin' to find her one true love but he ain't there. Musta got the signal from one of his pards to head to the corral.

Well I don't know if Horse Guy's lover started nippin' then but Filly sure did. She jerked her head around about three times when Stud disappeared from the breakfast table. She squeaked out, "Where's Stud? and she nipped us a little show and headed out to find him.

I met Stud down on my boat and we has us a little talk.

"Stud," I sez. "You remember when we was fourteen and just learnin' to boat these western rivers, how Stretch told us over and over, 'Don't get your boat between a mother and her ducklings. They imprint.' That was a good sayin' that shoulda stuck but would we listen? No. We had to go and try it. We'd go chasin' them helpless, cute, innocent little critters until we cut one out. We picked it up and handled it and loved it more'n anything else in life except our guns and ourselves. Then it'd stick to us just like we was it's mama. It'd be peepin' and cryin' and trackin' us down whenever we tried to row away. It woulda swum after us until it died if we hadn't hidden so it's mama would come back and take it away. Well, Stud..... Well..... Well, Stud, she peeped. She's (I pointed to little lost Filly) followin' you.

"Quack," I sed.

"You really embarass me," sed Stud.

"No," Stud, "you embarass yourself."

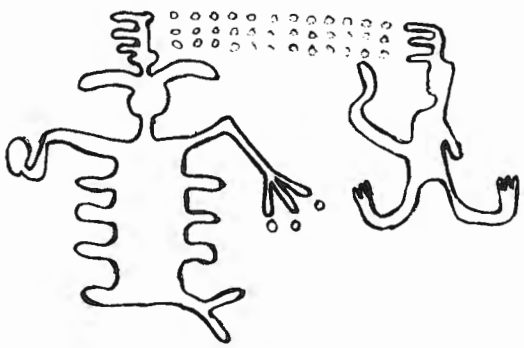
A while later Stud told me how he told Filly that she needed to decide whether she was really a Wife or was only just married to Wes. The husband of Horse Guy's Woman said something like that in the movie, I guess so we can pretend that Horse Guy and the Woman pass the video test. It was real noble of both Guy and Stud. They wanted to keep the women from bein' trapped by the men they chose to marry, and they wanted to protect 'em from imprintin' on the wrong person.

I asked Stud if the back rubs passed the video test and he said no, probably not. 'Wes wouldn't appreciate it. But I behaved myself – mostly – except for when I..... and when she....' 'It was especially hard when she leaned over to whisper something and when she put my arm, as nearly as I can tell, under her lap.'

"Quack," I said symbolically.

"Peep," Stud apologized.

© 1998
David Yeamans



WEEDS

by Kara Dohrenwend

Noxious weeds, also called invasive exotic species, environmental weeds, or non-natives, are rapidly taking over vast areas of public lands. The simplest definition of a weed is "a plant out of place." If you have a garden you are probably familiar with weeds, their impact on the productivity of your garden, and how difficult it can be to get rid of them. Familiar range weeds include Russian thistle, cheat grass, tamarisk, Russian olive, and knapweed. Some of these plants have beautiful flowers and are often sold as landscaping plants.

Noxious weeds are those that are particularly tenacious and do not eventually stabilize within the native plant mosaic. Plants such as these have become so commonplace that many of us cannot recall that these plants haven't always grown here and therefore we accept them as "belonging". Jerry Asher, a weed specialist for the BLM in Oregon, estimates that every day noxious weeds are spreading over approximately 7 square miles (roughly twice the size of the incorporated parts of the City of Moab) of public lands in the United States. 25,000 square miles in a year!

The ability of noxious weeds to out compete native species is hardly a "natural" occurrence or an example of "nature doing its thing". Most of the noxious weed species have been introduced by people for ornamental plantings, erosion control, food, or by accident. Although it may appear impossible to do anything about weeds, the prospect of simply living with them is not benign. In the desert the side canyons and springs are particularly important areas where it is possible to thwart the progress of these weed species. In riparian areas the most commonly seen weeds are Russian olives and tamarisk. In some places, such as Desolation Canyon, there are so few of these plants that it would be relatively easy to remove them before they take over larger areas. As Gary Cramer, a former weed control specialist at the University of Arizona, contends about simply living with weeds along streams and rivers, "This is down in the riparian areas—some of the most valuable areas of the Southwest....Can we simply accept that the cottonwoods, the willows will be eliminated?"

Over time the cottonwood/willow riparian forest can vanish amongst the olive/tamarisk thickets, although in some places the willows do seem to be making a comeback. Russian olives and tamarisk support approximately one third of the bird species supported by native cottonwood-willow communities. Although some native species eat the olive fruit and may nest in olives or tamarisks, some birds that nest in tamarisk are being found to not reproduce well. For instance, in parts of southern Arizona the endangered southwest willow flycatcher is nesting in tamarisk trees where they have no alternative nesting sites, but researchers are finding their eggs are not hatching. They speculate this may kill the eggs because of the higher ambient temperature during the hot parts of the day in a tamarisk thicket compared to the slightly cooler temperatures in a willow thicket.

In late February (2000) the Utah Weed Control Association held their annual conference in Moab. Weed control supervisors from every county in Utah, National Park Service, Bureau of Land Management, Utah State University students and professors, and a few other non-governmental people attended the conference. Although the majority of the weed control methods discussed involved chemical treatments and biological controls the fact that so many people were talking about ways to address the problem was heartening. A common theme of the discussion was the need for more people to be involved in looking for, mapping, and removing weeds in the wild lands of the Colorado Plateau. With more hands at work more environmentally friendly methods might be able to be used to begin to remove them. In the next few issues of *The Confluence* there will be articles about specific weeds and the native plants they are replacing, and how as river guides you might be able to help locate and begin to remove these species before they spread further.

SOURCES:

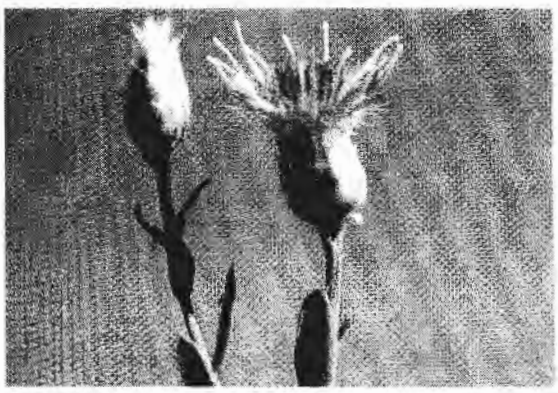
•Asher, Jerry, Steve Dewey, Curt Johnson, Jim Oliveras, Rich Wallen. "Invasive Exotic Plants Destroy Wildland Ecosystem Heath." November 21,1995.

•San Juan National Forest Association. "Noxious Weeds: Changing the Face of Southwestern Colorado." April 1994, reprinted April 1995.

•Teneubaum, David. "Weeds from Hell." Technology Review, Aug.-Sept. 1996. vol. 99, no. 6, p. 32.

•Williams,Ted. "Killer Weeds." Audubon, March-April 1997. vol. 99 no. 2 p 24.

•Young, James A. "Tumbleweed." Scientific American, March 1991. vol. 264 no. 3 p. 82.



Russian knapweed is found at the Little Dolores River camp in Westwater. Flowers of this perennial are pinkish-purple.

THE G. M. WRIGHT INSCRIPTIONS

by Jim Knipmeyer

Except for trapper Denis Julien in the 1830s, no one individual seems to have carved more inscriptions along the canyon walls of the Colorado River in southern Utah and northern Arizona during the 19th century than George M. Wright. He left his name and the date at seven sites along the river and at a possible eighth one. He also left another carving at the top of the Vermilion Cliffs, just some nine miles from the rim of Marble Canyon.

The only information concerning Wright's life comes from an eleven-year period of time extending from 1891 to 1901. Where he came from prior to then or what happened to him afterward is not known. What has been gleaned from mining records, two or three personal references from people who knew him, and his own carved inscriptions is summarized quite well in P. T. Reilly's history of Lee's Ferry, Arizona. Here I would like to simply emphasize the key points of Wright's sojourn in Utah and Arizona, dwell a little more on his various inscriptions, add a few details that Reilly did not include in his book, and correct two or three errors that somehow slipped into the book's account.

In the 1891 Salt Lake City, Utah, directory, George M. Wright is listed as a "miner" residing at 4 Fifth Ave. In the late summer of the following year, 1892, he was hired by two groups in Salt Lake City, the Alliance Mining Company and the Conklin Sampling Works, to prospect for gold along the canyons of the Colorado River in southern Utah and northern Arizona. They and Wright had probably been inspired by accounts of Colorado River gold from the Stanton and Best expeditions in 1890 and 1891, respectively.

Wright more than likely embarked from Green River, Utah, at the end of August or beginning of September, 1892, because his first carved inscription, still to be seen near the head of Mile-Long Rapid in Cataract Canyon, is dated "SEP. 16." [In Reilly's book the day date is mistakenly given as the 18th.] Like others before him, as well as many river runners afterwards, he probably stopped here on the right bank at Mile-204.6 to examine one of the rougher stretches of whitewater in Cataract Canyon.

Wright continued to cut his name, always in block-style capital letters reading "G. M. WRIGHT," and the date, as he progressed down the Colorado. His next entry was below the dangerous rapids of Cat, near the mouth of the tributary called Sheep Canyon. The date here was "OCT. 11." This is interesting, as it shows that Wright made only some thirty-seven miles in twenty-five days. Undoubtedly he was prospecting as he went.

The "possible" Wright inscription mentioned earlier was left not far below, near the head of Glen Canyon. On one of the inside walls of the so-called "Fort Moqui," the prehistoric ruin perched on the canyon rim across the river from Hite, were the initials "G. M." There was no last name or date, unlike all of his other inscriptions, so it is rather problematic if this was left by G. M. Wright or not. Unfortunately this inscription, the one upstream at Sheep Canyon, and the next two on down in Glen. Canyon, are all now beneath the waters of Lake Powell reservoir.

Wright's next inscription was at the mouth of Aztec Creek, dated "NOV. 6." [Reilly's book mistakenly says early in December.] He took twenty-six days to come some 108 miles, a much better daily average than through Cat. While he probably had been prospecting more in Glen, the slower and more careful traverse of Cat's many dangerous rapids more than likely slowed him up along that stretch.

Seven days later found Wright about forty-four miles farther down Glen at a long bar deposit on the right bank. He evidently camped in a shallow cave-overhang near the head of the bar, where he cut his name and the date, "NOV. 13." Here he made his big discovery of the voyage: thin nuggets of coarse gold in some of the narrow crevices of the cave walls, evidently deposited there during high water stages of the river. On the 14th he located the "Pure Gold" claim in the names of himself, his wife L. [Lillie] C. Wright, A. [Abraham] Hanauer, Jr., president of the Alliance Mining Company, and five members of the Markland family, Charles B. Markland being co-proprietor of the Conklin Sampling Works. On the 15th he did some placer prospecting around the bar itself.

This discovery must have hurried Wright on, as his next camp, the day after leaving the Pure Gold claim was fifteen miles down canyon. There, on the right bank, he carved his characteristic capitalized block-letter name and the date, "NOV. 16." Being below the present site of Glen Canyon Dam, at Mile-10.4, this inscription can still be easily seen cut into the canyon wall a few feet above the top of the talus slope.

The next day Wright reached the end of Glen Canyon at the Colorado River crossing of Lee's Ferry. He memorialized the conclusion of his prospecting voyage with the incising of his name and the date of "NOV. 17." This, too, can still be found with a little searching near the sunken remains of the old Charlie Spencer steamboat. All of Wright's inscriptions, of course, included the year date "1892."

According to two letters written by Permelia Johnson, wife of the ferry operator at Lee's Ferry, Wright, his wife Lillie, and two companions returned to Glen Canyon in September of the next year, 1893. They set up a tent

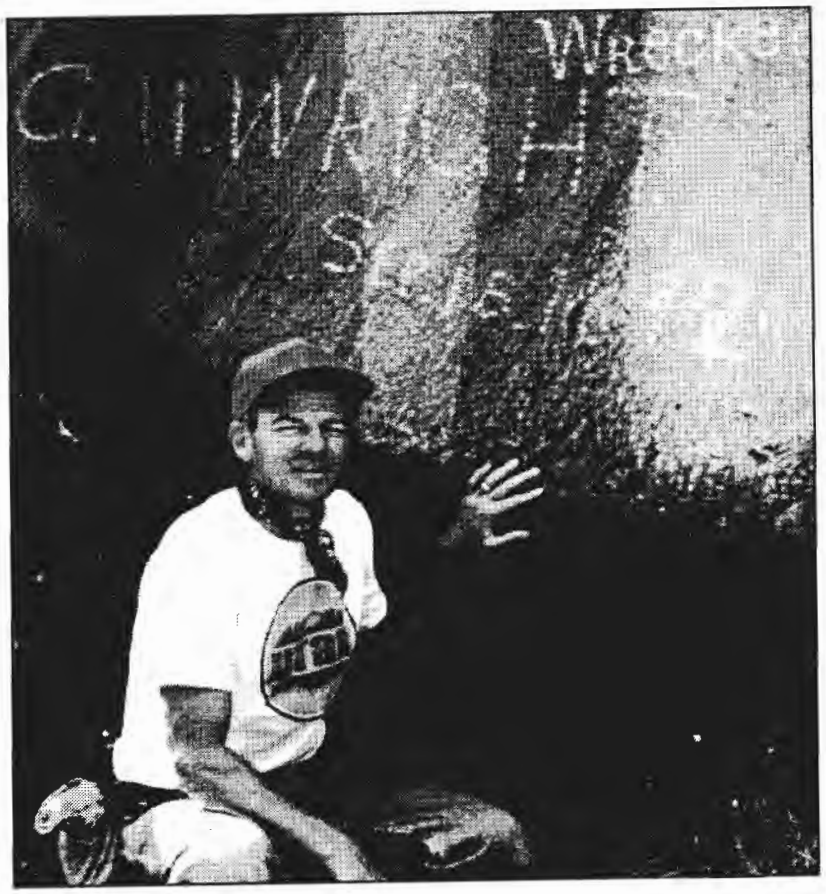
near the Johnson's house and would travel upriver in a small skiff to work the Pure Gold claim. They took out enough gold and it became common enough knowledge that the site between twenty-four and twenty-five miles above Lee's Ferry became known as Wright Bar.

Traveling upstream against the Colorado's current took parts of two days, and on at least one occasion Wright stopped at the large alcove-cave seven or eight miles below his claim that later was called Outlaw Cave. There, high up on the back wall, he left his name and the date, "DEC. 23. 1893." This inscription is now drowned by reservoir water.

Wright worked his claim all winter and probably removed most of the easily accessible gold. On April 13, 1894, he sold one-eighth interest in the Pure Gold claim to ferryman Warren M. Johnson. Perhaps this was also to pay for the supplies obtained from Johnson throughout the winter. Wright continued to maintain his base camp at Lee's Ferry but now began prospecting along the Vermilion Cliffs to the southwest. On April 20, he cut his name and that date [In the Reilly book it is erroneously given as the 30th] at the top of an old Indian trail above Jacob's Pools.

On June 27, Wright and Johnson notified their six co-owners of the Pure Gold claim that the assessment work had been completed for the previous year, 1893, and to pay their share of the cost or lose their interest in the claim. Any result from this notification is not known. On November 19,1894, Wright was a witness to a mining claim filed by A. W. Ivins on the eastern side of House Rock Valley, and this is the last reference to Wright and gold mining prospects in the Glen Canyon region.

For the next two years after 1894, nothing is known of Wright's activities, but he more than likely continued with prospecting and mining. The 1896 Salt Lake City directory does list a Mrs. Lillie Wright as a teacher in the Wasatch School District but nothing of a George M. Wright. His name next appears in connection with a mining claim in the Agua Fria District of Yavapai County, Arizona, in 1897. This was followed by claims each year from 1898 through 1901, all in the Walker Mining District near Prescott, Arizona. After the latter date, however, there is nothing more that has been discovered about George M. Wright.



Jim Knipmeyer at the Wright inscription in Cataract Canyon.
The word "Wrecked" is part of a different inscription. Photo by Richard Quartaroli

COLORADO PLATEAU RIVER GUIDES

IS PROUD TO SUPPORT:

THE SUSTAINABLE WATER PROJECT TOUR

RALLIES FOR WATER CONSERVATION & RIVER RESTORATION

MARCH 5 - 14, 2001

Politics and concrete are killing the Coloado. The agencies responsible want you to believe that there's no water to spare. Yet billions of gallons of subsidized water flow off industrial hay fields, tumble over desert fountains, or evaporate off water ski parks. Water agency policies of consumption and waste, revenue and profits, have perpetuated a mythical water crisis that must now come to an end.

Much of this water can stay in our rivers. Dams can come down. Habitats can be revived. And still, human needs for water can be met now, and for generations to come. Water conservation leads to river restoration. Lend your voice to make this happen.

Rally in support of a living Colorado and the appropriate agriculture, land use and energy policies that will help restore our beloved watershed. Join Vaquita Rescue, the Tour's water truck, driven by CPRG's own John Weisheit, as it takes collections to deliver fresh water to the endangered vaquita porpoises in the Gulf of California, and to the endangered species of the Colorado River delta.

SALT LAKE CITY, UT
Monday, March 5, 12:00 Noon
Kick-off Rally for the Bureau of Restoration
Bureau of Reclamation Regional Office
Federal Building

ALBUQUERQUE, NM
Wednesday, March 7, 12:00 Noon
Re-water the Rio Grande &
Colorado Rivers
Albuquerque City Hall

PHOENIX, AZ
Friday, March 9, 10:30 a.m.
Ask the Central Arizona Project
to Give 1% for the Delta
Arizona State Department of Agriculture

LAS VEGAS, NV
Monday, March 12, 12:00 Noon
Stop Gambling with the Colorado River
Southern Nevada Water Authority & Las Vegas
Valley Water District

BLYTHE, CA
Tuesday, March 13, 4:30 pm
Appropriate Agriculture and Energy Rally
Todd Park near City Hall

LOS ANGELES, CA
Wednesday, March 14, 12:00 Noon
4th Intl. Day of Action for Rivers
Old Pueblo Plaza, Olvera Street

Supporting Organizations, partial listing: Action Resource Center, American Lands Alliance, Black Canyon Audubon Society, Bluewater Network, California Earth Corps, California Floaters Society, Center for Biological Diversity, Citizens' Progressive Alliance, Colorado Plateau River Guides, Colorado Plateau Wildlands Defense Council, Inc., Colorado River Ward Valley Coalition, Dineh Medicine Mens Association, El Dorado Audubon Society, Eyak Preservation Council, Flagstaff Activist Network, Forest Guardians, Friends of the Earth, Green Action, Green Party of Utah, Humane Society of the United States, International Rivers Network, John Muir Project, Maricopa Audubon Society, Northern Arizona University Campus Greens, Native Forest Council, Native Forest Network, Palo Verde Farmworkers Coalition, San Diego Audubon Society, San Fernando Valley Audubon Society, San Juan Citizens Alliance, San Pedro 100, Sierra Blanca Legal Defense Fund, Sierra Club Angeles Chapter and El Paso, Glen Canyon, Plateau, Southern Nevada and Tahquitz Groups, Sonoran Desert National Park Friends, Southern California Watershed Alliance, Southern Utah Wilderness Alliance, Southwest Environmental Center, Utah Animal Rights Coalition, Utah Environmental Congress, Utah Rivers Council, West Texas Water Protection Fund, Wetlands Action Network, Wild Utah Project, Wild Wilderness and Wyoming Outdoor Council.

Trip Thru Westwater Cañon Was Like Tickling Dynamite With a Lighted Match—Wow!

Kolb and Loper Mastered Wild Waters After Going Thru Experience That No Man Accomplished Before

From the Grand Junction Daily Sentinel
September 29, 1916

Special thanks to Michael Milligan for sharing this newspaper article with CPRG.

Snapping their fingers under the very nose of Death itself, taunting gaily with the grim reaper, with their marvelous river skill as their only defense, Ellsworth L. Kolb of Grand Canyon, Ariz., and Bert Loper of Torrey, Utah, succeeded Monday and Tuesday in conquering the ferocious and roaring cataracts of the Grand River in Westwater Cañon, 40 miles west of the city.

They ran thru millraces with death as their nearest companion many times and just when it seemed they had joined the ranks of the men who had tried to run the rapids and died in the attempt, they would bob up and crawl back into the careening canoe and dash into the teeth of the next death trap, and finally conquered the mighty stream.

The boat, a 17-foot cedar freight canoe with hatch covers over each end, was only capable of holding one passenger, while the other member of the expedition ran the picture machine. The plan was to change off and each have a chance at shooting the bad places.

The cañon is 12 miles long, with five miles of mad waters a sheer bottleneck gorge with granite walls 400 feet high. At the top of the granite wall on each side is a wide bench, above this bench towers the sandstone 500 feet more. Along the bench a trail meanders and from various points along this trail it is possible to obtain glimpses of the rapids below and also possible at a few places to climb down to the edge of the river. Down such places the photographers planned to descend to picture the various stages of the trip, which was to take two days.

A few miles from the start of the cañon is one place where it is possible to reach the river edge with horses and here it was planned to make a small camp.

With Kolb besides Bert Loper were Frank E. Dean of Grand Junction, photographer, William Stubbs a cattleman and Ed Herbert a deputy sheriff from Westwater, Utah. They witnessed portions of the wild trip from such perches as they could obtain on the granite cliffs. They were armed with long ropes to hurl to the river rider in case of dire need. Mr. Dean operated the movie camera.

Kolb and Loper started out to conquer the first series of rapids, six in number all of them snorting geysers of river anger. Kolb says Loper is the most ardent lover of river sport he has ever met. He started in the craft and mastered the first few rapids each one being worse than the last, while Kolb camera in charge, stayed on the bank. Dean had started ahead along the plateau to meet Stubbs and Herbert to strike camp for the night leaving Kolb and Loper to take pictures of that series of rapids. It was then that the death grapple with the river began.

Kolb shouted orders to Loper in the river below, from where he was situated on the rocky walls of the cañon. He saw Loper run the first two, then the third and fourth. Each one got worse and the boat leaned, tossed, rocked and bucked but Loper held on and let her lope. Kolb called to Loper after he had [crossed] the last rapids before the terrible Double Pitch [Funnel Falls], which he had planned to attempt the next day, recognizing it as the demon of all demons [?] [?] the start and the whirlpool. He had not told Loper of this especially as he had not thot [sic] of making a try at it the first day. He saw the danger and shouted to Loper to come out of the river. Loper could not see the terrible Double Pitch, a sheer drop of 10-feet with a succession of falls following which made a fearful cataract. Kolb could see it and yelled hoarsely to Loper, who mistook the frantic signals as a "go ahead" and go ahead he did, his steady eye and strong arms tuned for the next rapids. Little did he know its power.

Kolb Believes Loper Lost

Powerless to yell louder or to make himself understood in the din filled gorge of mighty waters Kolb [saw] [the] boat take a nip at the awful plunge which had cracked many a man's skull on the rocks below. The canoe leaped into the air and crashed down, down, down, out of sight in the gnashing, grinding, murderous water which boiled and tangled in a veritable maelstrom of fury, a fury so deadly that the foam stood out in clouds on the water surface.

Kolb, heart sick, watched for the reappearance of the small craft and his friend. He could see nothing of it. For an hour he clambered back and forth almost beside himself with apprehension; how he had failed to warn Loper of the awful place, how he had not wanted him to try it. He imagined the worst had happened to his comrade. He had never had a fatality on any of his expeditions and he grew faint as he thot of the possiblity that at last one had happened.

Finds the Truth

Finally he gave up looking as the sun sank behind the cliffs to the west and climbed up to the trail to go to camp, which he knew was a few miles further on. He had made arrangements to have the other three men

meet himself and Loper, on this trail and return to camp together. He met Dean and asked quickly if any thing had been seen of the wreckage of a boat or of Loper. "Why he's in camp," was Mr. Dean's rejoiner. Kolb almost discredited his own ears and soon reached camp and grasped Lopers hand with a mighty handshake and the first thing Loper said was that he had had a frightful time and had had enough of rapids for a while. Then he asked if the pictures would be good. "Pictures," said Kolb, "why man you got way beyond camera range and would not come back, you were so wild to run more rapids." Loper was crestfallen to think he had mastered a king of rapids and no movie had been possible. How he went over the drop and kept the boat upright, water-filled as it was, and finally was able to get away from the maw of the river monster, only he knows.

Kolb Runs Death Traps

The next morning a new start was made with Kolb in the boat and Loper helping Dean and the other two men who were to throw life lines if needed. Loper was to run part of the rapids later on and did so.

Kolb got away under ideal picture conditions and started for the Little Niagara Whirlpool section [Skull Rapid], the most demonical on the entire river. He had not been gone long when his boat got into a place where the waves were running many feet high, tangoing back and forth between granite cliffs and making slaps at his boat that sent it hither and thither like a chip. Kolb clung on with his masterly skill and rode the bronco.

Suddenly, he struck a place that would have made a whirling dervish sea-sick and the boat shot over and he "got out and got under" good and plenty. He reached the lifeline and keel of the good ship and finally by might and main turned the craft right side up and crawled aloft. The watchful picture men, perched like magpies on the skyline above, did not see the upset. He had inhaled water and choked and gasped for some minutes.

Then came the whirlpool. The picture men who had gone down stream a ways saw his hat floating down the river and all of them had a terrible scare, fearing he was lost. Then came the worst place of all. Straight down the stream Kolb could see the water spouting many feet in the air as it shot with tremendous force against a boulder the size of a house in the whirlpool rapid. To the left was a "nigger head" rock which was covered with water about half the time. He saw that by making a corkscrew curve with a back action kick and a swipe at the scenery he might get thru, if he could dodge all the 100-ton pebbles and avoid the geysers of idiotic water that spit at the sky and found a target far below in the chugging foam under the rocks. He made it-not. A wave slapped him a half-ton lick on the face and picked him up, gunboat and all and rammed him over five feet, right up on top of the nigger head. The boat skidded off upside down, full of water, in the insane foam.

Here Kolb made the movie man above close his eyes and crank, crank, crank with only a prayer and a peep to see if aim was still on the struggle below. Dean's eyes opened wide when he saw, not a dead man floating down stream with a smashed canoe trailing behind, but a very sore mariner whipping his boat back into line, safe beyond the rapid grinning at the cliff with an "I told you so" expression in his eyes, if anyone could have seen it.

The Rest of the Trip

But why repeat the heart rending, scare giving scenes? They came again and again, not so bad, but chilling to the marrow and Loper took all the rapids he could, that is whenever he could coax Kolb to let him have a whack at the river. Those two greedy river men, hungry for more wild scraps finally arrived at the finish looking like they had been playing with the tail of an angry comet, but with a seven-inch grin on each of their faces. They had conquered the river that had conquered [men] since men knew how to build the frail chips that float. They won and won a hard fight and the story will go down in history as one of the truly great river triumphs.

Kolb says that the cataracts excel anything in the Colorado Rriver in fierceness altho [sic] of course vastly less extensive in length and number. Kolb was in Grand Junction all day yesterday and Loper arrived with the boat yesterday at noon when Mr. Dean got in. Black Cañon next week they say. •

One Red Oar

Resting an oar
in solid blue
from edge to edge
angels kneel beside the door

a coolness barely noticed
in Lapis shadows
leaning against boulders
imploring eager souls to scout
carefully

disaster flirting next to
the green tongue and the roar
and what love looks like
to a blinking fool

reading eddy lines
between the see you again
sometime
and the good bye kiss

the whole world stopping
at the abyss
for half a second
at one
red
oar.

Doug Oblak, October 1, 1996

Echo Park Controversy

by Herm Hoops

Echo Park is in the heart of Dinosaur National Monument at the confluence of the Green and Yampa rivers. It is the most beautiful place on the planet—a place of bucolic wonder. It is also the site of the most significant conservation battle of all times. I developed this chronology of events to guide National Park Service and River Concession staff in interpreting Echo Park. Each event below is a piece of a puzzle, but missing in this chronology is the intrigue associated with the Echo Park controversy. For example, anti-communist sentiment and the national defense (power needs for uranium) "significance" of the dam caused investigation of several key dam opponents.

John Cosco's Echo Park and Mark Harvey's A Symbol of Wilderness cover the Echo Park controversy in depth. The following chronology is a good outline for river guides to use in sorting out the many, complex issues surrounding Echo Park.

Chronology of Events Dinosaur National Monument

The Early Years

1902–Bureau of Reclamation established. After passage of Reclamation Act of 1902, portions (the Lodore and Split Mountain areas) of the Green River within the present boundaries of Dinosaur National Monument were reserved as dam sites. The USGS placed a gauging station on the Yampa River near Cross Mountain.

1904–Preliminary report to the Bureau of Reclamation proposes a reservoir site at Brown's Park on the Green River with a possible dam location at the head of Lodore Canyon.

1909–After several years of drilling and finding poor foundation conditions, along with difficult access to the narrow rock gorge of Lodore, with the possibility of a project at Flaming Gorge, and the inundation of ranch lands in Brown's Park, the Brown's Park Project was abandoned.

1915–Dinosaur Quarry established as National Monument. The original 80-acre site was proclaimed by President Woodrow Wilson to preserve the extraordinary Dinosaur remains of the Jurassic Period.

1916–National Park Service established.

1920–Federal Power Commission (FPC) created. The Federal Water Power Act (FWPA) authorized the FPC to reserve sites, provide lease agreements and royalties to states, and to permit water development in publicly controlled lands; including national parks and monuments. President Wilson signed the Bill reluctantly because there was no protection for national parks and monuments included.

1921–Congress amends FPC authorization to protect National Parks and Monuments. The Jones-Esch bill amended the FPWA of 1920 to exempt existing national parks and monuments.

1920s–Many ranchers around Vernal and Craig wanted Dinosaur National Monument expanded. They thought it would protect and provide better grazing.

–Bureau of Reclamation and Federal Power Commission began planning additional and larger projects.

1922–Colorado River Compact meeting of western state representatives. Fearful they might lose all control of water, they decide to hammer out a state rights oriented water agreement on the Colorado River basin.

–USGS crew makes topographic survey of the Green River from Rock Springs, Wyoming to Green River, Utah, in order to locate dam sites for power and irrigation and to collect data on water flow.

1928–Colorado River Compact completed and ratified by lower basin states (CA, AZ & NV). Hoover Dam construction began.

1930–Report from the 1922 survey indicated the site at Lodore Canyon was not feasible as a dam and reservoir site. But the head of Whirlpool Canyon, where the Green River leaves Echo Park was considered a good site. That site would create a 30-mile lake up both the Yampa and Green rivers with a storage capacity of about 580,000 acre-feet. The report listed advantages of the site as saving ranch lands, reduced evaporation loss from the reservoir, and flow regulation of both rivers. A second power site in Split Mountain Canyon was proposed with storage extending into Island Park.

Options discussed in this proposal included tunneling water from the dam to the mouth of Red Wash on the Green River. Decisions on these sites were delayed due to lack of ratification of the seven-state Colorado River Compact.

1931–A presidential Executive Order temporarily reserved 7,890 acres in the Split Mountain area for suitability as an addition to Dinosaur National Monument. The order stated the existing power withdrawals would not be interfered with. However, in a letter to President Hoover, the Secretary of Interior wrote: "It appears that the area covered by this proposed withdrawal may have greater public value from a scientific standpoint and for the administration of Dinosaur National Monument than for economic development..."

1933–Roger Toll, Superintendent for Yellowstone National Park and special investigator for new areas for the Director of the NPS submitted a report on the suitability, quality and importance of the Green and Yampa rivers for national monument status. The

report stated the scene was virtually unchanged from the days of Ashley and Powell and the desert had unusual scientific interest as an extension of southern deserts, lending itself to popular education of geology, erosion, archeology, botany and natural history subjects as well as having a fascinating historical background.

1935–Congressional amendment to the Federal Power Act excluded all national parks and monuments from power development, and reaffirmed amendment intent of 1921 for all national parks and monuments.

1936–NPS Director Conrad Wirth announces (in Vernal) opposition to an Echo Park dam.

1937–Interior Secretary, Harold Ickes, under pressure, approves building of Colorado/Big Thompson Project under Rocky Mountain National Park.

1938–Quarry at Dinosaur National Monument expanded to encompass canyons of Green and Yampa rivers (the wording of document was critical to Echo Park, and later issues.)

1940s–Bureau Of Reclamation (BOR) studies dam sites: Glen Canyon, Echo Park and Split Mountain would provide 68% of the storage and 70% of the power.

-BOR requested the NPS study the scenic, scientific and recreational resources of the Colorado Basin as part of a comprehensive plan to utilize water resources of the region.

1941–A BOR engineer described the Echo Park Site as "one of the brightest power prospects in the area." The BOR used the needs of the defense industry as a reason to call for immediate construction of power plants at Echo Park and Split Mountain. BOR officials claimed that the lake created by Echo Park Dam would become one of the biggest recreational areas of the West.

1945–BOR presented its comprehensive plan for water development on the Colorado River and its tributaries. The plan called for construction of Echo Park Dam at an estimated cost of $43 million. The dam would back water up the Yampa 40 miles and the Green 60 miles, impounding about 2.5 million acre-feet of water.

–People of Craig, Colorado, thought of Echo Park as a Utah project and opposed the dam at Echo Park.

1946–The report of recreational resources of the Colorado Basin, completed by the NPS, was critical of the dam sites proposed within Dinosaur National Monument. The report stated the construction of the projects would adversely alter the dominant geological features, wilderness qualities, and the relatively minor archeological and wildlife values of the canyon to the extent that the area would no longer posses National Monument qualifications.

–Organized opposition began against the dam. The Carbon Co. Utah Associated Industries, representing the coal industry, was the first group to go on record opposing Echo Park there was already a surplus of power!

1949–NPS Director Drury offers compromise: build Split Mountain Dam not Echo Park to save most scenic features in the monument.

1950–Departmenet of Interior recommends building five high dams (Echo Park, Glen Canyon, Navajo, Whitewater, Flaming Gorge) and a large number of smaller dams (over 100 other dams including Split Mountain and projects from 1946 report). The report called Echo Park, along with Split Mountain and Glen Canyon the "wheel-horses" of upper basin development; providing 70% of the power and 68% of the water storage of the Upper Basin Project.

–Interior Secretary Oscar L. Chapman approved the proposal over National Park Service opposition. Chapman argued that the Echo Park Dam was more economical because of less evaporation and stated that this project would not set a precedent for other NPS areas. In the end, Newton Drury, NPS Director, resigned. Many protests were filed with President Harry Truman against Chapman's actions; the dilemma was postponed to a new administration.

–New York Times article alerted conservation groups (Izaak Walton League, Audubon and Wilderness Society) to the Echo Park issue.

1951–NPS Director Newton Drury resigns in a storm of protest.

Midlife Crisis

1951–Sierra Club takes first trip down Yampa with Vernal river runner Bus Hatch.

1952–Dwight Eisenhower elected president. Utah's Ezra Taft Benson, later to become President of the LDS Church, was named Secretary of Agriculture; Senator Arthur Watkins of Vernal, Utah was an advisor to the President on water and power issues. Governor Dan Thornton, of Colorado, was a close personal friend of President Eisenhower.

–Conservation organizations began taking regular river trips, David Brower begins working with Vernal businesses reminding them how much is spent by river trips ($11,000 in 1952).

–Articles appear in media very regularly, Wallace Stegner's Beyond the Hundredth Meridian published, claiming that Powell would have opposed the dam. This is Dinosaur published and presented to all Congressmen by publisher Alfred Knopf. The battle took on a national audience, with opposition to the dam coming from conservation organizations, Congressional members from middle-western farming states, and national civic groups. Proponents of the dam were primarily from a regional audience, but even that was fractured with opposition from the coal industry and other special interests.

–California groups, including water groups oppose the dam spending $111,000 for lobbying (Ironically they point out that only 15% of irrigation costs are borne by users, 85% subsidized by taxpayers).

–Former President Hoover comes out in opposition to Echo Park Dam.

–Tax payer group points out that (UT, CO and WY) will expend 15 million for the dam, while New Yorkers would pay $123 million.

1953–Sierra Club lawyer Bestor Robinson, after a trip through Dinosaur contacted high interior officials (unauthorized), and recommended compromise (Split Mountain, Cross Mountain, Flaming Gorge and Glen Canyon instead of Echo Park).

–President Eisenhower approves project, states support to preserve national parks.

1954–upper basin states ratify Colorado River Compact.

–At Congressional hearing conservationists turned out in force with detailed facts and figures. It becomes public that BOR figures for evaporation rates of Echo Park Project were grossly inaccurate. Interior Secretary Douglas McKay was furious with the error.

–Corps of Engineers (U.S. Grant III) opposes BOR proposals.

–Congressional mail 9-1 against Echo Park Dam.

–House sub-committee approved project in May.

–Senate hearing: Devereux Butcher (NPCA) travels to Utah and finds many local misconceptions. Many thought they would get water from Echo Park, but the project was for power and not an irrigation project, others didn't know there were 30 other unchallenged sites.

–Senate committee approves bill containing Echo Park.

–Former Wyoming Governor Leslie Miller comes out in opposition to Echo Park Dam Project.

–1954 National Geographic article contained first (subtle) anti-dam message: comparison photos with an artist concept of the dam.

–U.S. House of Representatives mail running is 80 - 1 against Echo Park Dam. When 83rd Congress adjourned the bill was still on the floor, requiring new bills and hearings in the following session.

Surrender at the Point of Victory

1955–Congressional amendments to delete Echo Park from bill are introduced, but defeated.

–Coalition of groups announce opposition to entire upper Colorado Basin Storage Project. BOR managers and some politicians begin to fear the entire Colorado River development may fail.

–June: House sub-committee fearing they would loose the whole project deletes Echo Park from the bill.

–November: Congressmen and governors from CO, NM, UT and WY, agree to drop Echo Park from the bill

–November 30: Department of Interior drops support of Echo Park site. Interior Conservation Advisory Committee recommends a ban on dams on the upper Colorado River and reservations, national parks, monuments or conservation lands.

–Conservationists stop opposing the project and fall silent. Senator Albright (opponent) and leading conservationists sign document agreeing to support upper Colorado River Storage Project, minus Echo Park, with amendments to protect NPS lands from encroachment.

–The proposed Echo Park Dam site deleted from the upper Colorado basin bill. The bill passes House and Senate and "not a soul raised an objection to the withdrawal of Echo Park"

–Conservationists felt the greatest battle since Hetch Hetchy (in Yosemite National Park) had been won. But construction of the Glen Canyon Dam was the trade off. The day Echo Park Dam site was removed from the upper Colorado basin bill, Interior Secretary Douglas Mckay resigned.

A Stormy Horizon

1966 to present–Reserved water rights battle for the Yampa River within Dinosaur National Monument

1972–Senator Moss (UT) introduces a bill to delete the protection clause from Federal Power and Water Act of 1920 (exemption for national parks and monuments).

1980s–Tellico Dam controversy; Glen Canyon, Navajo and Fontenelle dams have structural problems; McPhee Dam completed on the Dolores River.

2000s?–Sandstone Dam, Juniper Dam, Cross Mountain Dam proposals

–Loss of federal water rights in the West

–Loss of Yampa River water rights within Dinosaur

–Animas-LaPlata water project a controversy

–Modification of NEPA, Endangered Species Act, etc.

–Loss of popular support for NPS due to excessive fees

Or

–Decommissioning of Glen Canyon Dam, Flaming Gorge Dam, Navajo Dam and McPhee Dam

–Support to retain federal supremacy in water rights

–Recovery of water project real costs through user fees

–Reaffirmation of NEPA, Endangered Species Act, etc.

–Recanting of excessive user fees imposed on private and commercial river runners and increased interaction and support between these groups

In opposing Echo Park Dam people gave up careers and income and in many cases were personally shattered; some never recovered. Belief in their cause, and its high and noble purpose led to lifelong dedication.

As a member of CPRG and the River Community what will you do to participate in the future of rivers within the Colorado Plateau? ❀

Dawg Tired Summer

Oh slim
these dawgies
have sure run us 'round
I'm so tired
tell me
summer is over
call my mother
and my bishop
tell them
I'm ok
but I am dawg tired

and if you're going
oe'r to the Iceberg
order me
a grilled cheese
and a malted
and a pillow.

Doug Oblak, April 1999

KENNY

Kenny Ross was one hell of a man, short in stature, wiry, with muscular arms wrapped in bulging veins. His hands were lean and leathery. He looked as though he was made of tightly strung steel wire, and the look in his eyes and his wit let it be known that there were a lot of volts running through those wires.

Kenny didn't just boat the river he was The River, The Canyon, The Anasazi.

His spirit is still here along the San Juan, and it shows itself often. In the hot summer sun, standing on some rock above a rapid, his voice whispers and weaves through the river sounds: "Recognize, don't memorize. You don't really become a good boat handler until you can feel what's around the corner. The river tells you what its doing and what its about to do. It tells you."

Kenny Ross was the Grand Old Man of the San Juan River. While some historians would stress the data of his accomplishments and life, those of us who he nurtured would like to capture the essence of the man... and a bygone era.

Herm Hoops

❀

River of Song

An Anthology of River Songs

Ahh, Rivers! Living metaphors for everything. Carriers of the lifeblood of the planet. This CD was conceived in the heart of the Colorado Plateau where rivers truly are the beating heart of a wizened landscape. The Grand River, born in Rocky Mountain National Park and draining the entire Western slope of the Rockies, and the Green River which gathers in the melting snows of the Wind River Range in Wyoming, meet improbably, in the impossibly harsh and remote gut of Canyonlands National Park, thereby forming the Colorado River whose credits include Cataract Canyon, Glen Canyon, and the Grand Canyon.

So how pleasant, how daunting the task to assemble an anthology of river songs to speak for these rivers, their tributaries and the incomparable canyon country they have formed. *River of Songs* accepts the challenge and delivers a record that will please the rats, satisfy lovers of moving water and inspire the landlocked to experience the river's infinite, timeless song. Hopefully, the record will also motivate folks to vigilantly protect the river resources that can save us if we can only be unselfish enough to let them.

River of Song flows with a strong environmental and preservation ethic . . .

Let her go.
Give this river back her soul.

T.R. Ritchie, "Let This Mighty River Roll"

❀

It costs too much to clean,
too much to move it.
It's somebody's fault,
but it cost too much to prove it.
So we'll cover it up . . .

Cosy Sheridan – "Don't Go in the Water"

❀

(and ponder) an ever-present question,
blowing in the desert wind –
Do we have it in ourselves
to let this river run again?

It's an adolescent fantasy,
and we really ought to lose it.
Acting like we're in control,
we're destined to abuse it.

D-Squared – "Row"

❀

. . . but man's sins against the natural world can't dim the passion that this once wild and untamed river system still excites . . .
It's a paradise I'm thinking of . . .

Anke Summerhill – "Stars At Noon"

❀

Last night I lay in a restless bed,
a hum-drum life pounding in my head,
when out of the night came a mighty roar -
The river calling me back once more.

Katie Lee – "Song of the Boatman"

❀

Makes me think about how that river and I
Were both happier when we ran free.

James Keelaghan –"River Run"

❀

Perhaps it's something in the air.
I wish I could go more often,
for I find peace and comfort there.

Anke Summerhill – "Stars at Noon"

❀

You can't push the river.
That river's just going to flow.

Chuck Pyle – "Keepin' Time By the River"

❀

Oh, what a gift it is to always know which way to go.

Erica Wheeler – "Down River"

❀

Lord, I love to ride a rolling flow.

Tom Russell – "Beneath Canyon Walls"

❀

Now the river rocks and rumbles
as it rolls down through the ages,
and it shatters any sense of scale
as it turns back the pages.
And the ruins of your history;
civilizations in their prime –
are swept into an eddy.
They were just a wink in time.

You better row.

D-Squared – "Row"

❀

Canyon Reflections by Gordon Burt, the only instrumental piece, nicely evokes a quiet riparian sunrise. The denouement of the record is an essay by Terry Tempest Williams, a woman apparently incapable of dispassionate speech. It underscores the music perfectly, and will carry you away if you're willing, in a perfectly modulated flow of words and images.

River of Songs is a labor of love. The music, art, time, effort and inspiration were mostly donated. The soul of this effort resides in Moab, Utah, a little town on the banks of moving waters, big on talent and generous of heart. *River of Songs* is a worthy effort, and wrapped in its jacket of love and dedication, can't help but please. Proceeds are donated to a non-profit river conservation organization.

To acquire this CD please contact:

Music of Moab
59 S. Main Street #8
Moab, UT 84532
435-259-4405
www.riverofsongcd.com

Canyonlands Field Institute Guide Training Calendar

Desert Ecology
Spring, 2001 (dates TBA)

Instruction by Dr. Tim Graham. This course covers the fundamentals of ecology in relation to the desert uplands and mountains, and special topics of interest for this region. Emphasis is placed on the natural history of the Colorado Plateau, including geography, geology, and ecology, the variety of ecosystems present, and the adaptations of desert plants and animals to the arid environment. The course involves extensive field observations and measurements, particularly of pothole communities. Fees include handouts and field trip fees. Those desiring 3 graduate biology credits from Utah State University (BIOL 6910) need to pay an additional $45 filing fee with a separate check made out to USU.

Course Fee: $450 ($435/CFI members)
Deposit: $150

RECERTIFICATION for EMERGENCY RESPONSE and CPR
March 6-8, 2001

Instructor: Michele Reaume Hill. A 20-hour refresher class for those with current American Red Cross Emergency Response certificates expiring in 1999. Lectures, videos, practicals, written test. Provides 3-year ER and 1-year CPR certification. Bring your own text and workbook.

Fee: $70 ($63/CFI members)
Deposit: $25 (text and workbook may be purchased for additional fees)

AMERICAN RED CROSS EMERGENCY RESPONSE
April 9-13, 2001

Instructors: Sheri Griffith, Jim Braggs and guest instructors. This 40+ hour course is designed for any professional who may be called upon to give first aid in the line of duty; includes CPR. Videos, outdoor practicals, written test. Days and one evening. Includes text. Provides 3-year ER and 1-year CPR certification.

FEE: $160 ($145/CFI members)
Deposit: $60

SCHOLARSHIPS AVAILABLE

Canyonlands Field Institute
1320 South Highway 191
Moab, UT 84532
www.canyonlandsfieldinst.org
435-259-7750

The following is an excerpt from an unpublished manuscript written by Bert J. Silliman, in November of 1952 in Green River, Utah. Mr. Silliman was a petroleum prospector and formed the Nequoia Association with E. T. Wolverton in 1918. Mr. Silliman believed there was sufficient evidence to indicate that Spaniards, with their Indian slaves, built the trail at Spanish Bottom in Cataract Canyon.

..there was an older road, more direct to a different destination, and in contrast to the OLD SPANISH TRAIL, an attempt had been made to mark and improve the trail. It clearly belonged to a different era, with other kinds of merchandise and it is a too great stretch of the imagination to expect either Spaniards or Indians of their own volition, to make stone stair steps, switch back dugways, pile the loose rocks in neat rows at each side of a wide "right of way" and build houses and corrals at the nightly camping places, with ruins of furnaces for smelting ore or perhaps as forges for the horse-shoers, it strongly suggests that this was done by slave labor.

This OLD SPANISH TRAIL with its beginnings in the Rio Grand Valley of New Mexico enters Utah in the Four Corners country, the only place in the. United States where four states have a common corner, south of the Abajo Mountains near the south end of Elk Ridge is a prominent land mark called the Bear's Ears, because of the resemblance of two craggy pinnacles on its apex to the ears of that animal. The old trail passed between the ears as does a present road, and the old timers called it the BEARS EARS TRAIL.

Thence it went northwesterly along Elk Ridge to a point overlooking the Cataracts of the Colorado. The trail down a side canyon to the river level was in active use by the Utes when Powell passed with his boat expedition in 1871. The crossing was made just above the first cataract and the widening of the canyon on the west side still goes by the name of Spanish Bottoms. The ascent of the sheer western wall was made by stone steps and a switchback trail that excited my eighty year old "river rat" friend who first saw it near 50 years ago! Why it was that wide as he extended his arms about four feet. At the top of the ascent, just before entering the land of the Standing Rocks, the passage is through a sunken valley. A block of stone had dropped between two fault lines in what geologists call a graben. After skirting the base of the towering Vermillion Cliffs a few miles, one comes to the only breakdown or doorway through this line of cliffs within 50 miles. This is Sunset Pass and gives access to Nequoia Basin, or as it is usually called, Hatch Canyon. This is all that a pass should be, it comes just at the nick of time, and requires no tedious climb to attain its summit. Just turn right and enter. The basin is of considerable extent and sports a "rock island" at least 5 miles long. The narrow canyon leads to the Dirty Devil River which the trail crosses and goes up by Poison Spring Wash to the Burr Desert. These names sound rough, but I think that should anyone be curious enough to trace out this old trail, they would agree that the names are appropriate.

Fremont came this way in early 1854, but there are only the briefest incidents of cold and suffering recorded. He says, "the falling snow and destitute condition of my party again interfered to impede examinations," and only a few days later even his iron constitution and indomitable will had to succumb. Fortunately, his weakness was transient. Mrs. Fremont, in an unpublished manuscript relates, "Suddenly my strength gave out, all power of motion left me, I could not move a foot. I sat down in the snow and waited, after a few minutes, strength enough came back, and no one noticed what had happened."

Fremont left the Bear's Ears Trail somewhere in the Burr Desert and went Westward. To the North, the prominent landmark, Temple Mountain, loomed above the enclosing San Rafael Reef which ran as far to the north as eye could see. The Old Spanish Trail crossed the Dirty Devil River and went north, turned northwestward up South Temple Wash through a gap in the Reef, passed by towering Temple Mountain on the right, and steeply climbing gained the surface of the elevated dome which is Sindbad. And looking backward, I can only say, as I have said before, that the inside vertical line of sheer cliffs of the Reef extending without break for miles and miles save for the narrow canyon through which they had entered did not require any stretch of the imagination of those very early Spaniards who first came this way, to remind them of Sindbad's Valley "exceedingly great and wide and deep and bounded by vast mountains that spired high in air. None could descry their summits for the excess of their height, nor was any able to climb up thereto."

The Old Bear's Ears Trail continued northwestward diagonally across the Sindbad by the way of Cole Wash and Horn Silver Gulch and out through the western Reef near Molen. On its way, my informants say, that in places it is laid out

Colorado Plateau River Guides
PO Box 344
Moab, UT 84532
435-259-3598
cprgutah@hotmail.com

Forwarding and Return Postage Guaranteed/Address Correction Requested

---

with such precision that it suggests the use of instruments. That there are places where the old trail has worn two feet down in said shale by much usage. An old inscription which bore the date of 1777, a cross and a Spanish name, but now almost or quite illegible. Fifteen or twenty grave mounds along the road side may possibly indicate the site of a sanguinary battle, with heavy losses incurred by the Spaniards.

From Molen, the old trail attending northwesterly, crossed Castle Valley to Huntington Creek. Up Huntington Canyon to Trail Canyon, by which ascent was made to the plateau top. Thence over Wasatch Plateau near modern town of Schofield, down Spanish Ridge between Soldier and Thistle creeks to their junction as Spanish Fork River. Thence ten miles down the canyon to the open Utah Valley and the country of Timpanagos.

What merchandise was carried over this route we do not know other than that given by an adaptation of the old Game of Hare and Hounds, with the exception that my informants did not spend a summer tracing its course by little bits of paper but by fragments of rich ore that had dropped from ore sacks atop the pack saddles of the travelers; especially at their nightly camping places. The fact that the road had been improved and enough ore had fallen along the trail that it could be traced, would indicate that it was in constant use for a considerable period.

A rough guess could be made that the purpose of this road was to convey ore from Utah Valley to Santa Fe, but we have no written record of any appreciable amount of mining operations along the route or are there producing mines at this date. True there are many remains and relics of ancient workings that may date back two centuries or even earlier. But they seem more like prospects than mines that have produced ore in quantity, and I know of no case where an old working has been made productive. It is also true that there are legends of lost mines such as the "Lost Josephine" which have persisted to this date. The bitter opposition to mining of the Indians and their tradition of Spanish mines worked by Indian slaves under inhuman conditions, and an uprising of the Indians against their cruel masters, in which after a desperate struggle the Spaniards were killed to the last man, and the hated mines carefully filled in, and covered and disguised in a way only an Indian would know, would open up the possibility that the good mines were successfully hidden.

There is written evidence that the Indians did just this to producing mines in northern Mexico. And we know that in 1680 there was just such an uprising of Indians in New Mexico in which all the outlying settlers and traders were massacred and only those of the larger settlements escaped death and even these were expelled from the country and it was years before the Rio Grande Valley was retaken and recolonized.

Thus there is much to be learned, and much evidence to be sought out, if such exists, before we can get more than a sketchy story of the OLD SPANISH TRAIL and the still older BEAR'S EARS TRAIL and the men who traveled them. For what reasons? To what end? When? ...

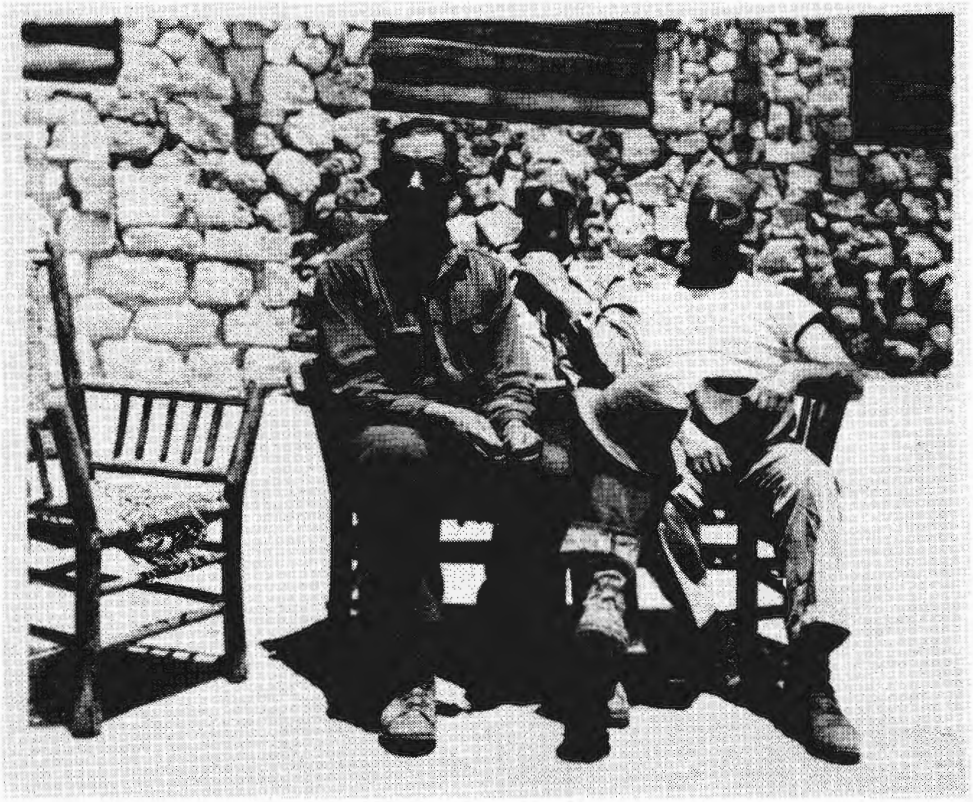
Bert J. Silliman
Nov.1st 1952

The Confluence

The Journal of Colorado Plateau River Guides Number 24



Anasazi Canabalism
Pop's Poetry
Greg Trainor Poetry
Bob Webb on "Hell to Pay/Capsize"
Animas La Plata Rally
GJ-Moab River Runners
Bert Loper Testimony
Sarah Clinger Artwork
Motoring above WWRS



Boyd Davis of Orem, Bert Loper age 79, Rulon Doman-Utah National Parks executive. Taken during Bert's Boy Scout guiding days. (From Clifford L. Rayl- previously published in the Sunday Herald, June 13th, 1948)

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (c) (3) non-profit organization dedicated to:

*** Protecting the rivers of the Colorado Plateau.**

*** Setting the highest standards for the river profession.**

*** Providing the best possible river experience.**

*** Celebrating the unique spirit of the river community.**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau.

General Membership is open to those who love the rivers of the Colorado Plateau.

Membership dues:
$ 20 per year
$100 for 6 years
$195 for life
$295 Benefactor

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Annie Tueller-Payne
Vice President	Dave Focardi
Secretary/Treasurer	John Weisheit

Directors

Bluff	Clay Hamilton
Grand Junction	Joe Keys & Marty Shelp
Green River	Shane Edwards
Moab	Molly Taylor
Vernal	Herm Hoops

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077

E-mail: cprgutah@hotmail.com
Faxes accepted: Please call first

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Microsoft Word on an IBM PC. If you use a word processor, we can translate most programs. Otherwise, please send your text double-spaced. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

Managing editor: John Weisheit

Editor this issue: Dave Focardi

Printing: Times-Independent

ISSN # 1078-425X

Date: Oct/Nov 2001

DISCLAIMER

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing or supporting viewpoint please send your comments to CPRG.

Special Thanks To: Those who submitted articles for this issue!!

Issue/Numbering: In keeping with the new numbering system, this is now issue #24. **Thanks for financing this river trip!**

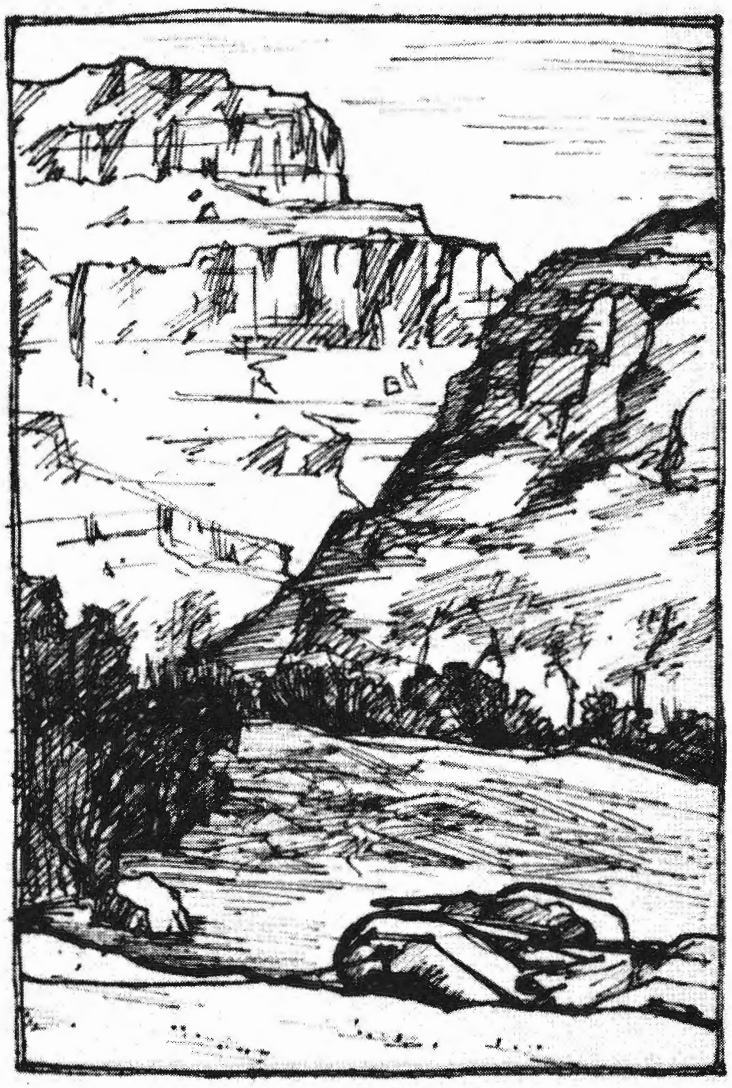
#20—Volume 7, Number 1, Spring 2000, Prop in a rock

#21—Volume 7, Number 3, Fall 2000, CNP vertebrate survey

#22—David Brower on cover

#23— Dark Canyon Revisited

#24— This Issue



Pen and ink by Sarah Clinger

Printed on Vision 100% tree-free paper made from the kenaf plant.
www.visionpaper.com

From the Editor and Vice Prez

Welcome to the 24th issue of the confluence. Despite best of intentions, these things always take longer than I think. If all goes well, many of you are reading this at the guides meeting at Sand Island- if not, you got it in your mailboxes.

Previous engagements of the employable nature prevent me from attending the guide meeting. What I will do here is take a stand on some issues of the day. Basically, there is still a dam (or several) in the wrong place on our river, and the board voted at a meeting in Green River several years ago that our position was that Glen Canyon Dam should be decommissioned. We have not changed that position either through consensus or a vote. If you have any questions on why the dam should be decommissioned, check out justdrainit.org , I won't go into the myriad details here. One of the issues we will be considering in the future is if we should move our organization under the umbrella of Living Rivers- maintaining our 501c3 status- and being separate from Canyonlands Natural History Association. As the board makes these moves, you the membership have the ability to affect these decisions. Major decisions like moving the charter will be general membership votes, but often we (the people whose names appear on the inside front page) do things as if we were the TL and you are supporting us in where we camp, hike, or stop to do lunch. We are not telling you how to row your boat. Likewise, we are VERY interested in your INPUT and PARTICIPATION. If you want CPRG to move in a different direction, it is up to you. We (that same collective we) often choose to do the more difficult, yet more rewarding hike- to keep the analogy going, rather than doing the same standard trip each time.

Message From the President

Well, Hello There,
I just wanted to include some sort of announcement in the new Confluence about the upcoming CPRG events. I hope that all of you are doing well and recovering from a long, hot and hopefully prosperous season. Boy, was it hot and low or what? At some point in July (I think it was), I found myself in the middle of the Big Drops with 3 (out of 9) of our boats hopelessly stuck! I had to step back and hand it to the Lady River; game, set, match; she won!

First and foremost, may I recap the last CPRG endeavors. The Boatman's Bash last July was a big hit. A big thanks to Red Bull, GCAN, Canyon Voyages, Tex, World Wide and all the others who helped make the party happen'n. Welcome to our 40 new members via the bash as well! Secondly, last month, CPRG drafted a letter to all the bureaucracies (BLM, Park Service, Forest Service etc.) asking them to contact the CPRG board regarding any regulatory changes concerning river corridors. We, as the board, thought this was a good idea to keep guides up to date on what is expected out there. I want to get the letter out this week! In other news, Joe Keys from Grand Junction brought to our attention at the last CPRG board meeting that Colorado Legislators were getting involved in motor use in the Loma section. Joe reports that Steve Yamashita will propose (and likely receive) a "no Jet Ski Launch from Loma" bill. Joe also says that Yamashita is committed to maintaining the current outboard motor use in this section.

So, upcoming events: all three of 'em!
1. We are planning a boatman retreat. The event will take place November 2nd through the 4th at Sand Island in Bluff. The event is the first CPRG, GCRG (Grand Canyon River Guides) collaborative event. I am really hoping for a big CPRG turn out because it is high time that we show these guys who the heck we are and what we are made of!!!! The schedule is as follows: Dinner and social Fri. night, meetings Saturday followed by a great party, respective business meeting Sun morning. We have reserved Sand Island camp ground. You may also stay in Bluff if you prefer. We have tentatively rented the Desert Rose Conference Center in case of rain. Please Bring your own camp stuff.

<u>Topics for Presentation</u>

Dams in the system (Dave Wegner)
River Otter introduction (Joe Shannon)
San Juan Silting
Animas \La Plata (John Weisheit)
Adaptive management (Matt Kaplinski and Andre Potochnik)
This is a once in a lifetime, event. I hope that you all will come!

2.Due to a rapidly slowing economy, UGO has decided to seriously down size their event, although, it is still happening. The UGO meeting will be held at the BLM conference room. Nov.

8th from 9:00 until noon. There will also be a UGO sponsored Westwater trip Saturday Nov. 10 contact me (Annie) at the UGO meeting if you want to go.
Finally; World Wide River Expeditions will sponsor a first Aid/ CPR recertification course for CPRG members only. The course will be at World Wide in Moab May 13-14 at $75 per person, which includes your book. Call Steve Hazlett at 435-259-7515 if you're interested.

O, one last thing. I am still interested in doing a CPRG flat water trip this fall.; November Sometime?!? Is anyone out there into it? Let me know. Anniet@lasal.net, 801-220-0350

OK, so that about wraps it up. I hope that you are all planning a great winter and look forward to seeing you and chatting with you this fall.
Flowers & Smiles
Annie Tueller Payne

Motors from the Utah State Line to the Westwater Ranger Station

by Annie T Payne

Joe Keys (CPRG board member) called me this week with a couple of facts about Westwater that he said would be of interest to CPRG members. Joe is possibly one of the busiest guys I know. I think that he just didn't have time to write it all down himself. I told him that I would write it down and see if I couldn't get it in the Confluence. Then I did some fact checking myself. I wanted to clarify all outboard motor regulations concerning the Colorado River corridor between the Utah State line and the Westwater Ranger Station. As it turns out this is a sensitive issue as is everything I try to report on. I guess somewhere in my subconscious I must love confrontation. I know that Alvin (Westwater Ranger) is going to confront me when I publish this. I would just like to apologize in advance to Alvin. I also would like to say thank you to Alvin for doing a great job of keeping the river guides honest and accurate.

There is no regulation concerning down stream motor use from the state line to the Westwater Ranger Station. Yup, and that's from several horse's mouths. Joe Keys spoke with Joe Asher from the Grand Junction BLM recreational planning office. Joe Asher reported no regulations concerning down stream motor travel. Joe Asher spoke with Marilyn Petersen from the Moab BLM recreational planning office. Marilyn Petersen concurred that there are no BLM regulations concerning down stream motor travel from State Line to Westwater Ranger Station.

I decided that this probably was not a recreational issue as much as an endangered species issue. So, I called Joe Cresto the Moab BLM biologist (three Joe's, one issue, crazy isn't it?) to see if Joe Cresto could shed some light on the issue. As it turns out this is an endangered species problem. Cresto discovered a nesting pair of Bald Eagles below the state line, on private property, river left, sometime circa the late 1980's. BLM was notified as was Fish and Wildlife of the nesting pair of eagles. In 1996, Federal Register Volume 61 number 231 states that up stream motor use is prohibited from the Westwater Ranger Station to the state line from Feb. 1 to Oct. 15. This regulation was in response to the nesting pair of eagles. Fish and Wildlife wanted to eliminate any new disturbances, mainly Jet skis and up stream traveling motor boats in the area. Later, outboards traveling down stream were informally incorporated into the regulation.

I spoke with Cresto about the issue at length. I questioned how rafts with outboard motors going down stream got incorporated into this regulation. He couldn't shed much light on the issue. He did, however, make some interesting points. Its all true guys. Yes, the Eagles are probably far more disturbed by the train then a 5 horse kicker coming down the river. Yes, they are nesting on a private farm which uses noisy machinery daily. Yes, they have been there for 10 years, maybe more, and don't seem to mind the noise. Yes, they are on the endangered species list. According to Cresto, however, there is a noise threshold. It's the whole straw that broke the camel's back thing. I guess that the BLM folks (although they don't have any legal recourse), pose an interesting point. River runners need not contribute to a potentially sensitive situation for the eagles.

So, this is where I get really bold and confrontational. Legally, we do not have to turn our motors off at the state line. I ask you though, do we need laws to make us do the right thing? Chances are my motor is not going to make a difference on whether or not the eagles stay. But

what if it did? What if my motor startled a female eagle enough to leave her brood at a critical moment? I, personally, don't think it's worth it.

I don't like to motor the state line stretch anyway, it's as rocky as all get out there! Sometimes, if I am pressed for time, I use the motor. I like having the right to make that decision (motor or not motor). I will tell you, right now however, that if we guides start to motor the state line stretch with wild abandon because we can; we will see the day when the BLM will regulate our motors there. So, how about this? Lets not motor the state line section unless it's necessary. It, ultimately, is the guides' decision.

I welcome your comments.
anniet@lasal.net

Comment from Dave Focardi- Right On! I love that confrontational attitude of Annie's. I am pretty much in complete agreement here- even if the motor doesn't get turned off right at the state line, at the very least it could be turned off before the boats come around the bend in sight of the ranch where the eagle viewing area is. Throughout the years, filling out permit forms at the ranger station, under comments, I always remark if I saw any eagles. How many and estimated ages, specifically where they were seen, type of activity etc. It provides a little extra data for the biologists and something to keep the permit readers interested in their work.

"RALLY TO SAVE THE ANIMAS RIVER," NOVEMBER 9 IN DURANGO!
YOUR SUPPORT IS NEEDED...

As you may know, Congress last year authorized construction of the Animas-La Plata (A-LP) project. Recently, $21 million in funding for first-year pre-construction work was approved by the House of Representatives. Action in the Senate could come at any time. IT'S NOT TOO LATE TO STOP IT!
We are gathering to send a message to Washington, that the people do not want or need this wasteful, river-killing project. Congress can still do the right thing by not funding the A-LP boondoggle.
[November 9 is the political start date of the project]
JOIN US IN DURANGO ON FRIDAY, NOVEMBER 9: Meet at Rotary Park on 15th strreet and 2nd avenue at noon. The march will proceed to the BuRec office at 2nd and 9th, and then on to Schneider park on 9th and Roosa next to the river. There will be music, speeches, food, and fun. This is a family-oriented, legal event. Please check Living Rivers' website for details. We will issue updates via email, as well.

BECOME A CO-SPONSOR OF THE EVENT:
We want your organization and/or business to sign on as a cosponsor! There is no fee. The more support we demonstrate, the stronger our collective voice will be!
Please notify David Orr at Living Rivers via email at <david@livingrivers.net> so that we can list your group as a supporter.
WHAT YOU CAN DO *TODAY*:
Send a message to Congress and the Bureau of Reclamation (BuRec)! Now is the time to write to Senators, letting them know that money for A-LP will be money wasted. Especially in this time of looming recession, federal tax dollars should be wisely spent. Write to your Senators, and ask them to "ZERO OUT" the A-LP line item in the appropriations bill. A list of all Senators with their addresses may be found on the Senate's Internet website at:
http://www.senate.gov/contacting/index.cfm
Also, write to the Commissioner of Reclamation and ask him to oppose A-LP funding:
John Keys, Commissioner, Bureau of Reclamation, 1849 C Street
NW, Washington DC 20240-000.

WHAT'S WRONG WITH A-LP?
Ridges Basin Dam is a key part of the A-LP project and would store water, only to allow it to evaporate. It is to be built in Mancos shale. (Editors geologic note: Although Mancos shale is impervious to water, when exposed surfaces come in contact with water it becomes a gooey mess. This is because much of the clay in Mancos shale falls under the *smectite* classification. These clays adsorb water into their molecular structure making them particularly slimy and slippery) Taxpayers have been soaked for more than $200 million already, and not a spade of dirt has yet been turned. But conservative estimates peg the cost to the Treasury at well over $500 million. Some independent experts put it at more than a billion dollars.
A-LP would pump water more than 500 feet uphill, at great cost in dollars and energy, to store water in a new Ridges Basin Reservoir, that will function as a giant evaporation pond. There is no demonstrated need for the water, except in

the river. More water storage is simply an enticement to more sprawling development into southwest Colorado, at the expense of taxpayers and the virtually extinct endangered native fish.

RECLAIMING THE BUREAU: This "Save The Animas River" rally will be the first in a series of public events calling for BuRec reform, as we approach the occasion of the agency's hundredth anniversary on June 17, 2002. Despite former Commissioner Dan Beard's proclamation that "the era of big dam-building is over," the agency appears unable to resist the opportunity to build at least one more useless pork-barrel project.

Environmentalists want BuRec to mark its second century with a shift from "reclamation," i.e. development, dams, and diversions, to river restoration, including decommissioning many of the 600 dams built by the agency in its first century.

WHAT'S WRONG WITH BUREC?

Across the West, BuRec water projects have left a legacy of damaged ecosystems. The agency's famed engineering prowess has created the most efficient infrastructure ever designed for removing water from rivers, to be used in the most inefficient ways imaginable. BuRec projects have fostered rampant, unsustainable sprawl and development in the desert Southwest for decades. Incongruous golf courses, lawns, and swimming pools of Phoenix and Palm Springs symbolize the "good life" to those who choose to deny the reality of life in the desert.

The biggest source of waste is agriculture. With more than 80 percent of diverted water in most Southwestern states devoted to irrigation, the bulk of that water is used to grow alfalfa (cattle feed) and other low-value crops, some of it for export. Few if any incentives for water users to conserve, and there are significant penalties for doing so (loss of water rights). The system of water management and distribution in the West has for a long time been in need of major legal and regulatory reform. Rationality and fairness must play a major role in allocating Western water. Conservation must be rewarded, and all rivers must be allowed to flow. Living Rivers' "Reclaim the Bureau" Campaign is pressing for these essential changes.

RESTORING THE WATERSHEDS:

Living Rivers promotes grassroots organizing to restore the watersheds of the rivers of the Southwestern US and northern Mexico. We are building coalitions of local, regional, national, and international organizations and indigenous groups to ensure that water supplies are distributed equitably to all, and that river ecosystems are respected, protected, and restored to provide a healthy environment for people and wildlife. We are happy to answer any questions you may have. Please give us a call at 435-259-1063. Whenever you're in Moab, please stop by and see us at Living Rivers' office in the Restoration Creamery, 21 North Main Street.

David Orr <david@livingrivers.net>
Director of Field Programs
Living Rivers
PO Box 466, Moab UT 84532
Tel 435.259.1063/Fax 435.259.7612
www.drainit.org -and- www.livingrivers.net
Water Rights for Western Rivers
[Living Rivers: formerly known as Glen Canyon Action Network]

Rippling Brook

There is
a cool, steep place
where pool, green, and deep clear
draws fool to swim without clothes,
Ripp
Ling Brook

Rivers.

I think I need a river, lover, friend.
Voice of quiet, soothing bend
Embracing, flowing, surrounding trend.
Rock in the rill, I wait
Silent.

Greg Trainor

Anasazi Cannibalism

By: Sarah Clinger

Although the question of Cannibalism among the Anasazi Indians is an emotionally charged one, and should be approached with care, recent findings by Christy Turner and Tim White bring to surface considerable evidence that cannibalism did occur.

Previously thought to be peaceful farmers living in harmony with the land and one another, occupying much of the four-corners area, the Anasazi Indians were heralded as attaining an almost utopian society. However, recent findings have shed a new light on these simple desert dwellers.

Christy Turner is a physical anthropologist with a background in police forensics. While studying bones at the Museum of Northern Arizona, it occurred to him that some of the bones he was examining reminded him of the remains of individuals who had been savagely beaten to death, which he had encountered through his police work. It also occurred to him that these remains looked exactly like many of the animal remains he had found in prehistoric garbage mounds, food trash. Focusing at first upon sites where it was apparent that remains had undergone a violent death, Turner discovered consistent markings that he could attribute only to cannibalism. Through his research, Turner began to quantify cannibalized human remains as having to meet the following criteria:

1. Bones had to be broken open as if to get at the marrow.
2. Bones had to have cutting and sawing marks on them, made by tools, in a way that suggested dismemberment and butchering.
3. Anvil abrasions, or parallel scratches, most often found on skulls, caused when the head (or another bone) is placed on a stone that serves as an anvil, and another stone is brought down hard on it to break it open. When the blow occurs, a certain amount of slippage takes place, causing the parallel abrasions.
4. Bones had to be burned. Skulls had to show patterns of burning on the back or top, indicating that the brain was cooked.
5. Most of the vertebrae and spongy bone had to be missing. Vertebrae and spongy bone are soft and full of marrow. These can either be crushed whole to make bone cakes, (something the Anasazi did with other mammal bones) or the grease can be extracted through boiling.

Upon studying bones from seventy-two Anasazi sites, Turner found that the remains of at least two hundred and eighty six individuals had been butchered, cooked, and eaten in about thirty-eight of the sites. In an effort to study how widespread cannibalism may have been, Turner then examined a collection of eight-hundred and seventy skeletons stored at the Museum of Northern Arizona. He found that one skeleton in twelve showed clear evidence of being cannibalized.

Roughly during the same time, Tim D. White, a well-known Paleoanthropologist, made another discovery, which was later added to Turner's criteria of cannibalism. He noticed a faint polishing and beveling on many of the broken tips of bones excavated from Mancos canyon, Colorado. Already familiar with Turner's work, White wondered whether this polishing may be a result of bone

ends scraping on the edges of a rough ceramic pot while being boiled and stirred to render the fat. To test his theory, White did an experiment with deer bones in a ceramic pot on a Coleman stove. Under magnification, the deer bones showed the same microscopic polishing that many of the Mancos bones had. White called this "pot polish."

White went on to examine 2,106 bone fragments from the Mancos site, all of which were highly fragmented and deposited in what was believed to be a broken state, just like discarded food remains. What he found was that eighty seven percent of the bones had been fractured at the time of death. White found many of Turner's criteria, as well as the fact that jaw and facial bones, among the most delicate in the entire skeleton, were often relatively intact, whereas other bones were literally reduced to powder. It became clear that all fracturing and destruction was aimed at those bones which provided the most nutritional value. The violence used to break apart the Mancos bones was not a result of typical hand-to-hand combat, but rather by meticulous butchery processes used on game animals every day.

Despite these findings, there are many who still dispute the idea of cannibalism. The subject is deeply troubling to present-day Pueblo peoples, who are the known descendants of the Anasazi. It is one thing to identify butchery of human remains, but it is quite another to infer cannibalism. This is where Turner and White's research is open to criticism. In the past, posters announcing Turner's lectures have been torn down, and at the 1988 Pecos Conference, a symposium on cannibalism was cancelled after protests by Native American groups.

In 1979 William Arens, a professor of Anthropology at the State University of New York at Stony Brook, published The Man-Eating Myth, in which he reports he had been unable to find even one anthropologist, living or dead, who claimed to have witnessed cannibalism. He showed that reports of cannibalism have been mostly a result of hearsay, from unreliable witnesses, who talked about something they had not seen personally. Arens goes on to bring up the question of whether reports of cannibalism were attempts to justify slavery and colonization, and subversion. Arens has concerns that in light of Turner and White's findings, most people would conclude that all the Anasazi were cannibals, and by extension, all Native Americans.

Kurt Dongoske, an Anglo who serves as Hopi tribal archaeologist, objects to Turner's conclusion that any people were actually eating the cooked meat. Many have brought up alternatives such as bizarre mortuary practices, witchcraft exorcism, or ritual practices. In 1996, Dogonske was quoted in the National Geographic as saying, "Claims of cannibalism are deeply offensive to all Pueblo peoples. As far as I'm concerned, you can't prove cannibalism until you actually find human remains in prehistoric human excrement."

In 1992, at a place called Cowboy Wash, at the base of Sleeping Ute Mountain, Colorado, a team of archaeologists began to uncover what at the time seemed a typical Anasazi site, but which in it's course, seemed to address this very issue of human excrement. In one kiva, the team found a pile of chopped up, boiled, and burned human bones at the base of a vent shaft.

It looked as if the bones had been processed outside, on the surface, and then dumped down the shaft. In a second kiva, they found the remains of five individuals, again apparently processed as food. In that same kiva, the team found a stone tool kit, typically used in the butchering of a midsized mammal. The tool kit was submitted to a lab, and two flakes tested positive for human blood. In a third kiva, the team found a human excrement, or coprolite, among the ashes of the central hearth, the symbolic center of the household. Since the excrement most likely was left by one of the perpetrators of these acts, this would appear to have been the ultimate insult. Lab tests indicated that that the coprolite was made up of digested meat. Later, Richard Marlar, a biochemist, tested the coprolite for the presence of human myoglobin, a protein only found in skeletal heart muscle, which could only get into the intestinal tract through eating. Marlar declines to release his findings until he publishes his paper on the findings. Rumors of his results, however, indicate that they were positive.

Other findings at Cowboy wash bring about the greater question of "why was cannibalism happening?" Although filled with valuable, portable items, such as baskets, a rabbit blanket, pots, and stone tools, little, if anything, seemed to have been taken from the settlement. It was found that the site was subsequently abandoned, but not looted. To casually kill and process the victims in their own communities, and not to bother to burn or loot the village, may indicate a demonstration of authority, rather than warfare.

There are also the unpleasant calculations that show that the individuals at Cowboy Wash would have produced a staggering 1200 pounds of meat. Cannibalism as a result of starvation does not explain this huge amount of charnel deposits, the extreme mutilation of the bodies, or the subsequent abandonment of these sites. Also, there is no evidence of cannibalism among the Anasazi's immediate neighbors, the Mogollon and the Hohokam, who lived in equally harsh environments and endured the same climatic shifts, such as drought. The Mogollon, especially, experience winters much harsher than other cultural regions and where one would expect such starvation emergencies to occur. When food supplies ran low, most people simply moved away.

Evidence of cannibalism in the U.S. Southwest is, with the exceptions of one or two sites, concentrated in the Anasazi region. It is within the Chacoan sphere of influence that evidence of cannibalism occurs most often. David Wilcox, curator of the Museum of Northern Arizona, has prepared a map showing the distribution of Chaco Canyon's Great Houses and roads. The maps showed that the charnel deposits were often associated with Chaco Great Houses and most of them dated from the Chaco period. The first instances of cannibalism coincide with the beginning of Chaco civilization, around A.D. 900, peaked at the same time of Chaco collapse and abandonment, around A.D. 1150, and then vanished.

In his book, In Search of the Old Ones, David Roberts summarizes this theory by saying, "Before A.D. 900, the Anasazi had always been a fiercely individualistic, egalitarian people. Suddenly, around 920, in a shallow canyon in western New Mexico, a whole new way of life sprang into being. For the first time, Anasazi villages affiliated

in a vast network stretching 250 miles from north to south. Scattered for eight miles along Chaco Wash, fourteen Great Houses, symmetrical, planned towns with a uniform architectural style, centered the network. The greatest of all, the true hub of the Chaco universe, was Pueblo Bonito. More than seventy villages all over the Southwest, called outliers, were tied into the Chacoan system, mirroring the structure of the Great Houses and sharing their culture. The complexity of the network itself, scholars believe, required the Anasazi for the first time to abandon their egalitarian ways in favor of a hierarchial society. Neil Judd's discovery at Chaco of several burials teeming with precious grave goods suggests that these dead might have been powerful rulers."

In his book, Man Corn, Christy Turner theorizes cannibalism might have been used as a form of social control by a powerful elite residing in Chaco Canyon.

Brian Billman, head of the Cowboy Wash archaeology site claims, "When I excavated it, I got the sense that it may have been taboo. We are proposing that this may have been a political strategy. One of several communities in this area may have used raiding and cannibalism to drive off people from a village and prevent other people from settling there. If you raided a village, consumed some of the residents, and left the remains there for everyone to see, you would gain the reputation of being a community to stay away from."

In the last chapter of Man Corn, Christy states, "We find it quite plausible that a few score or hundred well organized and fanatical warrior cultists using rule-breaking but example-setting cannibalism and human sacrifice as conspicuous elements of terrorism might quickly and easily dominate small farming communities."

Although there are many ethnohistorical accounts of warfare among prehistoric Pueblo Indians, accounts of cannibalism or human sacrifice are spotty, at best. Southwestern rock art and kiva art, Mimbres pottery, as well as Hopi legend hold strong correlations between two ancient Mesoamerican deities, Quetzalcoatl and Xipe Totec. It is believed that the same feathered serpent which first appears in Anasazi rock art around A.D. 900 correlates to Quetzalcoatl, who was worshipped in a pyramid at Teotihuacan. Buried beneath the pyramid were many sacrificial victims. The horned serpent cult at Walpi village among the Hopi is said to have been introduced from the south. The feathered serpent in legend is linked to human sacrifice. The legend of the great snake who causes a momentous flood has the snake telling the village chief that he will eliminate the flood if the chief will "sacrifice to me your son," which the chief did.

Xipe Totec was the war and fertility god who wore the flayed skins of his sacrifice victims. Victims to Xipe Totec were killed by having their hearts torn out, then after being flayed their skins were worn by Xipe impersonators for a period of days or weeks. Their flesh was eaten. The Hopi deity, Maasaw, shares many of the features of Xipe Totec, including a major ceremony in February. Oral traditions invariably attribute human sacrifice to Maasaw. His dress basically constitutes a death shroud, and must be obtained directly from the dead.

Turner's theory begins in prehistoric Mexico. Around B.C. 200

the Teotihuacan culture developed, with human sacrifice being practiced ritually. The Toltecs eventually emerged out of this group, but around A.D. 1000 their tribute-demanding militaristic theocracy collapsed. It is speculated by Turner and others that with this breakup, displaced warrior-cultists may have migrated northward, explaining the emergence of warrior priesthoods in the Southwest, as well as many Mexican traits and trade-objects. With them they brought their theology which included human sacrifice and cannibalism. The architectural findings of Chaco Canyon help to support the idea of practiced terrorism and social control, and a heirarchial social system. A general Mesoamerican presence is supported by ethnographic as well as archaeological evidence, including square columns, T-shaped doorways, copper bells, macaws and parrots, shell trumpets, roads and signal stations, and observation of astronomical data, to name a very few.

These Mexican links may prove that Chaco was in contact with the Toltecs, who ranged from central Mexico to Yucatan and Guatemala, and who at the time were the most advanced civilization in North America, and who incidentally also practiced human sacrifice and cannibalism.

In room 33 of Pueblo Bonito, an interesting subject was uncovered. A description of the burial, from Steven LeBlanc's Prehistoric Warfare in The American Southwest, is as follows.

"Described are two "high status" individuals who were interred on a specially prepared bed of sand sealed by a planked lid, in other words, a formal burial vault. Above the planking, deposited in some fashion, were the skeletons of twelve other individuals. The burial vault contained 30,000 beads made of turquoise and other materials, dozens of vessels, and other rare items. One individual was buried with several thousand beads, but the other had the bulk of the turquoise and other items, which Pepper interpreted as an elite burial. Of interest is that this burial, a male, had a bashed in skull (Pepper, 1909). One suggestion is that the twelve individuals were sacrificial victims placed there at the time the two individuals were buried, even though they were above the two elites in the fill. The skeletons of the twelve individuals were partially disarticulated, which lends credence to this interpretation. As mentioned, like most Chaco Great House sites, there are few formal burials from Pueblo Bonito, and the likelihood that fourteen individuals just happened to die simultaneously and be buried together - when there are so few burials overall- is remote. Pepper (1920) found fourteen parrots in room 38, which is not far from Room 33, containing the fourteen burials. It appears that the two parrots had been given special treatment and the other twelve had not. Thus there is the interesting correlation of two (elites?) plus twelve (sacrifices?) humans buried in one location and not far away two (special?) plus twelve (nonspecial?) parrots buried in another location."

The interesting find, however, is that one of the elite individuals, a 45-60 year old male, showed signs of multiple notching in his teeth. Dental transfigurement, or the alteration of one's teeth, is another form of evidence which has recently linked the Chaco culture with that of Mesoamerica. Dental transfigurement was a common practice in Mexico from A.D.200 onward. This new line of evidence suggests that Mexicans were physically present in the Southwest.

According to Christy, "The Chacoans apparently had different values regarding the consumption of humans from those prevailing before, and elsewhere at the same time, in the prehistoric Southwest. The interregional contrast in Southwestern Cannibalism seems to fit the idea of an actual Mexican Indian presence stimulating or even directing the Chaco Phenomenon. We propose that these southerners were practitioners of the Xipe Totec (or Maasaw) and the Tezcatlipoca-Quetzalcoatl (or plumed serpent) cults. They entered the San Juan basin around A.D. 900 and found a suspicious but pliant population whom they terrorized into reproducing the theocratic lifestyle they had previously known in Mesoamerica. This involved heavy payments of tribute, constructing the Chaco system of Great Houses and roads, and providing victims for ceremonial sacrifice. The Mexicans achieved their objectives through the use of warfare, violent example, and terrifying cult ceremonies that included human sacrifice and cannibalism."

Though still disputed, Turner and White's research leads conclusively towards the fact that during the Chaco era, human bodies were mistreated and in some instances show signs of butchering like that of game animals. Whether one believes Turner's model of social-control in Chaco canyon, or some other explanation, the fact is that there is insufficient information that makes any one cause for such mutilation more valid than the other.

What can be learned from Turner and White's research is that cannibalism probably happened in the Southwest, specifically among the Chacoan influence. If this were so, perhaps it would be prudent for the anthropology/archaeology disciplines to reexamine and be wary of tendencies to cling to certain trends in the occupation such as that of the "peaceful Anasazi". Also, as Turner suggests in Man Corn, rather than just concentrating upon societal norms, perhaps much can be found about a society by instead examining the works of individuals or small factions outside of the greater societal whole.

BIBLIOGRAPHY

Turner II, Christy G. and Turner, Jacqueline A. (1999) Man Corn, Salt Lake City: The University of Utah Press.

Douglas Preston (1998) *Cannibals of the Canyon* in The New Yorker, Nov. 30, 1998 pp.76-89.

Le Blanc, Steven A. (1999) Prehistoric Warfare in the American Southwest. Salt Lake City: The University of Utah Press.

Roberts, David (1996) In Search Of The Old Ones, New York, Simon &Schuster.

Roberts, David (1996) *The old ones of the Southwest*, in National Geographic, April 1996 pp. 96-109.

Haas, Jonathan and Winifred Creamer (1997) *Warfare Among the Pueblos: Myth, History, and Ethnography* in Ethnohistory 44(2) pp.235-257.

Fagan, Brian (1995) Time Detectives, New York, Simon & Schuster.

Arens, William (1979) The Man-eating Myth: Anthropology and Anthropophagy, Oxford, Oxford University Press.

White, Tim D. (1992) Prehistoric Cannibalism at Mancos 5MTUMR-2346, Princeton, Princeton University Press

Editors note: Sarah Clinger is often seen down in Cat working for Sheri Griffith, artwork by Sarah.

Hi, Pops again
Last issue I mentioned that Jake Burnett brought along a drum on the Desolation Interpretive Trip that I was apprehensive about at first, but subsequently found it a stress reliever.

This drum thing, and my experience with it, has been hanging around in my mind all season, so I decided to get it out of there so I can move on. I have called it "The Drum." Pretty innovative, Huh!

A disclaimer: I have never smoked anything except plain tobacco nor have I sniffed anything except air and a few decongestants. The things I say I saw were not chemically induced. (Well maybe a couple of beers!) Here goes! Hope you enjoy!

The Drum

Have you ever sat in the wilderness,
And listened to a native drum,
And let it resound within your being,
A natural high far better than rum.

I put in at ol' Sand Wash one day,
The desolation of the desert below,
Looking forward to the quiet and serenity,
That canyons like this one can show.

A group of river guides made up the trip,
To interpret this wild Canyon's lore.
And adopted the culture of a Fremont tribe,
Blending with the desert's aura even more.

A big, light piece of baggage went in,
With a caution, "Don't step on it now!"
"It's a homemade drum, easily damaged."
And I thought, "Yeah, who cares anyhow?"

An early camp on one of the days,
A sweat lodge we were destined to build.
Heating up rocks became my chore,
No way would my time be filled!

But Shane, he has a bigger problem,
As hyper as a hip-hop song,
He's sitting there pounding on the drum,
Like he could do it all day long.

And others I see, as I tend the fire,
Are stopping by and joining in too.
What's the appeal? I don't know!
Doesn't seem worth such a big to-do.

The drum is silent; more work to be done,
Maybe I should pound it for a while.
Odd how it tends to help you relax,
And clear your mind, lighting a smile.

It's time to move the rocks to the lodge,
Wow! How that hour did fly!
Amazing how long I beat that drum,
How my senses seemed to amplify!

Another evening, further down the river,
The last night before we are done,
Were beginning to gel as a group of guides
And like a tribe, to become one.

Quietly around the fire we sit,
Peacefully, each in our own deep thought.
Steven gets up and on the drum does strike,
His own rhythm on the rawhide so taut.

Another joins in with his own beat too,
And a third lends her own unique throb.
And then a fourth at the drum does add,
More resonance to the thick hob-nob.

A hazy ringed moon; A cloudy bright night;
Eerie sensation radiates through the group.

As one by one, members of the tribe join in,
Dancing their own moves 'round the loop.

A lone dogged hold-out, I rest against a log,
And watch in the others their reverie.
I don't understand the compulsion of the beat,
And why here, they no longer seem to be!

Time moves on and I relax in the din,
And slowly the percussion becomes alive,
As a resonant thrumming in my blood,
Prodding my intellect to revive.

I stand, inhale, slow movement the norm,
Eyes slowly closing as I absorb the scene.
Mind flying high on the resounding beat,
I look down on eagles, a view never seen.

Suddenly everything becomes so vividly clear,
The trembling air, its ethereal meaning to all.
I sense the living of the many before me,
And the effect of the throbbing drum's call.

I see myself a great village chief,
Regal leader of a powerful tribe.
The pulsing helps prepare our buffalo hunt,
The staple for my people to survive.

I see myself a warrior brave,
Preparing for battle on the morrow.
I will count coup on my foes so strong,
Or pass on from abject shame and sorrow.

I see myself a wrinkled Shaman so wise,
My sacred cavern deep, velvety and dark,
Raven's wing feathers brush upon my face,
As with the Old Ones my spirits embark.

I see myself a grizzled Mountain Man,
Trapper, hunter and fighter supreme.
Indians are my friends and even family,
But these drums sound ominous, I deem.

I see myself a cavalryman in blue,
With Custer at the Little Big Horn.
Unaware that disaster is surely pending,
But afraid of the battle in the morn'.

I see myself a pioneer father,
Hearing rumbling of drums o'er the hill.
Not sure of the meaning, but apprehensive,
Checking family and rifle, suspecting ill will.

I see myself a buffalo hunter,
A Sharps shooter without any equal.
Harvesting the beasts for their valuable hide,
Not caring about the native people.

I see myself a lone desert cowboy,
Trapped in a searing box canyon so stark.
Knowing what will be if I cannot fight free,
Torture, slow death; My grave with no mark.

I see myself among the defeated people,
Glory and freedom a thing of tall tales.
Sent to a reservation all desert and sand,
Heart so heavy the resounding drum fails.

I see myself in the reality of now,
Among colleagues in this wondrous trade,
Whitewater guide on great western rivers,
Where once all these visions were made.

Have you ever sat in the wilderness,
And listened to a native drum,
And let it resound within your being,
A natural high far better than rum.

If ever your blessed to run with great peers,
And a Fremont tribe you try to be.
Pound a drum of wood and rawhide a bit!
The Ancients reward any mind that's free.

Paul R. "Pops" Smith - 2001



Eugene C. LaRue, the controversial hydrologist with the USGS river trips between 1921 and 1923, climbed high above Rapid 15 to take two panoramic photographs of Mile Long Rapid. This is a cropped section of one of the panoramas showing the river from Range Canyon (Rapid 13) to Capsize Rapid (LaRue 96, courtesy of the U.S. Geological Survey Photo Library).

THE CHANGING RAPIDS OF THE COLORADO RIVER
Capsize Rapid (Rapid 15)

I first became acquainted with the reputation of Capsize Rapid on my first Cataract trip in 1991. It was low water – about 5,000 ft^3/s – and we were camped on a nice little beach above Rapid 24. Sunset was fading, and we looked up from our martinis to see an apparition coming downstream: a raft with no boatman, passengers, cargo, or even frame. One of the ports was deflated. George, one of the best boatmen I know, quickly jumped into his kayak and paddled out to the raft, but he couldn't hold it before it entered the rapid. Oh well, morning would reveal all.

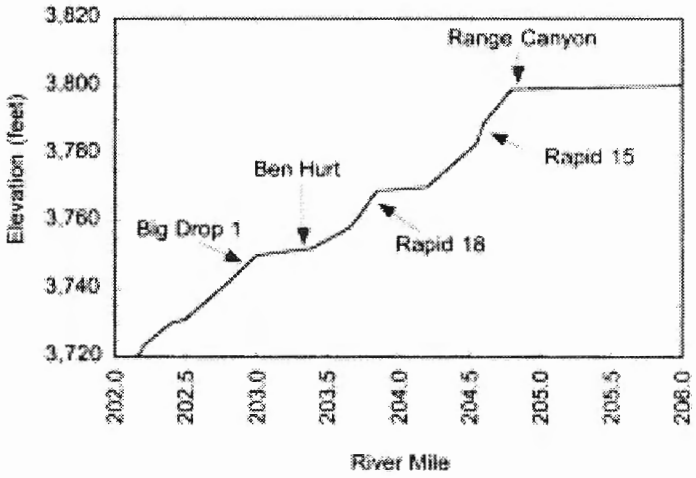
All the eddies downstream were filled with river-trip debris, which we carefully scooped out, including some Heinekens. The raft had grounded at the head of Imperial Rapid, so we rolled it up and stowed it, thinking perhaps we had scored an easily repairable 18-foot Avon Spirit. So we're down on the lake – and it is obviously lake where we had stopped to match a photo – and here come two overloaded boats. Turns out the trip leader had 11 Cataract trips under his belt, and he knew exactly what to do when his boat wrapped on Capsize Rock: he plunged his handy knife into the rear port. He'd heard that the current would pull the boat free if it was partially deflated. It did all right, leaving the frame and duffle to sink at the front of the rock. One of the passengers asked me: "Are we through the Big Drops yet?" I gave him the Heineken, he needed it more than I did.

I'll bet every working guide in Canyonlands knows a story or two or three concerning low-water runs of Capsize Rapid. Yes, ol' No. 1 Sunk and Down, Hell to Pay, walk the passengers over there to look at the inscriptions. Innumerable pins and near misses have occurred here. To avoid becoming one of the statistics, some guides have little tools to help remember the run. Some people think of the low-water run as a baseball game with the massive rocks

protruding from the current as the bases, to be avoided instead of reached. Others just run the damned thing. I don't care much for baseball or memorizing runs through rapids, but Capsize fascinates me. I'd like to add to your knowledge of what makes rapids, and to try and convince you that some of the stories about this rapid are not necessarily true.

The first written record of Rapid 15 comes from the Best Expedition of 1891. They wrapped their boat and had their well-documented epic, but few people know that the rock they wrapped on is not what is now called "Capsize Rock." The photographer for the Best Expedition, one John McCormick, photographed the scene, the first of many historical photos of Capsize Rapid. The boat was pinned on one of the larger rocks near the right shore. Some people call this rock "Third Base," as if the batter faces the pitcher from second base. We've matched 13 other historical photographs of Capsize over the last decade, and most of the original photographs were taken between 1891 and 1927. They reveal a rapid that has changed considerably since the Best Expedition's unfortunate visit to "Third Base."

The first thing to realize about Capsize Rapid is that it is part of a much larger rapid, recognized by Powell and Stanton and called Mile Long. High-water boaters experience some big waves here, at the start of the South Seas, but they aren't as threatening as just a little further downstream. In fact, Mile Long Rapid appears to be one big rapid that starts from debris-flow outwash at Range Canyon (Rapid 13) and extends down to the island at Been Hurt Rapid (Rapid 20). The low-water rapids (Rapids 13-19) are created by the combination of the outwash from Range Canyon, which sets the overall gradient, and debris flows from smaller tributaries on river left. Much of the debris on the island at Been Hurt likely came mostly from Range Canyon.



The longitudinal profile of Cataract Canyon from Lake Cataract to Big Drop 2, from the 1921 USGS survey data. The profile starts in Lake Cataract (on right) and ends in the Big Drops (on left).

Capsize, the first significant rapid in the group, illustrates most of what creates the low-water rapids. The right side of the rapid hasn't changed very much, other than the occasional rock rolling over or splitting in half, and all the big rocks in the rapid were there in July 1891. The rocks on the right side are related to occasional rockfalls from the cliffs on river right, reworking of boulders from a large pile of sediment that looms over the downstream part of the rapid, and boulders washed down from Range Canyon.

The left side is a completely different story, because rocks are pushed into the river by debris flows from a canyon that is a little larger than it looks from the river. That canyon has flashed slurries of debris several times in the last century, including a relatively large event between 1921 and 1964 and smaller debris flows in September 1997 and 1999. As a result, the little debris fan on river left has risen as much as 6 feet and the rapid is a little narrower than it used to be, particularly at high water. All the low-water obstacles in the rapid have been there

since Best's expedition, although some appear a little more rounded now. All the changes to the rapid are to the left of Capsize Rock.



B. (March 31, 1994). Panoramic photographs are difficult to match, and this view is the left half of A., showing Rapid 15 and its debris fan. Two debris flows aggraded the debris fan after this photograph was taken (Gary Bolton, Stake 3080a).

Range Canyon, then, is one of the most significant producers of coarse-grained sediment (*e.g.*, boulders) in what remains of the free-flowing Cataract Canyon. One wouldn't come to this conclusion merely by looking at docile little Rapid 13, which runs around the enormous debris fan issuing from the mouth of Range Canyon. But consider the following on your next Cataract trip: that debris fan, and the canyon that created it, are the reason for Lake Cataract, which extends back upstream, drowning out Rapids 11 and 12. Just picture what kind of flood, or series of floods, it would take to push all that sediment out of the canyon and flush it downstream to Ben Hurt. Pretty awesome, huh?

Finally, what if the drop through Mile Long Rapid was bigger? River-polished gravels over on the left side above Rapid 13 suggest that the Colorado was flowing as much as 20-30 feet higher than the current river level at some time in the last few thousand years. And the next time you visit those inscriptions at Capsize Rapid, look up at the pile of red dirt just downstream on the right side. That sediment came from the little tributary on river left, and the river once flowed to the right of that pile high above where the river is now. Yes, most of the features in Capsize Rapid are the same as they were more than a century ago, but a century is

just a little blip in geologic time. Mile Long Rapid, and it's little part now known as Capsize, is far from being stable over the long run.

Rapid 15 from River Left. (October 17, 1999). A monitoring photograph showing the combined effects of the 1997 and 1999 debris flows on the left side of Rapid 15 (Dominic Oldershaw, Stake 3922).



-- *Bob Webb*

Editor's note: With regards to the informal renaming of "Capsize" to "Hell to Pay" (see issue #23) obviously Bob hasn't heard. I was not able to reach him once I received the article for publication because either I was on the river, or he was on the river. The official name on the USGS maps remains Rapid #15- although I think as a group we could get the number names changed if we applied to the department of place names. There's a project for someone.-*Dave*

A CHRONOLOGY OF RIVER RUNNING –
COLORADO RIVER, GRAND JUNCTION TO MOAB

by Herm Hoops (hoops@iwworks.com)

The history of river running is often dominated by those who pioneered the mainstream Colorado and Green Rivers. Other segments of the Colorado River have a rich and colorful history, that helps put those "expeditions" into perspective. The following chronology has been compiled from a variety of sources over the past twenty-five years using a variety of sources. If anyone has additional information please forward it to me.

The intrigue of rivers lured people from the earliest days. I've often heard comments that People of The First Nations shunned river travel and feared the mysterious canyons. Humanity has common bonds that transpose the ages of civilizations and cultures.

Given a child and water, pause to watch the interactions between them and common objects - sticks and stones. We (People) learn from doing things, our successes and failures contribute to our over-all knowledge of things. It is not unlikely that one or more children from those earlier civilizations noticed the flotation of wood and other objects. In the progression of survival or commerce, those lessons would likely come to fruition when one had to cross a river, or transport goods. Anyone who denies that, at least some curious or ingenious maverick of The First Nations would not travel rivers is in denial of our common humanity. Thus the "honor" of first traverses recorded by we Euros disregards the enormous possibilities from others who lived here for ages.

In the cool shadow of morning, a dark skinned person pushed a log into the river at some place we pass today. Gripping the log and paddling, a new journey to new life, fortune, or curiosity began. The place and time was not recorded, but we follow in the wake of that moment.

The rivers lie semi-dormant until we came with pens and paper from the East.

In 1869 Samuel Adams had gotten wind of J.W. Powell's plan to run the Green & Colorado Rivers. In April he jumped off the train in Green River, Wyoming and tried to convince the Powell crew he had been ordered to join the Expedition. Powell's crew quickly caught on to Adams and made fun of him, when Powell returned on May 11 he sent Captain Adams on his way. Adams scurried off to the Grand (Colorado) River drainage near Breckenridge to form his own expedition.

In July he set off with his expedition down the Blue River, and in less than a week lost several boats. On July 30 the party, already deserted by four members, started down the Grand River. By August 7th the party, still portaging rapids in Gore Canyon, lost its last boat. Adams, Twible and Lillis walked down river where they built a cedar raft. Although some repute that Adams ran Westwater, he most likely did not. After several

more crashes and attempts Adams turned away from the river, at about the time Powell's crew was at the confluence of the Green, and Grand Rivers.

The Canyon was probably first run in August 1887 by Babcock and Miller, dentists from Glenwood Springs, CO. Their 17' boat was equipped with two water-tight compartments. On reaching the confluence with the Green they rowed their boats back to Moab.

In 1888 Elmer Kane, Frank Emerson and Charles Duke traveled from Grand Junction to Moab prospecting and sight-seeing. The Kane party reported seeing miners in a flat bottom skiff above Moab. They too had claimed to come down river from Grand Junction. Kane planned to continue through to the Grand Canyon. On hearing how dangerous Cataract Canyon was he abandoned the plans. The question is, did they run the rapids of Westwater or portage the canyon? No one knows. Elmer Kane went on to work as a boatman for the Stanton and Best Expeditions.

In the spring of 1889, Robert Brewster Stanton hired Frank C. Kendrick to survey for a railroad from the Grand River to the confluence with the Green River. Kendrick purchased an open dory made of pine with oak ribs, and named Brown Betty. His crew consisted of his Assistant Engineer and three local men from Grand Junction. The five explorers set off on the first of April, and the little dory did well through Horsethief and Ruby Canyons. On reaching Westwater, the group camped in a grove of cottonwoods and climbed to the rim for a look at the rapids. Kendrick's diary records: "River narrow and very dangerous." Showing the prudence not exhibited by his boss (Stanton) Kendrick portaged twelve miles of Stanton's Granite Canyon, which he called Hades Canyon. After reaching the confluence, Kendrick and his men pulled their boats 117 miles up to Green River (Blake, UT). After seven weeks on the survey he had enough, and went back to his family. Three weeks after Kendrick left the Expedition, Stanton and Frank Brown set out to finish the survey – Brown did not survive the expedition.

In Grand Memories, a publication of the Daughters of Utah Pioneers, a brief paragraph (p. 137-137), states that in the early days (1879-1905) people living in Castle Valley floated supplies downstream by raft from Dewey to the mouth of Professor Creek. In November, 1888 Francis M. Schafer and his mother ran from Cisco to Nigger Bill Creek (about 30 miles) on a raft loaded with 500 pounds of bedding, supplies and placer mining tools. The raft was later taken back to Castle Creek. From Castle Creek two men towed and rowed the raft back upstream using a 14' rowboat.

In 1896 Minich and Keller left Moab in (a steamer?) moving at the rate of seven miles a day, and made it upstream to Hotel Bottom near Cisco. In 1897, 1898, 1902, 1903 and possibly other years Thomas Branson and his son Jesse shipped lumber from Castle Creek to Moab on rafts 48-64 feet in length. The Bransons sent about ten rafts of lumber down each year, hauling 10,000 - 25,000 board feet. two men worked each raft. The trips took about 3 hours in high water, and ten as the water lowered. Taken overland the enterprise would have taken over five four-horse teams and six men.

Henry Grimm went 22 miles upstream from Moab in August 1898 in a 24' row boat carrying about 500 pounds of supplies. He returned with 6,000 feet of lumber! Johnson, Iverson, Warner and Livingston boated from Dewey Bridge to Moab on August 1901. Walter Mendenhall, of San Juan River fame, floated from Cisco to Moab in a 14-15' scow in fall of 1907.

A U.S. Geological Survey team, under Raymond C. Seitz started from Grand Junction on October 11, 1912 in two skiffs. They bypassed Westwater Canyon.

In mid-August, 1916, Ellsworth Kolb and J.W.Shields left Delta Colorado in a 17' freight canoe. Kolb spent several days inspecting the rapids of Westwater Canyon and decided to portage around them, after which they put in the river until they reached Moab. In October, 1916 Ellsworth Kolb, Bert Loper and Frank Dean ran from Glenwood Springs to Moab, including the rapids of Westwater Canyon making movies and "fighting for his life"! Kolb declared the rapids exceeded anything in the Grand Canyon for "actual violence and peculiar conditions". The newspaper headlines read: "Trip though Westwater Canon was like tickling dynamite with a lighted match--WOW!". Loper continued on to the Confluence and returned to Moab with the help of a motor.

Prospector Frank M. Barnes of San Diego, CA. successfully ran Granite Canyon in 1921. Barnes built a 21' flat bottomed boat in late October for his prospecting expedition. He was unaware of the rapids and set out in blissful ignorance of what lie ahead. Once he entered the canyon, unable to turn back, Barnes flirted with disaster. His boat crashed against rocks and three times filled with water.

John and Parley Galloway (sons of Nathaniel Galloway) ran from Westwater Canyon to Moab in April or May of 1926 using a 16' craft. They may also have run the river in 1924. Harold Leich launched at Grand Lake, CO. in 1933 to begin his solo trip down the Colorado River. Leich used a folding rubber kayak, and planned to run to the Gulf of California. At Grand Junction he built a punt named Dirty Devil and continued through Westwater Canyon. The Dirty Devil wrecked and sank in Cataract Canyon and Leich swam and walked to Hite.

Otis Marston and Preston Walker (from Grand Junction) ran the full length of the Dolores River, from Dolores, Colorado to the Colorado River and down the Colorado to Moab in May, 1948. They used a San Juan River punt (referred to as a "horsetrough boat by Kenny Ross). The run was made without any problems (although they lined Snaggletooth Rapid on the Dolores). This appears to have been the first recorded run of the Dolores River. In May, 1949 Walker repeated the trip, and in May, 1952, he started through again but lost a boat (on the Dolores?) and the group walked out.

Ed A. Hudson and Ed Nichols piloted an inboard motor boat from Fruita, Colorado to Lee's Ferry in 1955. The boat sank in Cataract Canyon, but the boat was raised and the trip continued.

In 1956 Les Jones from Heber City, Utah, began making regular trips down Westwater to make his scroll maps and to make films with a camera mounted on a football helmet.

Tex McClatchey was the first to get into commercial boating on the Colorado River above Moab in 1959. In 1971 McClatchey launched his 40-ton all steel true paddlewheel boat the Canyon King. The boat was 93' long and carried 200 passengers several miles up and downstream from Moab. For the record Mitch Williams and Fred Radcliff were second and third respectively, to begin commercial operations on the river.

By 1974 nine commercial outfitters were operating through the Loma to Westwater section of the river carrying 1,557 user days. At that time private river runners accounted for 114 user days on the same section. By 1975 private use neared 500 user days. These figures do not include power boaters who returned to Loma. In 1974 26 outfitters carried 3,813 user days through Westwater Canyon while private boaters accounted for 2,937 user days.

Today the launch ramps are festooned with boats and equipment "designed" for the river. The people come to the river in droves. We apply for permits, pay fees, and promulgate regulations. And often, in the cool shadows of morning, we forget what lured those first people into these rivers - giving birth to today's recreation and profits.

More on the Colorado Riverbed Case

Excerpts from Bert Loper's testimony.on the San Juan

To review, the Colorado River Case in 1929 was the US Government vs. Utah to determine who had jurisdiction of the River based on navigability. Navigable parts of the river would fall under the states' jurisdiction, and unnavigable would be federal responsibility. Previous issues of The Confluence have published some of this testimony-one of the best sources of early river runner history. This information is courtesy the University of Utah Marriott Library Special collections.

His next rip into the San Juan Canyon was made in 1921. (His first trip was in 1894-95 with Mr. Edmundson, Hamilton, Honaker, Jessup and Goodman- placer mining gold)
Q. "Now, while you were in there during the years 1894 and 1895, did you go up and down the canyon any?"
A. "I made a trip through the canyon, the first part of the canyon; the canyon breaks at Indian Farms or Clay Hill crossing, the canyon breaks and opens out there; we went on down past the Indian Farms down past the mouth of Copper canyon, and turned and came back."
Q. "You went from Honaker trail down to the mouth of Copper Canyon?'
A. "Yes sir."
Q."How did you make the trip?'
A. "There was three of us, George Edmundson, Bill Clark and myself; we had a little sixteen foot row boat, a very light boat, and we went down by boat; I don't think we

had a roll of beds for the three of us, and very little grub; I know we had a pennyweight and a half of gold in a button.

I got down there to one of the placer parties that was down there, and I gave this pennyweight and a half of gold for ten pounds of flour.

We came back up the river on that ten pounds of flour"

Q. "Just tell me about the progress down the river":

A. :You know August is quite a warm month; we had very little water so it made no difference to us whether we was in the river or out of it. I know when we got to the Indian Farms we got out, we couldn't ride, because the fire was so shallow, that we just had to drag the boat along. At Indian farms in 1895 the river was probably 300 feet wide and contained so little water that it had no channel that would float a boat, and there were places the three of us actually drug the boat."

More excerpts taken out of context

A. The largest sand waves I ever saw in my life was above the Mendenhall cabin; I think it was about February, 1895. Just before these sand waves there was an ice gorge at the head of the canyon, which stopped the flow of the river.

I got out along in the bed of the river and went up and down panning, thinking probably I could find a pocket of gold in there. I crossed the river without getting my feet wet, because the river was dammed off. Finally, when this ice gorge broke, I know I moved my placer outfit twice, and then it carried part of it away, rose so high.

After the ice got through I went up about, I imagine, about a half a mile above the Mendenhall cabin; that is the last work I did, was at the Mendenhall cabin; I went up about half a mile above there, and the waves, if they was an inch, they was ten feet high; I believe you7 could heart them a mile and a half or two miles away, when they would break.

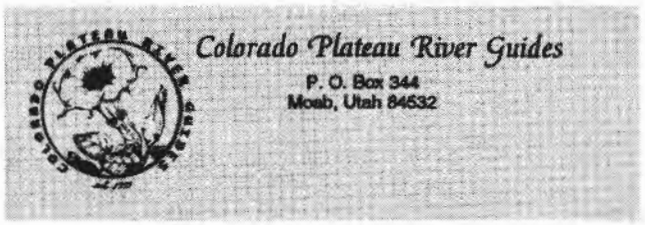
A."I have been working the rocker along the river banks and not a cloud in the sky, and have seen the river rise eight feet."

Q."Did you see any changes in the San Juan river which occurred between your trip in there in 1895 and 1921(with the USGS survey)

A."I told you about where the river bed at Indian Farms was, 3 or 400 feet wide. In 1921 the Indian Farms was completely gone, and Mr. Trimble measured the river, and it was thirty-three hundred feet wide at that point, and when we went down in the 1921 trip to the Indian Farms, just a trickling stream through the sand, so many sand bars and things, you know, three or four streams to the river; it was real low.

Q."This three thousand foot spread Mr. Trimble found there, was that entirely covered with water?"

A. "No sir; there was a time we was there that Mr. Trimble estimated the water was six feet deep over that 3300feet wide, that is one of the times I told you I wouldn't cross....And while we was there this big flood come down; we had been having floods all the way down through there."



Cprgutah@hotmail.com

Forwarding and Return Postage Guaranteed/Address Correction Requested

Q. "How much help did you have"(on the 1921 survey)
A. "I didn't have any, ordinarily; I will tell you about the help; H.E. Blake, Jr. was a rod man; the first narrows, ten miles below Chinle creek, or one hundred and twenty-three miles above the junction, is the first place we had to break Mr. Blake in, because I was in the habit of taking a boat down the river and tying it up, and then coming back up the river to get the other boat and take it down and tie it up.

When we came to the Narrows I couldn't go down and come back up; there was no place to walk, there was no place to get around; that is where we broke Mr. Blake in to boating; he boated through there, and then he didn't boat any more until we struck the second narrows, which is about 27 or 28 miles below Chinle creek.

That was a long loop; the river made a long loop, must have been half a mile in there, there was no way to walk, at all, and big sand waves in there. Mr. Trimble had to climb these terraces up to the top of this hill, -and Mr. Blake, and I guess maybe Mr. Hyde and Hugh Miser, they had with them for a cool head, -Mr. Blake was a new boatman- they made that trip, filled the boat half full of water all around, to where Mr. Trimble could look and get his point.

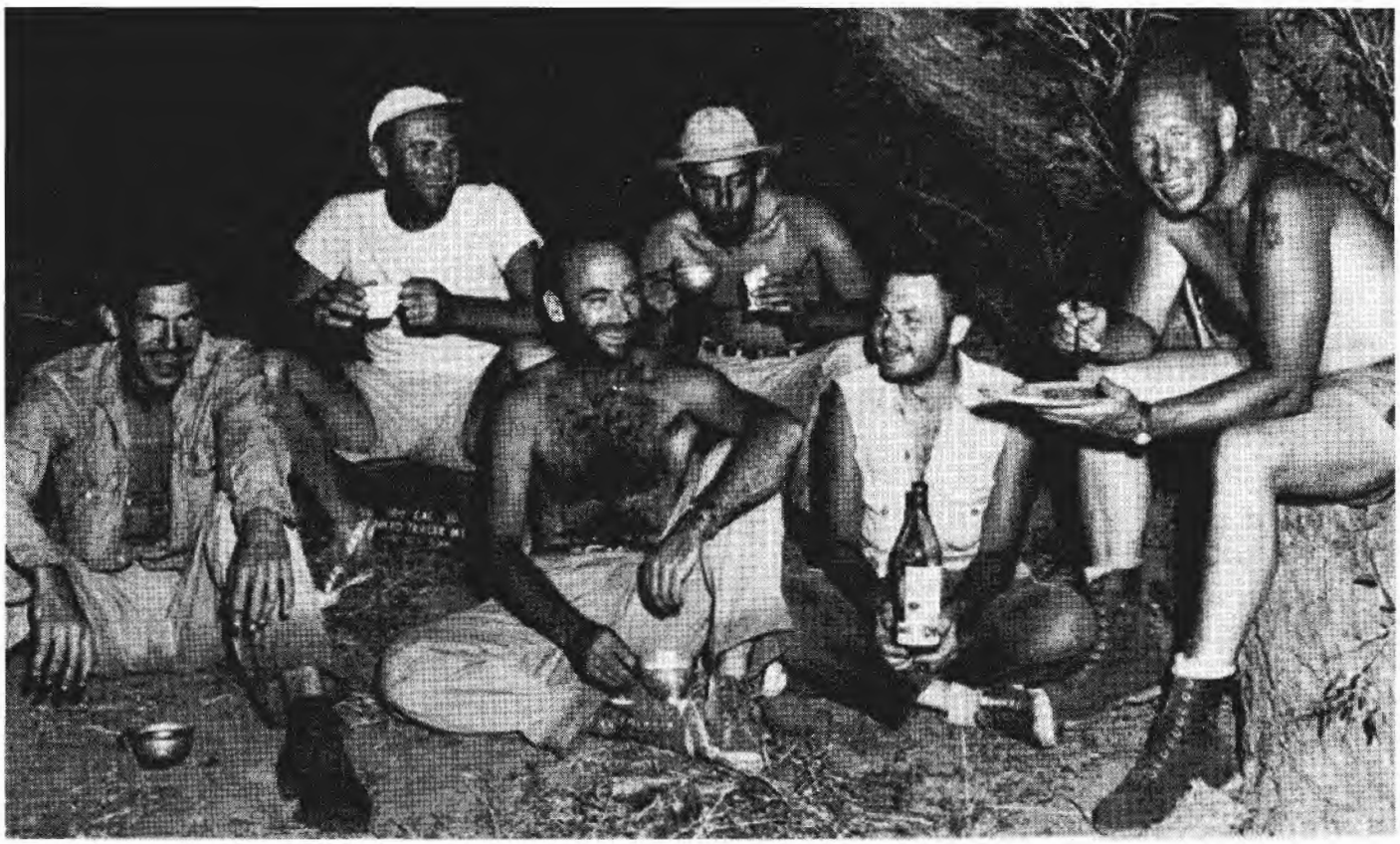
A. "....we was running out of grub....So Mr. Trimble came to me and asked me what we had better do. I says, 'Have him come into Spencer canyon;'-that was where the pack train had met us the last time, 3 weeks before. We had to take the boat back up the river and get those supplies."
Q. "How did you get the boat back upriver?"
A. "We drug the boat up the river the next morning; they gave me the bulk of the grub they had left, and I stripped down to my B.V.D.'s and was preparing to go up and take the boat up the river; when I got up to where the boat was, Mr. Hugh Miser, the geologist in our company, was up there, also in his B.V.D.'s, if it hadn't been for Mr. Miser, I don't know how may days it would have taken me to get up.

That is what you call a heart breaking trip."

The Confluence

The Journal of Colorado Plateau River Guides Number 23

Black George (expanded!)
Interpretive Trip Reports
Jim Knipmeyer on James Black
Articles from the Board
Willie Taylor's demise
Pop's Smith
Dark Canyon and Lower Cataract Revisited in Photo and Story
Early Commercial Brochures
Bert Lopers last words
David Yeamans



USGS 1956 Cataract Expedition: L-R: Hank Dyer, Frank Mckeown, George Simmons, Dick Rezak, Russ Campbell, Dick Lewis White Canyon, Utah, July 29.

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (c) (3) non-profit organization dedicated to:

*** Protecting the rivers of the Colorado Plateau.**

*** Setting the highest standards for the river profession.**

*** Providing the best possible river experience.**

*** Celebrating the unique spirit of the river community.**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau.

General Membership is open to those who love the rivers of the Colorado Plateau.

Membership dues:
$ 20 per year
$100 for 6 years
$195 for life
$295 Benefactor

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Annie Tueller-Payne
Vice President	Dave Focardi
Secretary/Treasurer	John Weisheit

Directors

Bluff	Clay Hamilton
Grand Junction	Joe Keys & Marty Shelp
Green River	Shane Edwards
Moab	Molly Taylor
Vernal	Herm Hoops

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077
E-mail: cprgutah@hotmail.com
Faxes accepted: Please call first

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Microsoft Word on an IBM PC. If you use a word processor, we can translate most programs. Otherwise, please send your text double-spaced. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

Managing editor: John Weisheit

Editor this issue: Dave Focardi

Printing: Times-Independent

ISSN # 1078-425X

Date: June 2001

Party!

Boatman Bash

Saturday, June 30th, 7:30 p.m.

Tex's Riverways

DISCLAIMER

The opinions and statements made within the pages of The Confluence are those of the author and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing or supporting viewpoint please send your comments to CPRG.

Special Thanks To:

Brad Dimock for a Benefactor membership
Tim Payne for a 6 year membership

Issue/Numbering: In keeping with the new numbering system, this is now issue #23.

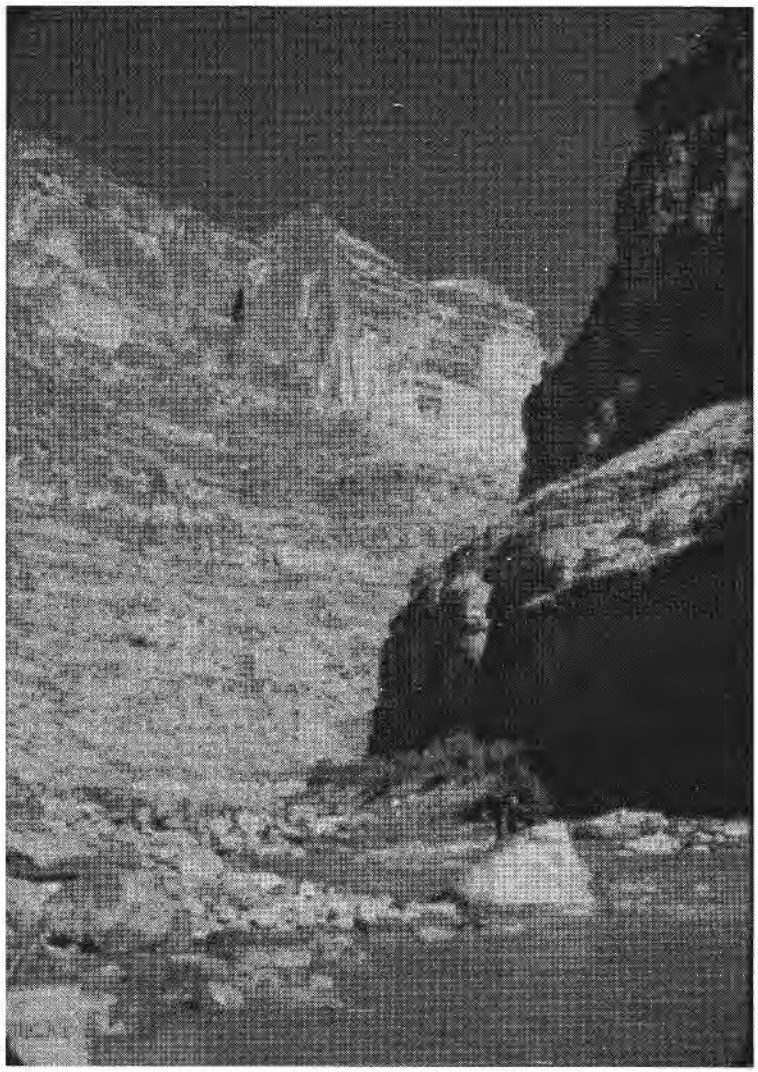
Thanks for financing this river trip!

#20—Volume 7, Number 1, Spring 2000, Prop in a rock

#21—Volume 7, Number 3, Fall 2000, CNP vertebrate survey

#22—David Brower on cover

#23— This issue



Black George, mouth of Clearwater Canyon, 1952

Printed on Vision 100% tree-free paper made from the kenaf plant.
www.visionpaper.com

Hello From the President

Anyone else been creamed by the wind yet this spring? My lands if it hasn't been a windy one this year. I have no advice on that, just don't get blown away!

I would just like to recap the CPRG events that have taken place this year. I also want to let you know what is in the works for the fall so you can all have it on your back burners for now. I think that the interpretive trips were a smashing hit. Big thanks to Jake Burnett for coordinating the Desolation Canyon trip, also to Shane Edwards for coordinating the Cataract trip, and Dave Focardi who put together the San Juan trip. Thank you for pulling it all together. Also a big thanks to all those who participated in this years' Guide Education Seminar. I think the event was another CPRG success. I especially would like to thank Eric Trenbeath for putting the T shirt together and generally making things happen!

The big news around town is rapid number 15 in CAT, the artist formally known as Capsize. According to the old timers, Richard Jones, Dee Holiday, Kent Frost, John Weisheit and T Berry (not that John or T Berry are old timers yet) rapid number 15 (top of mile long) is actually called Hell To Pay. We all know the Best inscription there and hike there frequently. The "Capsize" inscription, however, is river left, one rapid down or at what we have always called Marty's Hole. We did not decide the name fate of rapid 16. Call it what you like, Marty's, Bobby's, Capsize, that really fun thing below Hell to Pay, you decide. We decided and voted unanimously to call rapid number 15, Hell to Pay (not Capsize).

So, upcoming events: I am aiming for a CPRG general meeting the last weekend of October or the first weekend of November. Any preferences out there? Let me know. The Utah Guides and outfitters will be meeting in Moab (Moab Valley Inn), October 11 through 13. I will try to make sure that there are good "guide" topics and clinic's for all to attend. CPRG members are all cordially invited. I also would like to organize a CPRG fun (no agenda) flat water trip in the fall. What do you guys think? Is there any interest in it? Lastly, Richard Quartaroli from the Grand Canyon River Guides would like to join their guides with us (CPRG) for our annual fall meetings. I don't know what to think about this. I thought I would throw it out there and see what you guys think. He was envisioning an overnight meet in Bluff. Let me know. Call, write or e-mail me anniet@lasal.net, PO box 344 Moab Utah 84532.

So that's all from me,
Flowers and Smiles
Annie T Payne

An addendum to the above as we go to press: Life as we currently know it---We are going to do a CPRG board meeting in conjunction with the UGO meeting, and do the guide general membership meeting at Sand Island the end of October/November, probably with the GCRG membership if it all works out. Many fun activities will occur, even though we have no idea yet what they may be. That's the trip itinerary right now. Remember, though, wind, rain, animals and the elements can change anything at any time, so be flexible!
Dave Focardi CPRG VP (don't you love all those initials! I live for them.)

2001 Desolation/Grey Canyon Interpretive Trip

What do you do if you are representing the CPRG organization on an Interpretive trip and no Interpretive people show up? Jake Burnett was faced with this recently when a dozen or so guides from six companies showed up at Sand Wash. To my surprise and disappointment, we were it!

Don't get me wrong, the local "BLM Program Manager" showed up the morning we were to launch and let us know he and his folks were the "Boss-ers" and we were the "Boss-ees." To be fair, he did express willingness to do everything within reason to keep any conflicts we may have away from our customers and expressed other areas we could cooperate, since they got 3% of the permit fee gross. Apparently doing some interpretive work down river wasn't one of them, because he soon waved "bye-bye" and headed up the hill.

Back when I was a corporate executive in private industry, I sometimes used to do these "pep" talks. I called them my "I'm from Headquarters, I'm here to help" talks.

Also the bear guy from the Division of Wildlife showed up to tell us about how to keep

him from having to put down any more bears and gave out some cards on how to react when confronted with a bear. He was sincere in his concern. I wondered as I waved "bye-bye" to him if he had any knowledge of the Deso/Grey area from an interpretive standpoint.

I subsequently heard through the grapevine that some of the "problem" bears from one of the National Parks, Yellowstone I think, had been transplanted to the our area above the river. I don't know if this is factual or not, but I sure am going to be asking the question about these pre-trained camp robbers, if I ever see him again.

Oh! Another thing! When asked, the "BLM Program Manager" told us about all the progress made recently in talks with the Ute's about visiting their lands on river left. We still are not supposed to, but apparently they have agreed to a quarter mile from the river easement they will maintain as "wild and scenic" from now on. Shucks! No chance for an oil rig or a casino -- or is there? Also, it is now officially authorized for us to allow our customers to gaze towards river left as we progress down the river. We can even look ourselves! To my surprise I found that my eyes were trespassing all these years. We weren't supposed to be looking that way prior to these recent "breakthroughs."

A bit of a disclaimer here. None of the above has expressed by Jake or any of the others I was with on the trip and I didn't discuss it myself with any of them. This was my attitude, however, when I found out we were to be abandoned to our own devices on this so called "Interpretive Trip". Pretty sour, huh? The previous interpretive trip I had attended was loaded with people. Guides, interpretive folks, geologists, botanists, star guys, river rangers, company owners, the concession people. I guess the Yampa is a more desirable trip, so it is supported. It was a good deal and I expected this one to be as well backed by our public servants. Was it thin because it was a weekend? You know these government workers!

Anyway, enough sour grapes and back to the original theme. What was Jake to do?

First he sat us all down in a circle after a summons from his "conch" shell. We all tried to learn how to blow it over the week. He told us the plan was for us to operate as a tribe of Fremonts. He described in some detail how a tribe operates on a consensus basis and shares knowledge with each other.

He then asked us to introduce ourselves in depth, talking about our history as well as plans, hopes and aspirations. This would speed up the process of getting to know each other. He then went in to an in depth discussion about himself along those lines. Kevin from Tag-a-Long went next and in the spirit of what Jake had proposed, talked extensively about himself, making a few personal disclosures. That set the stage for all to be quite detailed. I thought it was a great introduction and "icebreaker" and it proved to be so.

Jake brought with him an extensive library in a couple of rocket boxes. He had to have spent a lot of time in a couple of libraries to get all of the books that supplemented his personal stuff. There were books on ranchers and families who had settled the area; the Indians who preceded them, as well as succeeded them; myths and rituals, crafts and skills related to tool making and other aspects of living as a Fremont and on and on. He also had books on geology and other aspects of the canyons we might be interested in. Each of us were to read and study these every day and report to the rest of the tribe about our findings in the evening. He even had a drum along that proved to be a good move, even though I personally was apprehensive at first. What a great stress reliever and an instigator of a group dynamic, dancing. The introduction process and these subsequent interactions fostered a desire in me to share what I know and am, that permeated the whole week. Apparently it had the same effect on the others. People broke into their personal libraries for stuff they used with their customers. They hiked and showed places along the river that only they and a few in their company know about.

Jake himself is good on plants and flower identification and the hikes were leisurely and informative.

A sweat lodge on day three, with further in depth personal disclosures, nearly prayers, seemed to pull the group further into a tribal mode and by the end of the week I drew the following conclusion. It would not be possible to match with an interpretive plan what happened spontaneously on this trip related to all aspects of Desolation and Grey Canyons.

Realistically, as time goes on the relationships forged will weaken and the strength of the emotions I have about the experience will wane. I will always remember this tribe and it's members with warmth. What will remain strongest because of them, is my commitment to each of the companies represented, that if there is ever a problem, ever anything going on that requires me to step up and be counted, I'll be

there. That is my big take away because of the classy people with whom I spent these few days.

It strikes me this feeling is right in line with CPRG's dedication to "Celebrating the unique spirit of the river community." This is what it is all about. One of those life experiences, I guess.

By: Paul R. "Pops" Smith

San Juan Interpretive Trip

I just got off the San Juan Interpretive trip yesterday, so I am writing this while all is still fresh in my mind. We took 5 days to go from Bluff to Mexican Hat, with a layover day at Eight foot rapid to do a Swiftwater Rescue course with Ken and Jen McCarthy, courtesy of High Desert Adventure. HDA was formerly Sleight Expeditions, and they were the most excellent sponsoring outfitter. Along with Dan Murphy as the chief interpreter/raconteur, we also had Chris Carlson as the archeologist and Eric Jones(in his own Aire ducky) courtesy of the Moab BLM office as geologist. The other aspects of Eric and Chris' life that were of importance to the trip are that they play Mandolin/Guitar and Fiddle/Banjo respectively, which dovetails nicely with my 5String Banjo picking- especially since we all played together here in Moab with the band Keltika before Chris moved to Albuquerque.

The trip was excellent. The weather was perfect, the guides were great, and Dan Murphy knew more stuff than we had time to even touch. Here is a general rundown of the trip-

Day 1) Launch around 10am, float down a short way to just above the (erroneously known) Kachina panel- better known as the Butler Panel- to view Peregrines in their nest. Rick Boretti, one of the BLM river rangers, has done extensive raptor studies on the Juan and published previously in the Confluence(Vol 6 #2 Fall 1999). He set up a spotting scope on a tripod and we all took turns viewing the female in the nest while we talked about peregrines and other bird issues. A private on a single boat trip joined in to listen and learn with the rest of us.

Then we went down to the Butler Panel and AJ and Geoff of HDA set up lunch while Dan and Chris talked about the Butler panel. Nancy and Dano of Oars were there with their guests and we all listened in. The large figures are Basketmaker(100BC to 700AD-more or less, depending on who you talk to), and recall the Kachina cults didn't start until about the 14th century. So calling the panel the "Kachina" Panel is not entirely correct, if not wildly misleading.

We then went down to the camp opposite River House on the right, letting OARS have the corral camp(aka Cottonwood). We hiked up to River House with Dan and Chris and got more information than can be repeated here. We then hiked down the bench to some surface sites and then to the Barton trading post and water wheel.

Day 2) To have plenty of time day 2, we hiked up San Juan hill before breakfast (but after coffee) and did some geology with Eric and myself, then hiked up Chinle wash to the Hillerman Alcove where Dan Murphy showed Tony the place where the New York Times bestseller "Thief of Time" was born. Dan has known Tony Hillerman since he was a reporter in Sante Fe.

We then proceeded down to Eight foot rapid where we shared camp with OARS, since we were going to be laying over to do a Swiftwater rescue component on Day 3.

Day3) Dan and Eric talked about Bioherms and oil production as breakfast settled and we waited for the sun to warm us up before the Swiftwater class. Eric is a petroleum engineer and is familiar with the Aneth field and the Big Flat & Bartlett fields which produce out of the Paradox formation. The Paradox has anywhere from 29 to 40(or more) cycles of transgression to regression- depending on which argumentative geologist you heard from last. The Aneth field was discovered as a result of Don Baars research on the Bioherms found nicely exposed at Eight foot rapid. The Kane creek zone (cycle 21) is a fractured carbonaceous shale. It produces out of vertical fractures, and best when drilled with expensive horizontal technology. Those are the ones in the Island in the Sky area (up there- not actually in the national Park) and one over north of Lisbon – an anomalous vertical well that has been producing for close to 30 years, as well as the Frank Shafer #1 1925 blowout along the river.

The Swiftwater class involved everyone and all our ropes, pulleys and gear- more by design than shear love of gear. Of course, any Swiftwater class provides knowledge, not experience, and the instructors emphasized the need to practice. We shared camp with a private that came by rather late in the day hoping to camp there. They showed us how to party with their Hawaii Luau night and outlasted all but the most hardened guides(not me!).

Day 4)The next morning we hiked up the perched meander at Eight foot and saw plenty of fossils and wild flowers, and continued down to the "fossil stop" for lunch and a look at a 6' long crinoid stem. We then went to the camp across from the Hat where many of us took the early time into camp to surf, converse, or nap(all three in many cases). We had a local Navajo young man join us for the evening and next morning , providing us some entertainment with insights into cultural differences.

Day5) We took off from camp and reached the takeout at 10:15- fifteen minutes late from the approved itinerary- the first time we were late for any of our scheduled activities.

The participants were: from High Desert Adventures- Nute Davis, Doug Deutschlander, Dave Huff, Barb King, Geoff Muhelstein, A.J. Reeves, Matt Royden, and Randy Tucker, from OARS Steve Dillon and Chelse Decker, from Desert Whitewater (the outfitting arm of Canyon REO) Justin Loxley and Matt Wencel; Brock Disanti from Outward Bound. Interpreters were: Dan Murphy-history, geology, archaeology, humor, Rick Boretti-Raptors/BLM, Eric Jones-geology/guitar/vocals, Chris Carlson-archaeology and fiddle/vocals; Ken and Jen McCarthy-swiftwater rescue, and Dave Focardi-nominal TL, geology, banjo.

All in all, the relaxed 5 day schedule provided ample time for interpretation, plenty of time for ALL questions to be answered at any stop before we left, plenty of time to see many things, no need to rush at any meal, and plenty of time for music in the evenings. We are all in awe of Dan Murphy's knowledge and story telling skills, and of his ability to start teaching us to become the interpreter he is.

NEWS FROM THE UINTA BASIN from Herm Hoops

COLORADO OUTWARD BOUND purchased a bunch of new duckies for the coming season and ADRIFT purchased new Hyside boats. RIVER RUNNERS TRANSPORT opened RIVER RUNNER, a retail river store in Vernal. CENTENNIAL CANOE OUTFITTERS has purchased the Buggy Whip operation in Steamboat Springs.

DINOSAUR NATIONAL MONUMENT has widened the Split Mountain boat ramp by 3 times its size, funded by concession fees. Lines have been painted on the ramp in order that rangers will be able to accurately measure it! The Yampa River is cutting into the Deerlodge access road and the Monument is building a detour road around the threatened area. The Quarry entrance road has been repaved.

VERNAL BLM is continuing to work on access problems on the White River at Cowboy Canyon and Bonanza. Preliminary plans are for development of a new access above Bonanza. A new access, complete with block outhouse, was completed at the Enron takeout last year. Consideration is being made to introduce a fee program on the White River. Uinta County has paved the Glen Bench access road from the Bonanza Highway to Mountain Fuels Bridge.

UTE TRIBE takeout on the White River at Mountain Fuels Bridge has almost been completely washed out, using it is almost impossible. The White River access at Orray is being taken over by trees and shrubs.

US FISH & WILDLIFE SERVICE is looking for a boatmin to work on the Endangered Fish Recovery Project; contact Mark Fuller at MARK_H_FULLER@fws.gov as soon as possible. The FWS will again be conducting a catfish reduction program on the Yampa during low water, and are looking for "fishing" volunteers!

CPRG will be conducting a river guide training seminar in Jensen on May 29, 2001.

Book Review
River Flowing from the Sunrise
An Environmental History of the Lower San Juan

James M. Aton and Robert S. McPherson
Foreword by Donald Worster

"Imagine a river trip down the San Juan with a boat-load of old-timers:Navajo, Ute, Mormon pioneer, scientist, miner, artist--all regaling us with stories filled with personality, emotion, and opinion. Add two historians to place every story in environmental context, gently filling in the cultural and political background, fitting the San Juan into the fabric of American history.

"River Flowing From the Sunrise takes us on that enviable trip. In doing so, Jim Aton and Bob McPherson meet the challenge laid down in their own concluding chapter: they capture 'the river landscape's power ... armed with science, local intelligence, and imagination,' and 'meld the secular with the sacred, and imagine a new yet old way to live in this very difficult landscape.

Stephen Trimble, author of The People: Indians of the American Southwest and coeditor of Testimony: Writers of the West Speak on Behalf of Utah Wilderness.

"River Flowing from the Sunrise is an outstanding environmental history of a western river, smoothly and sensitively written, even handed, and thoughtful. It provides an excellent case study of an important western river and the environmental history of its corridor and surrounding region. "

Mark Harvey, author of A Symbol of Wilderness: Echo Park and the American Conservation Movement

The authors recount twelve millennia of history along the lower San Juan River, much of it the story of mostly unsuccessful human attempts to make a living from river's arid and fickle environment. From the Anasazi to government dam builders, from Navajo to Mormon herders and farmers, from scientific explorers to busted miners, the San Juan has attracted more attention and fueled more hopes than such a remote, unpromising, and muddy stream would see to merit.

Title:River Flowing from the Sunrise An Environmental History of the Lower San Juan
Authors: James M. Aton and Robert S. McPherson
Trim size: 81/2x 11 inches
Number of pages: 232 pages
Retail price: $21.95 paper
ISBN: 0-87421-403-3 paper
Publication date: December 2000
Contact: Brooke Bigelow Marketing Manager
Utah State University Press
1-800-239-9974 fax (435) 797-0313 e-mail:
bbigelow@upress.usu.edu

Flipped Out on the Colorado

Want to be part of really cool project? We're looking for the best, wildest, most unbelievable whitewater boating mayhem photos from the Colorado and its tributaries! We want to put a collection of these shots into a classic picture book devoted entirely to boating bloopers. From Grand Canyon, Cataract, Westwater, Desolation/Gray, and Lodore, to the Dolores and the San Juan, were looking for flips, "almost" flips, gnarly boat wrecks, wraps, rescues, rides that went wrong-or almost went wrong-you name it. We want the best whitewater bedlam shots of what "Big Red" and its feeders can dish out! We're offering a fee and a copy of the book for photos used (not huge $ but better than a paddle in your eye). We've already got a great start, and would like to have all photos by 9/1/01 (please retain a duplicate of your photos just in case the post office goes postal). Please contact

Tom at Puma Press, P.O. Box 30998, Flagstaff, Arizona 86003,

and mark your envelope, "photo enclosed." Or send your inquiries or your photo for consideration to Pumapress@aol.com. Muchas gracias.

River Ranger JOB Westwater!!!

The Bureau of Land Management, Moab Field Office has an opening for a seasonal GS-4 Recreation Technician/River Ranger. Recreation Technician will work in the Moab Field Office Area along the Colorado River between Grand Junction, Colorado, and Moab, Utah.

Duties include; conducting check-ins of boaters at Westwater Ranger Station to ensure users have necessary resource protection and safety equipment, accompany river patrols of Westwater Canyon of the Colorado River (Class III and IV whitewater) to clean campsites and check boater compliance, perform light maintenance of camping and launch area facilities.

Requirements; valid driver's license; ability to get along with people, and must be able to and have experience rowing class III and IV whitewater. Must have personal transportation to and from Westwater.
Apply on-line using Quickhire:
www.nc.blm.gov/jobs/
we recommend that you also submit a resume to Utah Department of Workforce Services in Moab, 1165 S. Hwy 191 Suite 2, Moab, Utah 84532 (435)259-3700.

For more information contact; Marilyn Peterson at 435-259-2119 Bureau of Land Management Moab Field Office 82 East Dogwood Moab, Utah 84532

THE STORY OF JAMES W. BLACK
By Jim Knipmeyer

Many old, historic inscriptions in Glen Canyon of the Colorado River were, unfortunately, drowned by the waters of Lake Powell reservoir. Such has been the fate of two signatures carved by early prospector and stockman James W. Black. Happily, however, a third was written high enough on the canyon wall that it has escaped inundation - barely!

About a half-mile upcanyon from the mouth of the Escalante River, at what would have been about Mile-89, right bank, on the old Colorado, is one of the large, shallow alcoves characteristic of the contact between the Kayenta bench and the Navajo cliffs. On the back wall, painted in what may have been a combination of charcoal and cooking grease, is "J. W. BLACK FEB 2 1896," still plainly visible today. It was first noted by Utah historian and writer Charles Kelly on September 30, 1938, while on a river trip with the so-called Stone-Frazier expedition.

James W. Black remains a little known and somewhat mysterious character of the Glen Canyon area. Where he was born or where he came from is not known. Early Escalante, Utah, resident Jess Barker told Colorado River historian Otis R. "Dock" Marston in 1955 that Black "came from Colorado." A statement by William H. Switzer in the collections of the Pioneers' Historical Society in Flagstaff, Arizona, says that he "came from Durango, Colorado." However, the La Plata County Historical Society in Durango has only one record of a James W. Black in that area, and his date of death would seem to preclude his being the James W. Black in question. What is known about Black comes from two prepared statements that he gave in Flagstaff on July 10 and 11, 1930, and a few scattered pieces of information collected by Dock Marston in the 1950s. The 1930 statements would seem to be the most valuable sources of information, but even they must be tempered by the realization that not only were they written some thirty years after the fact, but that they were prepared at the request of author Gladwell "Toney" Richardson as background material for his various books and magazine articles. Richardson, member of a long-time trading family in the western Navajo country, wrote a tremendous amount of both fiction and non-fiction, sometimes blurring the line between the two. He was a perfect example of the old axiom, "Never let the facts stand in the way of a good story."

Be that as it may, the first we hear of James W. Black is as a drover, hired by John W. Young to assist in driving a herd of horses from southern Utah, by way of Lee's Ferry, to the slopes of the San Francisco Peaks in northern Arizona. Black, in one of his 1930 statements, says that this was in August of 1880. By 1883 he was working as a cowhand with Young's Mormon Church-owned A-1 cattle outfit in Fort Valley, several miles northwest of Flagstaff. When attempting to track down information about Black, Dock Marston was informed that he was not related to the prominent Black family of Flagstaff in the 1880s and afterwards.

In a letter to Dock in 1957, Muriel Pope said that her father and uncle, George and Arthur Spencer, remembered a man named Black being around the San Juan River in 1883-84. Also, that her dad recalled a Jim Black, an "A-1 cowpuncher," who did a lot of prospecting at times and who made the observation that the scenery where the San Juan and Colorado met would make a "good tourist attraction"! James Black himself stated that he went up to the San Juan River to prospect for gold in 1889, after he "had just come out of the Navajo Mountain country to Flagstaff."

Writing many years later, Black probably meant 1892, as he mentions the gold discoveries of trader Jonathan P. Williams and the resulting "San Juan excitement," which took place in late 1892 and early 1893. He goes on to describe prospecting along the San Juan River that year but then moving on downstream and up the Colorado to Hite, just as many another disappointed San Juan prospector did.

This adjusting of dates would also reconcile the brief item about Black that appeared in The Coconino Sun, a Flagstaff newspaper on June 30, 1892. If he had, in fact, "just come out of the Navajo Mountain country to Flagstaff" before heading up to the "San Juan excitement," it would had to have been sometime during the summer, and that agrees exactly with the news item. "..James W. Black returned this week from a trip to the country northeast of here [Navajo Mountain]..in search of the 'Lost Spanish Mine' [the Merrick-Mitchell, or Pish-la-ki silver mine]. But after searching for the lost mine two weeks through the rocky canyons..[he was] forced to abandon [his] search.."

According to Black's 1930 statements, he and two companions returned to Navajo Mountain in January 1892 [again, his year date may be wrong]. It was on this trip that they first saw Rainbow Natural Bridge from near the top of the



mountain. In a 1956 letter to Dock Marston, a Preston M. Mercer told of visiting with an old-timer in Flagstaff by the name of Emmett Kellam. In the 1930s, Kellam had worked in a supervisory capacity for the U.S. Indian Service and had spent a lot of time in the Navajo Mountain country. In fact, he had camped all one winter along the north side of the mountain, building trails into the canyon country [probably the government-sponsored CCC construction work of the early and mid-'30s]. Kellam said that he had found a "chunk of old log" along an old trail north of Navajo Mountain with Black's name carved on it and also a date that was in the "1800s." He went on to say that he also saw Black's name carved on trees in more than one other place on Navajo Mountain. These statements by Kellam are intriguing because they can be substantiated, at least in part, by others. When geologist Herbert E. Gregory visited the top of Navajo Mountain in the summer of 1913, his field note entry for June 18 states, "Navajo Mt. Highest point..mark on tip top stake..Jas Black Jan (?) 1903." In a story very similar sounding in some respects to both the Kellam and Gregory accounts, author Elmer E. Davis, in an article for the July 1926 issue of Progressive Arizona says, "..[at] the summit [of Navajo Mountain]..a piece of wood, a portion of the limb of a tree, had..carved on it, ..'Jas Black, 1903.'" Black himself tells of returning to Navajo Mountain again after 1897, but again he may have been a few years off in his 1930 recollections.

Black stated that his view from Navajo Mountain of what is today known as Bridge Canyon "intrigued me," so the next year, 1893, he got another man to go back in with him. He indicated that they went by way of what he called the "East trail" past "Glass Mountain." This would be the trail on the north side of Navajo Mountain which crosses today's Bald Rock Canyon-Nasja Creek region. [Shades of Emmett Kellam's story!] This is also the area of slickrock domes that Western author Zane Grey referred to as the "Glass Mountains" after his pack trip of 1913. In 1930, of course, Black could easily have been aware of this name. Black continues on saying that they went down Oak Canyon and camped in a "kind of basin" where the Colorado River made a bend. Crossing over into what is now Forbidding Canyon, they prospected for two months. Black added that the two of them found "Indian ruins in cliffs, but no gold." Therefore, they called the gorge "Aztec Canyon," a name that today is applied only to the creek.

One problem that modern historians and researchers have had with Black's 1930 statements is the following: Black said that he

and his companion swam their horses over the Colorado and went up the Escalante River to the small Mormon town of the same name. Because of the meandering course of the Colorado, the often times sheer cliffs, and the blocking gorges of deep tributary canyons, it would have been next to impossible for a person to travel by horseback the some twenty river-miles separating the mouth of Forbidding Canyon from that of the Escalante upstream. However, Black and his fellow prospector may have crossed from the delta at the mouth of Oak Canyon and angled downstream, not more than a quarter-mile, to the almost opposite delta of what is shown on the modern USGS map of the area as Navajo Valley, the old Glen Canyon river runners' Twilight Canyon. This drainage did provide a difficult, but passable route up onto the Escalante Desert at the end of the Kaiparowits Plateau and an open way on northwest to the town of Escalante.

The two prospectors may have stayed around Escalante, for Black says that during the winter of 1894-95, in order to get another grubstake for prospecting, he and his same companion from 1893 agreed to winter two hundred head of horses for some people at Escalante. They swam the stock across the Colorado and put them into the basin in the river bend between Oak and Forbidding canyons that Black modestly related was afterwards called "Jim Black's Basin."

Writing more than thirty-five years after the fact, Black was probably not completely clear in his remembering. More than likely, Jim Black Basin was not on the Colorado itself, but a short distance up Oak Canyon. In pre-dam/lake days, the Colorado here did, in fact, make a large bend from south to west, but this caused the river to flow right next to the almost vertical canyon wall, leaving no room even for a trail, much less a "basin." Oak Canyon, too, made a large sweeping turn from its mouth back toward the west, nearly encircling a tall rock mass that remains as an island today in Lake Powell. Before looping back south once again, this bend of Oak Canyon nearly cut its way back to the Colorado, a thin blade of sandstone wall just a score of yards wide separating the two streams. The comparatively low area fanning out to the southeast from this meander of Oak Canyon most likely was the basin described and is still indicated today by the semi-circular part of Lake Powell known as Oak Canyon Bay. What was Oak Canyon is now known to lake boaters as Secret Canyon. From this area the two men prospected out from the basin and even made a trail over the canyon wall into "Aztec Canyon" near the mouth, where there were "some cliff ruins." Black said that they cleaned out one room where they then camped and did their cooking. While in Aztec that winter they both went to the "natural bridge" [Rainbow Bridge?] several times. Somewhat surprisingly, there is some corroborating evidence for this winter excursion. There was, in fact, an old trail, identified as "prehistoric," by members of the Lake Powell Research Project in the mid-1970s. Before the filling of Lake Powell reservoir, it ascended by way of some pecked steps from the floor of Oak Canyon, across the sandstone slickrock for not more than a third of a mile, and then down to the mouth of Forbidding Canyon. This very well could have been the trail that Black said they "made" in 1894-95. They probably simply improved upon the old Anasazi route.

In a large alcove just inside the mouth of Forbidden Canyon were, before flooding, four enigmatic, dry-laid stone "walls," probably prehistoric but possibly also modified by Glen Canyon prospectors in the 1880s and '90s. This very well could have been one of the "cliff ruins" described by Black and in which they camped. In fact, on the alcove wall just to the right of the last structure was carved an inscription, "Jas Black, Feb." Unfortunately, no year date was ever reported for the inscription, though in 1955 river runner Gus Scott did give a year date of 1909. However, immediately below the Black inscription was one reading "Don Beauregard, 1909." Both had been partially obscured by a large, white painted site number from the University of California's Rainbow Bridge-Monument Valley expedition of the 1930s. Perhaps Scott thus misinterpreted the defaced inscriptions and mistakenly read the 1909 from the Beauregard signature as a part of the Black.

Further supporting testimony comes from an account given by one Dan Leroy, an old Idaho sheepherder, to Utah physician and river runner Dr. Russell G. Frazier in 1937 while on a voyage down the Salmon River. Many years earlier Leroy said that he was a prospector on the Colorado River in Glen Canyon and knew Jim Black. He further stated that Rainbow Bridge was first seen by Black in 1894, "while exploring the flat mesa above." A similar-sounding story came from an old Escalante cowhand named Harry Ogden. In the mid-1950s he told Utah historian and writer Charles Kelly that Black had ridden up Oak Creek, got out on top, and saw Rainbow Bridge "from above."

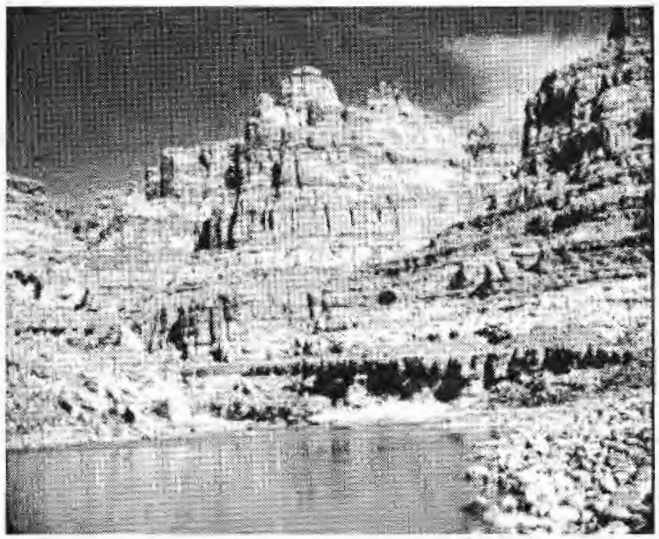
While these two stories do seem to compliment Black's 1930 statement, there is yet

even one more piece of supporting evidence. On two of his Colorado River trips in 1938 and 1942, Charles Kelly and his fellow river runners camped at the mouth of Oak Canyon. Though he does not mention it in either of his two diaries from those voyages, on at least one of them he must have explored up the canyon a ways. In a letter to Dock Marston in 1952, he states that there was a Black inscription "a mile or two up Oak Canyon." Intriguingly enough, this would have been very close to the point where the prehistoric Anasazi "trail" led up out of Oak Canyon and over to the mouth of Forbidding Canyon.

After the 1894-95 trip, little is known about the activities of James W. Black. Besides the "Feb 2 1896" inscription above the mouth of the Escalante, there is another that has been found high up in a room of a small cliff ruin in the Escalante River canyon about a mile below the mouth of Twenty-five Mile Wash. It was discovered by southern Utah guide and packer Ken Sleight in 1964 and reads, "J. W. BLACK, SEPT. 2, 97." It was written in charcoal and in 1964 was beginning to fade. Sleight indicated that the year date could have been "92." Black himself, in his 1930 statements, mentions only one other occurrence with which he supplies a date during this time period, a summer 1897 prospecting trip with two other men from Flagstaff to the Kaibito Plateau area of northern Arizona. Interestingly, the two Black inscriptions on the Escalante side of the Colorado River are both signed "J. W. BLACK" and are done in charcoal. All of the ones found on the Navajo Mountain side of the river, however, which are quoted exactly, read "Jas. Black" and have all been carved. This leads to the distinct possibility that the inscriptions may have been done by two different individuals. Those west of the Colorado seem to be associated with an old stock trail leading from the Escalante northwest to Halls Creek. Canyon hiker and author Steve Allen states in a 1997 book, with no source cited, that this so-called "Black Trail" was constructed in part by a John Black, an early-day Escalante cattleman.

The inscription at the summit of Navajo Mountain would indicate that James Black was still very much active even after the turn of the 20th century, and he obviously was still in the Flagstaff area of northern Arizona in July of 1930. But there are no records of his death or burial to be found in Flagstaff, and what ultimately happened to James W. Black, prospector, stockman, and possible discoverer of Rainbow Natural Bridge, remains a mystery.

Mille Crag Bend 1952 George Simmons photo



How To Organize a Science Trip- The Old Way **edited by Dave Focardi**

The following is a result of a New Years Eve conversation with Black George. He had some data he wanted to get scanned into digital format before it deteriorated any further, and I was looking for material for Confluence articles.

Previously the diary of Black George's 1952 USGS trip down Cataract Canyon was published in the "Canyon Legacy-Spring 98 Volume 32", the Dan O'Laurie Museum publication. The material he wanted digitized was the correspondence he used in developing that trip. A lot of the correspondence represents the very first commercial outfitters on the Colorado Plateau. I found it great reading, I hope you do too- these are selected items from the material I had.

P.O. Box 360
Grand Junction, Colorado
February 6, 1956

Otis Marston
2555 Vine Street
Berkeley, Calif.

Dear Dock,

Richard Q. Lewis, U.S.G.S., Denver Federal Center, has asked me to contact all who might be able to to furnish boats and/or boatmen for a trip which he plans through Cataract Canyon sometime this year. Dick's mapping areas include some of this river section which he is unable to reach easily by climbing over the top, etc.

I have written to the people listed below, but am sure there are lots of others who might be able to help. Dick would much appreciate any further additions which you would make to this list and forward to him.

Harry Aleson	Elwyn Blake
Perky Brooks	Moulty Fulmer
Dave Caskill	Don Harris
Bus Hatch	Pat Reilly
A.K. Reynolds(&Hallecy)	Bob Swift
Georgie White	Frank Wright(&Rigg)

Haven't made any definite plans for running this summer. Perky Brooks and I had planned on a Salmon or Snake trip, but his Black Monster is hung up at Bright Angel....so maybe we'll stick closer to home at Dinosaur. We are planning to try the Grand again in the summer of'57...but I don't know if I can stand to wait that long to get back to the Little Colorado for pictures.(I ruined the entire roll which I shot there last summer.)

George G. Simmons

Copy: R.Q. Lewis

This letter to Otis "Dock" Marston is typical of the letters George sent out to the people listed. The exchange of letters is typical of Dock Marston's indefatigable quest for river lore. His collection is at the Huntington Library in California. The replies I chose to print are interesting for various reasons. It's obvious that river trips have changed very little in some respects- people are stiil looking to go down the river as often and as cheaply as possible, commercial outfitters are still trying to get business, and Science trips are still the phat trips of choice. I hope you enjoy reading these as much as I did, and a HUGE thanks to George for allowing us to publish these historical documents.

U.S.G.S. Slick Rock Camp
% Egnar, Colorado
June 27, 1956

Dear Dock

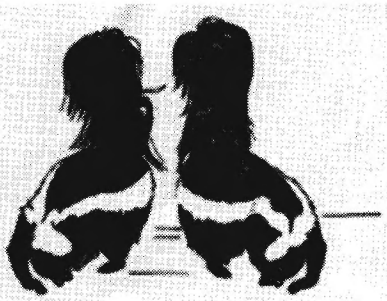
Hope you are having a summer full of interesting boating activities. It looks as if the season will be a good one from this end of the line.

There is a little more news about the proposed U.S.G.S. mapping party through the Cataracts which might be of interest to you. In your last letter you mentioned that there were some things which you would like to have looked up. Well, you can dig out the questions for the trip originally planned for July 1st will be made later, toward the end of the same month.

You may have been informed previously, but I'll repeat it here. Three 10-man neoprene boats have been secured for the voyage. The party will consist of six men. Two of the men, Dick Lewis and Frank McKeown are in charge of mapping projects which include parts of Cataract Canyon. Dick Lewis has organized the trip, and most of the planning has been under his direction. Russ Campbell, geologist and assistant to Dick Lewis will also do some mapping in the canyon. The other three members of the party will be a U.S.G.S. paleontologist(I can't recall his name) whose chief function will be to keep the weight of fossil specimens at a minimum, a ranger with the U.S. Forest Service from Monticello (I can't recall his name either), and my self. I have been loaned from the mapping project in the Slick Rock district to advise the boating group in things waterwise, and will be the only one in the group with white-water experience. It may sound peculiar to have three boats and one boatman, but from what I have seen and heard of the others I expect to be the weakling of the party.

Made two short trips on the Dolores River last month and am including three pages from my note book and one color slide, all of which I would like returned when you are through with them. The earlier of the two trips was made near maximum runoff which is the best time for boating on the Dolores. The trip was a very enjoyable one both from the point of view of scenery and boating. The only incident was a broken aluminum oar which was repaired by the good whittling of my companion, Bob Gant. The two rapids to which we applied names received their titles from what happened at their locales. The later trip though only two weeks later was in rather low water. The prevailing southwesterlies pushed us well all day until the river took a bend which made the last two miles a two hour experience. We also garnered two holes in the bottom canvass when the bottom canvas became sandwiched between rocks and a water proof metal ammition case. Two portages were made on the second trip: one for a fence line , and the other for a large jack pine which in falling had completely blocked the river. At one other point the river was over lain by a pine, but by hard upstream rowing were able to ease into the tree and work through the branches.

Many of "us river-rats" appreciate all of your efforts on behalf of things conservationists are supporting.



OTIS MARSTON
2333 VINE STREET · BERKELEY 8, CALIFORNIA
ASbbery 3-6160
COLORADO RIVER CHRONICLES

July
4
1956

Canyoneer Sim

Many thanks for the information in yours of June 27th.

I had not heard about progress on the USGS mapping party in Cat. It isn't too novel to have three boats and one boatman. The Chenoweth party which surveyed the Canyon in 1921 had three boats and one boatman: Ellsworth Kolb. Ellsworth ran the three boats thru nearly all the rapids. There were others who could handle a boat but the survey tended to keep them rather busy.

If you get a chance near the Junction, please go over to the left bank of the Colorado. The Stanton survey of 1889 came down from Grand Junction and they marked a point there on a boulder. The surveyors went from there up to Green River. It was in Greenriver that Stanton took charge of the actual survey. The boats cruised down to the Junction and Stanton picked up his line from there. I think you ought to be able to find this point with references marked on a boulder. I also think the Kolb brothers left a marking there. I don't have any record that anyone has looked for these things.

At Mile 213, there is an open flat on the right bank. If you have the chance, look for the horse trail up out of this flat. There are big stones laid so a horse can go up or down. You will recall that a message was brot in here to the Eddy party in 1927. There are names cut along this horse trail. Please note the names and dates and take a picture or two.

There is a side canyon opening on the left right at the Mile 213 point. I would like to get a photo of this side canyon. If you should have the time, I would like to know the nature of the bed of this side canyon.

At Mile 204, right bank, there are a number of inscriptions on the rocks. Please note and photo these inscriptions and photo the River off the bank here.

At Mile 212 7/8, in a gully on the right bank is a large rock slab. There are many fossils in this gully. You will find a note about the POWELL painted on the rock. Please photo and note the marking.

There is a vague report of a D. Julien inscription near the head of Cat. It seems to me this would be in the side canyon at LB at Mile 213 if it is anywhere.

At about Mile 197 on the left bank, two men brot horses to the River about 25 years ago. The did not come down Gypsum Canyon. This crude trail should be checked.

I have a vague reference to a Julien inscription near the several inscriptions at Mile 204. I feel quite sure this is an error.

Below Dark Canyon is reported a new and sizable rapid due to a new fall of rock. Please rate this rapid and take a picture of the area. It is 3/4 miles below Dark Canyon.

You did not say how you were going to get to the head of Cat. Please let me know on that and your date of start. I may be able to get some other stuff to you for checking.

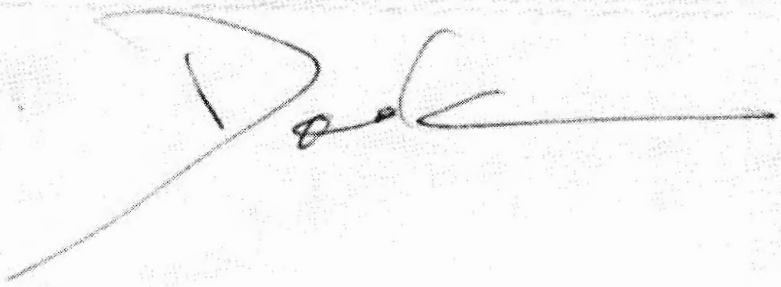
I have copied the notes on the two Dolores runs. I am having a print made from the slide and will enclose the slide with this letter as soon as it comes back.

True enough - you need water in the Dolores. Pres Walker ran it several times but finally lost his boat and the party had to walk out.

We had a wonderful run of the Grand Canyon even tho we buried one of the crew who died from a bad heart. Fortunately we had a doctor with us who did everything possible. The other event of the trip was the capsizing of one boat in Vulcan (Lava Falls). The pilot took on some of the heaviest water and caught a side wave and over they went just that easy. They floated five miles before they were picked up on the bottom side of the boat.

The 60,000 feet of water made fine running with the only rapid that was up to a 10 rating being Vulcan. The two 30HP engines gave us a fine balance on the 18' boats and we could make just under 20 miles when cruising at top speed.

Cheerio



Shortly after lunch Willie developed agonizing pains. We landed in Redwall Cavern to let him rest.

Vaseys was running only a trickle. Redwall was half undercut by River.

Bootoo cruised on to Harding with Willie - the other two boats following in 5 minutes - land 5:40 PM. There was no beach below Loper's boat & only a small beach at Harding.

Harding proved a fair mooring and a good camp. Willie's severe pain continues. Josh diagnoses the situation as a heart condition and feels no other fits the symptoms. He did what he could to quiet Willie and arranged to sleep next to him.

June 6-Up at 5. Willie had slept fairly well but had wakened Josh during the night due to great pain. Josh advised getting him to Phantom as soon as possible, but not to put any strain on him. We photographed Harding & finally cleared. Harding would rate a 3-4.

We pulled in at Mile 44'/2 on L to await other boats. They arrived after a half hour. Willie was suffering severely so we carried him up in the shade. He insisted he was going to die. His color was very grey. At 11 AM Josh told me Willie had passed on. A gathering of all present agreed without dissent that Willie should be buried in the Canyon. We selected a site in a side alcove & buried him there. Frank Masland said a prayer. We marked his name & date on the rock wall above.

Mile 441/2 on the L bank.

Willie had his wish that should he die in the Canyon, he should remain there.

We cruised to Nancoweap & had lunch at 1:30 PM. Moved on - looked at Kwagunt - Rate it a 4-5.

Cruised into the blue lagoon at Little Colo at 4 PM after I had crippled a steering gear at 60 Mile. All swam. Josh said the water was OK for drinking & drank some to prove it.

Left Little Colo at 5. The island was not more than 2' out of water. Plenty of whirls down to Lava Creek. We took Lava Creek on the run with a cut to the left. Big waves and would rate a 6-7.

We pulled in L to camp at Mile 66 - fine beach but sight cut off from Desert View by a bluff back of the beach. Good camping & plenty of wood.

Garth reported that Willie had a severe attack just after we left Harding.

June 7th - The pulleys at the stern quarter were blocked up which brot them much more into line, but we kept the tension high. We cleared about 9:30 & cruised to the left bank just above the cliff at Unkar. Bill Beer, Ballard, Garth & I took off for the top to look for the ruin. We swung toward right but Ballard pointed out that line-up of background showed we were too close.

The above is a transcription of Dock Marston's diary for the 1956 trip on the day that Willson Taylor (of Willie's Necktie fame from the 1950 Ed Hudson trip) died of a heart attack. (Courtesy John Weisheit)

U.S.G.S. Slick Rock Camp
% Egnar, Colorado
September 25, 1956

Dear Dock

For some unknown reason your letter of July 4 did not reach me until after the conclusion of the USGS Cataract Canyon trip, and I am unable to supply the information you wished. However, there are a few minor items which might be of interest to you:
(1) The open flat on the right bank at Mile 213 is known as Spanish Bottom. This is but one of quite a few names appearing on the new U.S.G.S. topography sheets covering the area.

(2) In regard to the side canyon on the left bank at Mile 213: I do not know what the boys decided about the formation in this canyon. A previous worker, mapping from an opposite rim(right bank) identified an exposure of the Paradox formation(probably gypsum bearing) in this x vicinity. After checking the exposure, and I am not sure whether or not they checked it in the canyon, the boys were undecided, and wanted to wait until they looked at the exposures in Gypsum Canyon before making up their minds.

(3) From the looks of droppings in Gypsum Canyon it appears that at least one horse wintered there last year. It is impossible for a horse to get down the main drainage of Gypsum Canyon as ther is a deep sheer fall about four miles up. None of the side canyons to Gypsum Canyon which were checked revealed possible routes. There are a few places near Mile 197 where a man could climb over the rim without great difficulty, but I did not see a horse route.

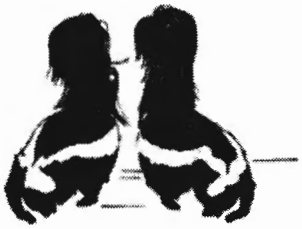
(4) I made a log of the activities, and as soon as I can get a few copies typed I will send you one. I tried to keep accurate notes on the rapids, particularly those over Class 4, and am disturbed to find that I have no reference to the new rapid which you mention 3/4 mile below Dark Canyon. There is a large fresh landslide scar about that distance up Dark Canyon which is visible from the river above Dark Canyon, but I can recall nothing of the sort along the river itself.

Could you tell me whether or not the Julien who made the several canyon inscriptions was a native Frenchman, and if so whether or not much is known about him. I have a sister-in-law(French) who is presently in France, and I thought I would ask her to do a bit of detective work for me if there seemed a likelihood of turning up something.

In the notes which I sent to you last June I made a mistake in listing the McPhee Ranch as one of our starting points. The McPhee

Ranch is farther upstream, near Dolores, and the ranch near which we started is the McDonald Ranch.

Glad to hear of your fine Grand Canyon trip. Looks like I'll have no more trips this year, at least water wise, but I did get in a nice climbing trip to Colorado's Needle Mountains, and I hope to get in one more climbing trip before the snow flies.



OTIS MARSTON
2431 VINE STREET · BERKELEY 8, CALIFORNIA
ASHberry 3-0160
COLORADO RIVER CHRONICLES

October
26
1956

Canyoneer Sim

That was tough about the late arrival of my letter but your comments help a great deal.

I have just returned from a trek around the Southwest and went down that side canyon opposite SPANISH BOTTOMS. It is impossible for a horse to come down the main canyon at that point but the walking involves no danger.

I know the open flat is known as SPANISH BOTTOMS. I can add a simple question to that and ask "Why?" I wrote to A. A. Baker, USGS asking why he used the name on his maps of that section and his reply was that it was generally known by that name. That leaves my question unanswered.

I think that side canyon was gyp for about a mile from the River. There is an uplift that tilted the strata up toward the River. I will be interested in the observations of the Survey crew.

About a mile from the River there is a drop-off of about 500 feet but it is not difficult to get up and down at several places on the right side of the drop. Further on there is a drop of 30 feet and this is easy to by-pass on the left. A little beyond this drop, the drainage swings into the graben to the south.

The horse angle at Gypsum is pertinent. There is a way to the River by a trail above Gypsum Canyon. We also found horses had been in the side canyon we traveled and Kent Frost (who was with me) knows of the man who had his horses down there.

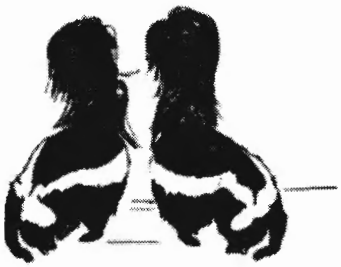
I am guessing there is a route to the River from that group of side Canyons on the left about 2-3 miles below Spanish Bottoms. We walked down to a point between the first and second rapids and could see some sign of trails in these canyons.

I look forward to the opportunity to study your notes. I would also like to borrow slides which you might have made so I might get prints showing your operations, crew and equipment.

The best answer on Denis Julien is to send the enclosed copy of Kelly's article in the UTah SHQ. Did you get anything on Julien during the Cat run? What were you looking for in reference to him?

Cheerio

Dock



OTIS MARSTON
2333 VINE STREET · BERKELEY 8, CALIFORNIA
Ashberry 3-6060
COLORADO RIVER CHRONICLES

December
10
19 56

Canyoneer Sim

Golly, that's a swell job you did on the Cat run and I thank you for the copy of the record.

What does Dick Lewis do out at Kigalia? We have been out in that section in 1955 and this year.

You didn't break any oars so they must have been OK. Where did you get them?

I don't think your signing the release in event of accident would be any good. In case there was neglect, you would have a good right of action even tho you signed. Other than that, you undertook what you knew to be a trip involving some danger.

Are the particular mapping projects some secret? I am much interested in the maps of that area and particularly on the left side of the River.

I hadn't heard of the prospector being stranded near the Junction.

Kent Frost and I must have walked by your [redacted] stop at Mile 213 when we were out there October 2nd. We came down the side canyon opposite Spanish Bottom and walked down the shore past the first rapid. The water was almost clear and I would have rated the first rapid about a I. I might have given the second rapid a I½. I think the stage was around 3000cfs.

We noted two stone monuments near the mouth of the side canyon called Red Lake Canyon on the 1921 maps. They indicated age. Did you note others on down the Canyon on the left bank?

What was the particular interest at Cross Canyon? Where did you pick up that name?

And speaking of names, did you ever ask anyone why that is called Spanish Bottom?

Did you have much trouble with the Exacta? Bill Belknap has been using one and has told me I should take one on but has now changed his mind saying it is too delicate.

Where did you get the information that USGS lost a boat at 202 in 1921? Best lost a boat at 204 in 1891. USGS pinned their boats at Dark Canyon in 1921 but did not lose them. In October of 1948, Harold W. Chase of the USGS left a sadiron pinned to a rock just below the Big Drop. I think this must be the boat you mean.

Let me in on the Cape May yakking. I spent some cold weeks down there in December and January of 1917 and 1918 living in the old amusement building at the end of the board walk.

That spring at Dark Canyon is near the small ledge that runs out to the edge of the River below the Rapid. It is hidden in among some redbud. I think Randall Henderson built a cairn there.

You did a swell job of rapids rating. This little system is beginning to do some real good.

I had intended for you to keep the Julien item. I'll send it back if you wish. I agree that Kelly isn't justified in his guess that he was in a boat. Kelly made the Glen Canyon traverse in 1932 and again in 1938. He did a lot of looking for inscriptions. So have many others. None have reported to me any Julien inscriptions altho Kelly tells me he has heard there is one up on the Paria.

I look forward to seeing your slides and want to get prints from some of them. I have a lot of pix in Cat which I have not been able to identify so yours will undoubtedly help in this.

I will be in Seattle around Christmas and in Los Angeles right after the New Year for about 10 days so please don't send them when I am away. I will be home from December 26th to New Years Day and will get home again about the middle of January.

Cheerio



% U. S. G. S. -- P. O. Box 360
Grand Junction, Colorado
April 15, 1957

Dear Dook,

I have been waiting to write until the Cataract Canyon Slide Set was assembled. This has taken somewhat longer than anticipated, but has now been done. The slides are making the rounds of several interested people, and there is one ahead of you in the list who may have a few duplicates made. It is hard to predict just when they will reach you, but if it is longer than four weeks, drop me a card and I will prod the delinquents. The slides will reach you from Charles D. Campbell, Geology Department, The State College of Washington, Pullman, Washington. After you are through with the slides would you please forward them along with the short commentary to Richard Resak, Paleontology and Stratigraphy Branch, U. S. Geological Survey, Denver Federal Center, Denver 2, Colorado.

You will note that some of the slides are duplicates. As duplicates made from duplicates seem to suffer as much as duplicates made from originals, this cululative affect can be avoided by using only originals to make duplicates. So if you would like to secure the originals for some of the slides I will be glad to run down the source.

In response to your long unanswered questions:

(1) Uncle Sam has done a lot of mapping on the Colorado Plateau as a result of the uranium quest and financing by the AEC. Dick Lewis has mapped six or seven 7½ minute quadrangles about Elk Ridge, Dark Canyon, etc. Dick's location at Rigalia is due to his own preference of camp sites for convenience and comfort.

(2) I do not know whether or not the 7½ minute topography sheets are yet available beyond the the advance sheets issued to mapping parties. You can probably find this out by contacting a Federal outlet for maps in your area. The origin of the names used can be something of a mystery. Usually the names are applied after all of the old-timers have been talked with. In this case there are only a few ranchers on the south side to whom reference can be made. To hazzard a guess I would say that the names used were made up by the local cowpokes, and that the few names which have been passed down by mouth will largely remain a mystery.

(3) I do not believe that the stranded prospector got any publicity. If memory serves correctly he was hung up at the junction from one to two weeks. He apparently conserved both his food supply and energy very well for he seemed to be in pretty good shape.

(4) We did not note the two stone monuments near the mouth of Red Lake Canyon nor did we see others which indicated age.

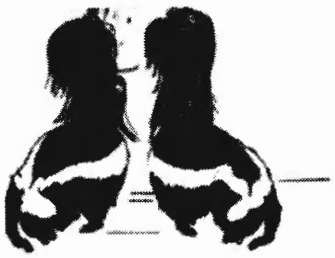
(5) The interest at Cross Canyon as in several others was to determine whether or not the Paradox member of the Hermosa formation was exposed.

(6) About Exaktas: this could take a small volume. I think that they are the best all-around camera made. Unfortunately, the Exakta is a precision instrument, and like many precision instruments has to be treated carefully. Under such rigors as river trips the Exakta does not stand up as well as some other camera types, and I would expect that a Leica would better fit the bill. Specifically, beach sand seems to get into the shutter winding and cocking mechanism in spite of platic bags and air tight containers. Also, on all but the most recent models there is the danger of the winding cogs stripping out the film perforations and an entire sequence of pictures lost due to the film not winding(this is not unique to river trips).

(7) Cape May...(ugh)... Your winter of 1917-18 sounds much like the one I spent there in 1944-45. If you were in Cape May for the same kind of reason that I was this would make you about 60 or 61 years old which though not old in these days is still a respectable age for such active interest in the Colorado River.

I am currently preparing "Nicholas Needlefoot" for some new adventures. Uncle Sam is transferring me to Brazil for a two year stint of mapping iron deposits(July 1). There are some canyons in the highlands near Belo Horizonte where we will be living, and I hope to find some white water on the headwaters of the Parana, The River of Old Women, and some others whose names I cannot recall or pronounce.

Regards



OTIS MARSTON
2333 VINE STREET - BERKELEY 8, CALIFORNIA
Ashberry 3-6160
COLORADO RIVER CHRONICLES

May
30
19 57

Richard Rozak
USGS
Denver

Canyoneer Sim Copy to C. D. Campbell

The slides are on their way ~~back~~ to ~~you~~ and thank you for the loan. I took off prints from all of them - that figure is 41.

I have gathered a number of prints from the Stanton and Best parties of 1889 and 1891 and your pix will do a lot in helping me to tie down the locations.

I'll be willing to bet that I will wish I had prints from them all. The cost angle does some controlling. I take prints rather than dupe transparencies.

Note that Holmstrom had two m's in his name.

Burg, Johnson and Holmstrom were together. 1938 after Nevills.

I think you had a little less water at Dark Canyon than did the USGS party on September 27 and 28 in 1921. The rx in center were just being covered and they hung the boats on them.

Your photo is the first I have seen of the sulphur spring. There are several of them thru there and on both sides of the River.

I find there was a geologist looking down into Cross,Canyon in 1926

Your 210½ Mile action ties with Dave's shot of you 10 27 52.

I have a lot of work to do on the pix of Cat. Stanton had pix taken as he ran his traverse in 1889 so they will be set as soon as I can work out his traverse figures.

I suggest you throw away the self-portrait as you might wake up some morning and take a look and just quit right there.

Again my thanks. I should write at greater length but I leave tomorrow for Flag to get a Grand Canyon trip rolling for June 10th - high water seems a fine prospect.

Cheerio



So ends the exchange between Dock — an indefatigable data collector and hoarder- and George. I found their exchanges to be the most informative on general history matters, and the process involved in fact finding.

DON HARRIS
2500 East 48 So.
Phone [redacted]
Crestwood
7-2193

HARRIS-BRENNAN RIVER EXPEDITIONS

Scheduled and Charter Trips on Scenic Western Rivers

SALT LAKE CITY, UTAH

JACK BRENNAN
[redacted]

March
5
19 56

George C. Simmons
P. O. Box 360
Grand Junction, Colo

Dear Sim-

Thanks greatly for your letter of February 6, 1956. It arrived while I was assigned to the Boise District, from which I just recently returned, thus the lenghty delay in reply.

I was glad to know that another member of the most extraordinary fraternity of River Rats is keeping in touch with the River. Marble and Grand Canyons are very interesting, and some of the rapids are a real challenge to the adventurers who tackle them. I have run the Grand 4 times now and have enjoyed every trip. We did not run Grand last year, but did run the Cataracts again - for Sinclair Oil this time- my 10th. trip through Cataract Canyon.

I am currently writing Dick Lewis, and offering our services for his planned trip in the Cataract Canyon area, or if he prefers to make it 'on his own' we will try to locate some 10-man rubber rafts for him if that type of craft will be suitable for his purpose.

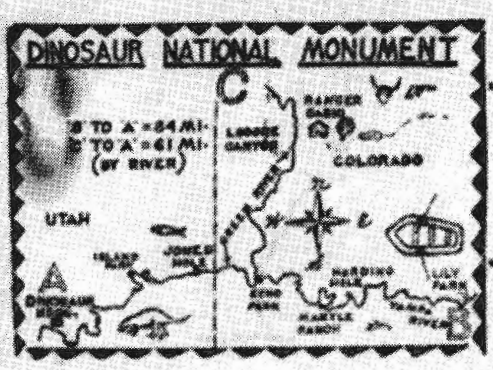
Jack Brennan, Fred Speyer and I are still quite active on the river every summer. We have guided a number of 'Dude' trips in the past 2 or 3 years. Last year we ran around 1100 miles -all river runs combined. This year we already have tentative plans for several short week-end trips and a weeks trip through Grand Canyon in early June, then through Hells Canyon on the Snake River during July. Of course it is still too early to know whether any or all of the trips will materialize.

If in Salt Lake drop in at Room 503 in the Fed. Bldg. and we might bore a few listeners by hashing over a bit of river gab.

Sincerely,

Don

Don Harris



Hatch River Expeditions

411 EAST SECOND NORTH • VERNAL • UTAH

• *Licensed Concessioner*

Feb 11, 1956

Mr. Richard Q. Lewis
U. S. Geological Survey
Denver Federal Center,
Denver, Colo.

Dear Mr. Lewis:

At the request of Geo. C. Simmons of Grand Junction, Colo. we are pleased to contact you in regards to your planned trip for mapping in Cataract Canyon.

We have boats, boatmen and equipment and would like to quote you prices for whatever you might need.

Respectfully

Hatch River Expeditions

Copy George C. Simmons

Thanks Sim - Glad you liked the picture in Stegner's book - Good luck on your planned Idaho trip - We had 5 boats on the Middle Fork of the Salmon last year - Hell I didn't get to go - Boatmen were *1. Don Dave 2. Jimmo allen 3. *Lon Frank - 4. Shepard - 5. Dave allen - Old Bus had to stay home + run Yampa + Green - Best of luck.

Bus

Our Annual GROUP SPECIALS for 1956

(In addition to our regular runs)

I. Yampa and Green

Starting

May 15, May 22, May 29, June 6

(Lily Park to Dinosaur Headquarters—5 days)

$55.00 per person

II. Grand Canyon—15 days

Starting June 8

$400.00 per person

(Food included)

III. Middle Fork of the Salmon—7 days

Starting July 24

$220.00 per person

(Food included)

Hatch River Expeditions

VERNAL, UTAH

IN REPLY REFER TO:

GEOLOGIC DIVISION

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
FEDERAL CENTER, DENVER, COLORADO
Building 25

February 15, 1956

Mr. George C. Simmons
U. S. Geological Survey
Box 360
Grand Junction, Colorado

Dear George:

I certainly appreciate your help in contacting your numerous friends concerning our proposed boat trip. I have received replies from Dave Gaskill, George White, and Bus Hatch. Both Hatch and White say they have plenty of equipment and would be glad to make the trip. However, I fear it would be quite expensive.

I have made arrangements here through Geologic Division for three 6-man rubber boats, life jackets and waterproof duffel bags. I feel that we could make the trip with our own equipment much cheaper, and at low water it shouldn't be too dangerous. I figure that we could have two men to a boat and with 3 boats we could carry 6 people. This would allow room for Russ, Frank, myself, and three boatmen.

I would appreciate your comments as to your ideas. Do you think it is feasible to make the trip in rubber boats? Would two men to a boat be okay? Would you be able to go? Do you think of any other gear that we might need?

I fully realize that the larger wooden boats would be more comfortable and probably somewhat safer. However, when I weigh the expected cost at $1600.± against $300.± I wonder if it is worth the great difference. I think that we can make the trip at low water with the rubber boats. Another factor, of course, is the time element. We would like to take plenty of time and probably stop several places and do geology for a day or so. This means we would be paying boatmen $20. to $25. per day while they waited for the geologists. Hence, we would pay for a two-week trip and probably only spend about half that time on the river.

Well, anyway, I thought I would let you know my plans and see what you thought. I will probably be over to Grand Junction this month and will see you then.

Best regards,

Dick

SHARE THE EXPENSE RIVER TRIPS

Catalmat- -Grand Canyon of the Colorado- - Hell's Canyon of Snake- - Middle Fork and River of No Return of Salmon.

Time is running out on some of these trips as the new dams are now in progress.

If you are looking for a complete rest, away from the hustle and bustle of the average day in most of our city lives, then by all means consider a river trip.

You may relax to the tune of smooth waters, wonderful campsites, scenic wonderlands which are a photographers paradise, or thrill to the adventures of swift uproarious waters, rapids beyond comparison, sheer canyon walls, and breath taking beauty in a never to be forgotten wonderland which has no equal.

Good food is the order of the day. Worries, jangled nerves, and small irritations become things of the past as you absorb the peace, beauty, pure air and sunshine of this unspoiled spectacular section of the country.

Single persons are as much at home on these trips as married couples. You are never alone. All trips are mixed groups and you are one of the group from the time the trip starts.

JOIN THE RIVER RATS - - - - - - - - - - - - - - - - -A ROYAL ORGANIZATION



GEORGIE WHITE
435 West Lasobia Blvd.
Los Angeles 31, California

Call or Write

TELEPHONES:
Plymouth 5-3128
Plymouth 5-1259

SHARE THE EXPENSE PLAN - RIVER TRIPS
1957 SCHEDULE

THE MIGHTY GRAND CANYON - Make reservations early on this one.

1st Week - 6 days Leaving Navajo Bridge on Highway 89-Arizona	Next 12 days Leaving Phantom Ranch of Grand Canyon.	 Landing Boulder City, Nevada.
May 20 June 17 July 8	May 27 June 24 July 15	June 8 July 6 July 27

CATARACT TRIP - ONE TRIP ONLY - 5 days on river and 1 day overland.

June 10 thru June 16. Trip starts and ends at Green River, Utah.

THE MIDDLE FORK OF THE SALMON RIVER, IDAHO - One trip only.

Leave McCall, Idaho, August 5, 1957

Landing Salmon City, Idaho, August 10, 1957.

RIVER OF NO RETURN - BIG SALMON - one trip only.

This is a continuation of the Middle Fork trip - above.

Meet at Salmon City, Idaho, August 10, 1957

Landing Riggins, Idaho, August 16, 1957.

HELL'S CANYON OF THE SNAKE - OREGON - IDAHO.

Leave Homestead, Oregon, August 19, 1957.

Landing Lewiston, Idaho, August 28, 1957.

All fares are $100.00 per person for each trip except THE GRAND CANYON which is $125.00 for 1 week - $200.00 for 2 weeks and $300.00 for full 19 day trip.
Special rates for large groups such as Scouts, Clubs, Churches.

Make a reservation now.	Georgie White 435 West Laconia Blvd. Los Angeles 61, Calif.	Telephones: Plymouth 5-3125 Plymouth 5-1259

PLEASE READ AND OBSERVE IF TAKING A TRIP

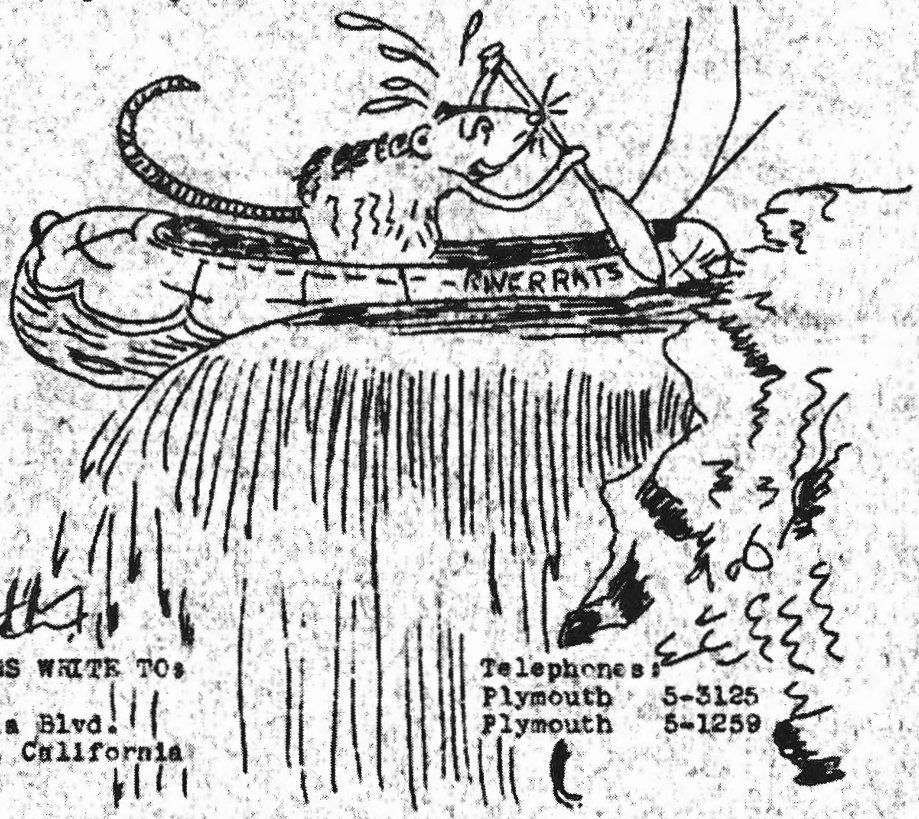
BOATS: We use 30 ft and 10 man neoprene rubber boats which have proven to be virtually non-sinkable and comfortable. Passengers may try their hand at rowing the boat. We use Navy kapok life jackets with collars for G RAND CANYON trip and Johnson outboard motors on large boats.

GO LIGHT: Shorts or bathing suit (suggest Nylon boxer type for men and bloomer type for women.) Sun helmets must fit securely or tie on. Sun glasses, sun tan oil and baby oil, 2 pair canvas shoes - ankle length - 2 pair nylon socks, light weight long sleeve shirt, sturdy loose legged jeans or nylon coveralls, scarf, essential toilet articles light weight rain jacket or poncho (can use as a ground cloth) sweater (on trips before June) camera bags that are waterproof, and extra film. If you wear glasses they should have safety strings attached and an extra pair gives added security. Light ground cloth if no poncho, air mattress, light sleeping bag. Please bring a waterproof duffle bag that all this personal equipment will fit into.

25 POUNDS IS THE LIMIT.

TRANSPORTATION:
Special instructions are sent to all people when deposit is received.

A deposit of $25.00 on all trips and $100.00 on the GRAND CANYON TRIP is required. The balance is due on the day of departure. Deposits will be refunded if passage is cancelled 30 days before departure.



FOR RESERVATIONS WRITE TO:
Georgie White
435 West Laconia Blvd.
Los Angeles 61, California

Telephones:
Plymouth 5-3125
Plymouth 5-1259

16 MM ALL COLORED MOTION PICTURES SHOWN TO GROUPS OR INDIVIDUALS AT ANY TIME.....

December 11, 1956

Dear Sim:

Thanks a million for letting me have access to the diaries of your Grand Canyon and Cataract runs. My wife, who is home recuperating from an operation, read them and said she like your style the better of the two.

Am keeping the one on the Cataract trip. If you need it please let me know. I've never been thru that Canyon and may never, but live in hopes of it.

Looks like river running is getting to be a thing of the past with so many dams in prospect. Understand the San Juan and Glen Canyons are closed and 1957 may be the last year for unrestricted flow thru the Grand.

Will make my fourth run thru the Grand next June with Pat Reilly and his two boats. Not sure whether I wrote you we made the trip last summer or not. Started on 38,300 and lost most of it during the 18 days in the Canyon. No mechanical difficulties, with the exception of one broken oar pin on the Flavell and minor patches to the Susie-R and Flavell on two different occasions. Ran all but Lava Falls. Some rapids were easier and some tougher than the preceeding summer. Some were covered over and some new ones made their appearance. This is natural with different flows of water.

Ratings of rapids cannot be constant. Most vary with the stage of water. A six rapid may rate three or eight at different flows.

Believe I sent you a copy of my 1955 diary, if not let me know. Have not copied my minutes taken during the 1956 run.

We ran a lot of rapids wide open as we call it - not stopping to look them over. Only ones we stopped to examine were Badger, Soap, North Canyon, Tanner Wash, Kwagunt, 75 Mile, Hance, Sock, Grapevine, Horn, Granite, Hermit, Bedrock, Dubendorff, Upset, Lava and 205 Mile.

Incidentally, I went thru the big hole in Upset. To say the least it was a rough ride.

Hope you like your next assignment.

Best regards,

Moulty

Feb. 19. 1956

Dear Sim:

Glad to hear from you and also to hear that you finally made it thru the Canyon. I suppose you were in Georgie's mob. That trip is so good that it would be difficult to spoil. tho a mob would come close as far as I am concerned.

I finally got a letter off to your friend Dick Lewis, and I enclose a copy.

As I tell him, I had it in mind to run Marble-Grand again, but am not set. I don't run commercially but try to make my trips pay for themselves. There is also wear and tear on equipment.

If I took it on I would probably run on down thru Glen. Marble and Grand. anyway. Would you be available for at least the part thru Cat?

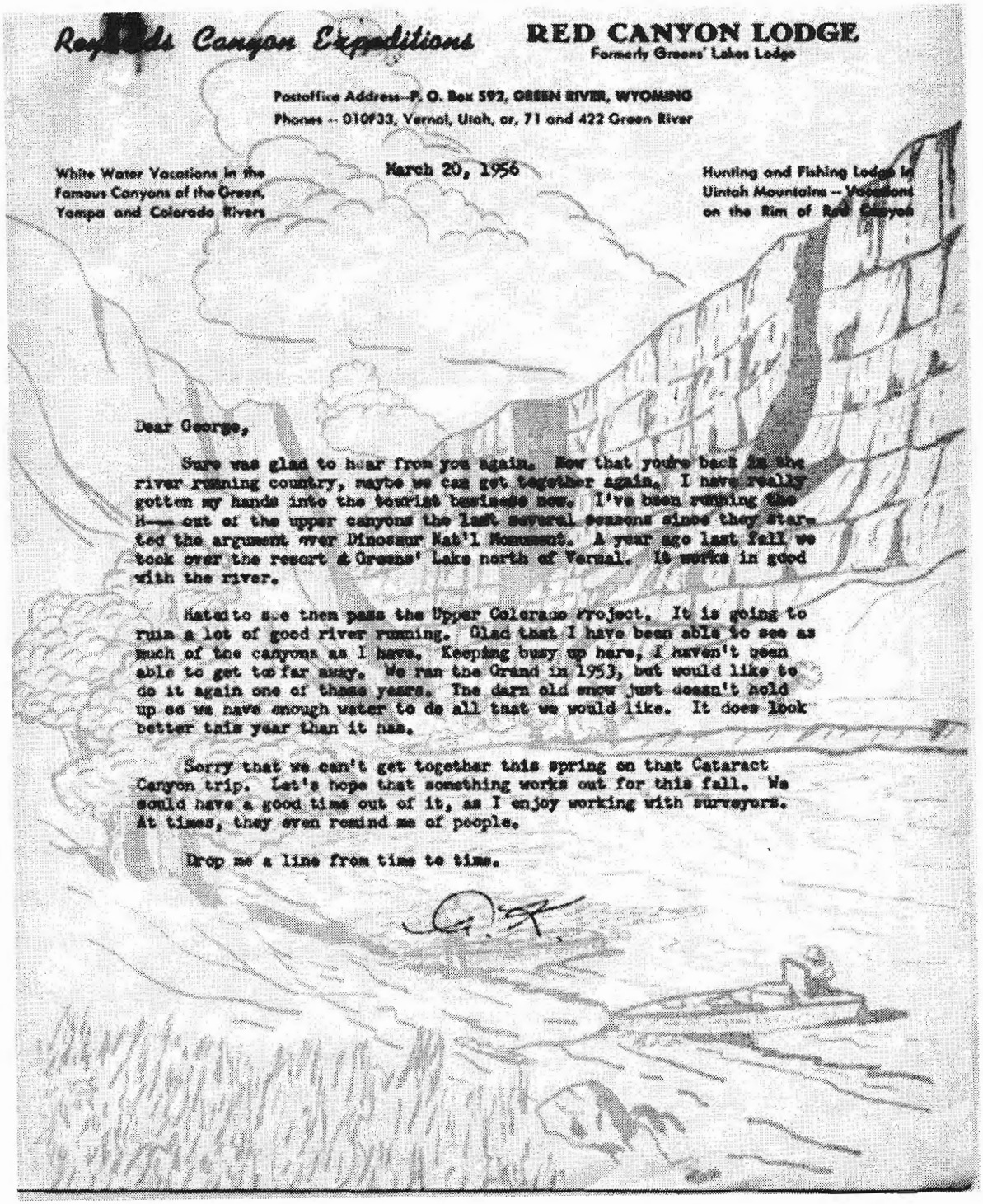
I can handle six. including two boatmen. with ease. and maintain a safety factor in the roughest water. I never pack in extra supplies on my Marble-Grand runs.

I don't know if Moulty is going to run this year or not. He is planning a trip to Hawaii soon and may settle for a dude vacation. I'll probably do the same when I get tired running rivers.

It was nice hearing from you, and I hope to meet you sometime whether the Cat deal jells or not.

Sincerely,

Pat Kelly



Reynolds Canyon Expeditions

RED CANYON LODGE
Formerly Greens' Lakes Lodge

Postoffice Address--P. O. Box 592, GREEN RIVER, WYOMING
Phones -- 010F33, Vernal, Utah, or, 71 and 422 Green River

White Water Vacations in the Famous Canyons of the Green, Yampa and Colorado Rivers

March 20, 1956

Hunting and Fishing Lodge in Uintah Mountains -- Vacations on the Rim of Red Canyon

Dear George,

Sure was glad to hear from you again. Now that you're back in the river running country, mayte we can get together again. I have really gotten my hands into the tourist business now. I've been running the H—— out of the upper canyons the last several seasons since they started the argument over Dinosaur Nat'l Monument. A year ago last fall we took over the resort at Greens' Lake north of Vernal. It works in good with the river.

Hate to see them pass the Upper Colorado project. It is going to ruin a lot of good river running. Glad that I have been able to see as much of the canyons as I have. Keeping busy up here, I haven't been able to get too far away. We ran the Grand in 1953, but would like to do it again one of these years. The darn old snow just doesn't hold up so we have enough water to do all that we would like. It does look better this year than it has.

Sorry that we can't get together this spring on that Cataract Canyon trip. Let's hope that something works out for this fall. We would have a good time out of it, as I enjoy working with surveyors. At times, they even remind me of people.

Drop me a line from time to time.

(A.K. Reynolds)

The following 3 ages are from Harry Aleson. His involvement with the river is worth several books. The first and third pages are from Black George correspondence, the middle page being from the Aleson collection (courtesy John Weisheit). River buffs have all heard that Bert Loper knew he had a bad heart when he left for his 80th birthday trip on the Grand, the middle page is from the diary he started on that trip. Harry Aleson brought out Bert's stuff. Bert had a typewriter in his boat he was using for the diary.

Richfield, Utah
February 14, 1956

Richard L. Lewis
USGS Federal Center
Denver Colorado

Refer to:
George O Simmon's letter
of February 6, 1956

Dear Mr. Lewis:

George O Simmon's letter of February 6 came in here on the 9th. It is very nice to receive it.

Larabee and Aleson would be very happy to be able to assist you on a special mapping trip down thru Cataract Canyon.

In July 1947, I piloted a one-boat party from Green River, Utah down to the confluence with the Colorado River - to Rapid No 1 in Cataract, thence up to the Moab bridge on outboard.

In late October, early November 1947, we again launched one boat - a 7-man Neoprene - and made the run to Hite. For safety we portaged and lined the more rugged spots.

In August-September 1951, one of my boatmen and I left Green River, Wyoming in two 10-man Neoprenes, rigged as rowboats, and ran every inch of water down to Hite, Utah,- including, of course, Hells Half Mile and the 55 rapids and riffles in Cataract. A month earlier, in July-August, with a three boat outfit, all 10-man Neoprenes, we ran all the water excepting three rapids of the Marble-Grand section. That gave us 1,063 miles in one season, or rather, continuous on the Green-Colorado from Wyoming to Nevada.

Your proposed Cataract Run can be made safely with one 10-man,- or as many additional as required. We have available two 10-man Neoprenes, plenty of camp and kitchen duffel, power wagon for all transportation, etc. We never pass sleepingbags from one guest to the next, therefore, each supplies his own, and air mat.

For protection of films, cameras, instruments, and other we loan you the U S Army WSP bags - 9" x 12" x 10", inside. Generally, all equipment is carried in these waterproof bags.

To a certain extent, I could assist in mapping, as I have had experience in chaining, roding, recording, the transit and plane-table.

As of this time, the best available time for me would be from about April 15 to May 15,- and all of October. If you suggest an approximate time, or number of day, number of members in your party, weight of instrument equipment and personals, we can better arrive at a day by day cost, and/or contract price if desired.

c George Simmons

Sincerely yours,

Harry Aleson

July-6-1949.

Our Colo. River Expedition left Salt Lake aboy ut 9-39-a.m. and it fell to me to haul my boat to Richfield with my car and in as much as my car can do nothing but boil the trip was a very unsatisfactorial one for about all the Dam Motor did was tp BOIL and I used 7 gallons of water from S Lake and that is hot what we call pleasant motoring but we —i n time reashed Richfielf where we transfered to Don's Trailer and Motor so from there we continu edo on to Jacob's Lake where we holed up for the night whibh we passed very nicely—July-7-we were up in good time ane we loade d up anda had breakfast at Marble Canyon Lodge - after which we went on to Lee's Ferry and after doing plenty in loading we returned to the Marble-Canyon Lodge for Our mid day lunch. It was hre that there was a bout the first adverse feelings—between Don Harris and I- I would like to explain that there have been 4 Doctors told me h that I would come down on the Colo. River and never return on a acct of a bad heart so on that account I hesitated on coming on n any further but there were several pwssuqded me to finish the day and it was a hard day considering the condition of my heart—v but I was the first to pull out and after kissing Don's Wife Good-by I p pushed off and in 6 miles we Passed under the Navajo Bridge on our way tomead Lake ans another 5 miles we came to-and passed Badger Rapids with out looking them pver and another 5 miles brought use to the notorio s Soap Creek rapid where we a ll ran it successfuly and made camt on the first sand bar belop-So ap Creek Rapid is a b bad one and there is much history cannecd with this apid —We are camped to-night on a nice spit of sand where I have spread my-over-alls out on the sand to dry and while I am riting this the Boys are very busy gettin some-thog to eat so as this is our fi our firs t after-noon I will vall it a day/—later—

We left the ferry with 51.000 second feet of water and we found some very angry water —there would be two back eddys one on each s side andwe could see nothing to cause them and on running badger rapid it was sure a rough one and it was nothing like it was years ago-- The personel of the party is composed of the following

Ralph Badger who is a paid passenger next is Howard Welty who will accompany us as far as Bright Angle—Then we have two in a rubber boat -Harty Aleson who is the navagator and a lady whos name is Mrs. Lou Fetzher and Don Harris-super boatman -Jack Brenan also super Wayne Nichols who is a friend of Do'ns and yours truly-Bert Loper who is taking this oppertunity of celebratinh his 80th year of my birth-having been born in the year of 1869-ran every rapid of this turbelent stream the year I was 70 and at that time it w was suggester that we do it in 49 and as I said before in my 80th year-I expect to finish about 10 days before my birthday but i it is still the 80th year—We are camped about ½ mile below Badger There will be no mail sent out before we get to Bright Angle. I see that I have called this Soap Creek Rapid but it seems as though it is still Badger but we will straithten it all out in our next write up so mush for this sheet

(The above solid paragraph was copied from the one-page diary, typed by Bert Loper on the evening of July 7, 1949, in our camp on the Right Bank of the Colorado River, about one half mile below Badger Creek Rapid. It was typed verbatim, from the original typing by Bert Loper, and quite accurately includes the minor errors due to 80-year-old fingers and eyesight.

On the afternoon of July 8, 1949, we lost Bert after his boat capsized. No one will ever know, but it is my belief that he drowned in the lower portion of Mile 24½ Rapid.) Typed at Richfield, Utah, July 5, 1950. Harry Aleson.)

Harry Aleson was on the trip where Bert died, and brought out his stuff. (From the Aleson collection, courtest John Weisheit.)

CONTACT

Contact with you men and women has come about through many sources. One hundred twenty-seven of you may recall the 1945 "TO YE RIVER RATS" invitation to see colored motion pictures in Los Angeles, given by COLORADO UP RIVER EXPEDITION. That invitation was printed in war days, on galley proof sheets.

With the approximately 600 of you men and women listed in this booklet, we have, for 15 years, enjoyed "Grand Vacation Experiences of a Lifetime." During the years we have learned that you, all of you, "Are the Grandest People on Earth."

You have known our little "get-out-of-work outfit" by 3 names—COLORADO UP RIVER EXPEDITION; LARABEE AND ALESON WESTERN RIVER TOURS; and as CANYON SURVEYS. These originated respectively in the years 1939, 1948 and 1952. All still exist, and are constantly searching for ways "to get out of work."

To all of you who know our "quaint fancy," you will understand the why of publishing a list of logs; diaries; journals; "certain writings," title of motion pictures, etc.

To all of you "asterisked" people, this sign (*) indicates that you appeared in our 16 mm. Kodachromes somewhere from 1941 to 1954. We thank you for your physiognomy.

To those of "you" who are indicated with three stars (***), you have won your battle over The Four Horsemen, and have gallantly crossed the River Styx.

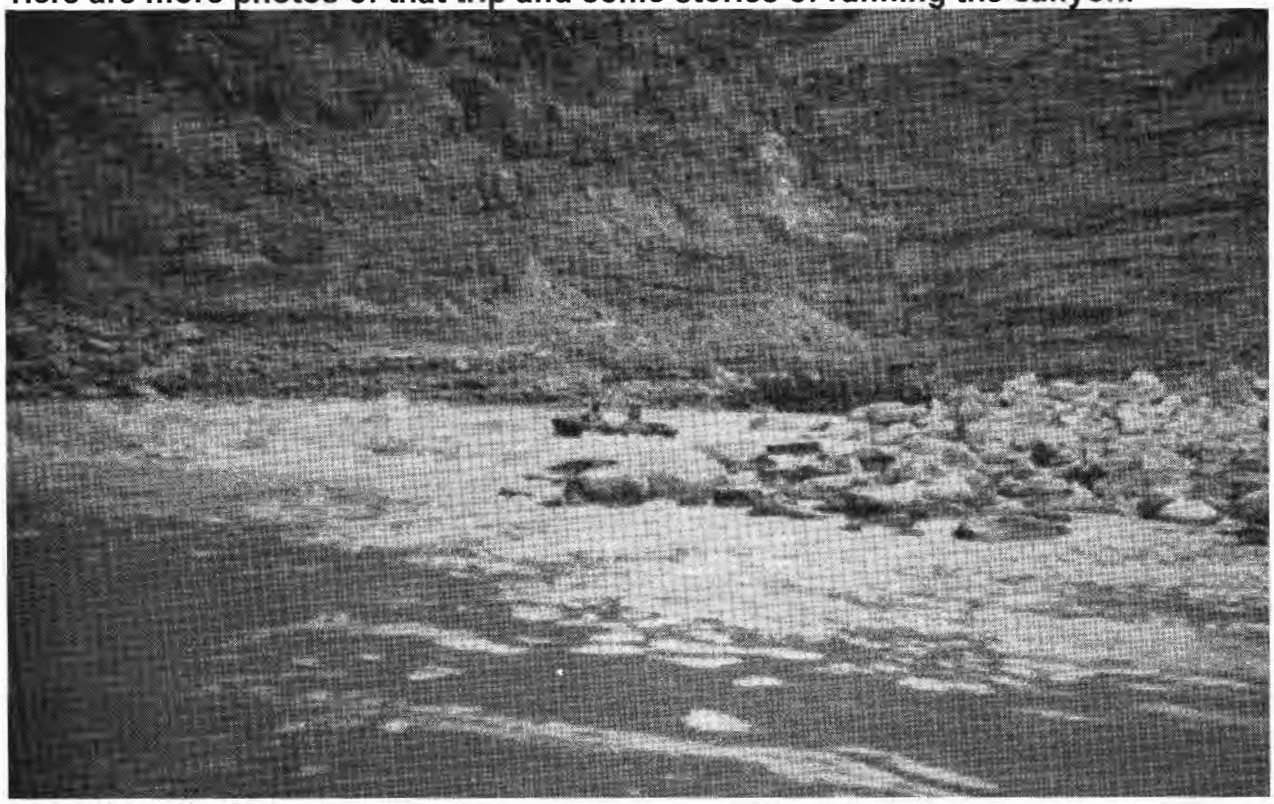
We salute you all.

ROSTER

Roy Aiken	Los Angeles, California
Ruth Aiken	Los Angeles, California
*Agnes Albert	San Mateo, California
*Adolph Aleson***	Los Angeles, California
*Andrea Aleson	Los Angeles, California
*Earl Allen***	Redmond, Utah
*Jennings Allen	Escalante, Utah
*Arthur Alvey	Boulder, Utah
*Emma Jane Alvey	Boulder, Utah
*Jack Ambriz	Cardiff, California
John Amsbary	Long Beach, California
*Dean Anderson	Provo, Utah
Gordon Anderson	Boulder City, Nevada
*Harlan Anderson	Los Angeles, California
*Marvin Anderson	Richfield, Utah
*Monta Anderson	Provo, Utah
*Stanley Annin	Huntington Park, California
*Ernie Appling	Kanab, Utah
*J. D. Armstrong	Ash Flat, Arizona
*Hal Atwood	Las Vegas, Nevada
Enid Badertscher	Dinuba, California
*Ralph A. Badger	Salt Lake City, Utah
Mrs. Ralph A. Badger	Salt Lake City, Utah
*Carlisle Baker	Fremont, Utah
Jack Baker	Marble Canyon Lodge, Arizona
*Joe Baker	Green River, Utah
*Linda Lou Baker	Cliff Dwellers Ldg., Arizona
*Lloyd Baker	Green River, Utah
Mildred Baker	Encinitas, California
*Pearl Baker	Green River, Utah
*Ruth Baker	Cliff Dwellers Ldg., Arizona
*Vernon Baker	Cliff Dwellers Ldg. Arizona
*Gerhardt Bakker	Huntington Park, California
*Alvin Baldwin	Green River, Utah
*Dr. Gordon Baldwin	Boulder City, Nevada
J. W. Ballew	Skull Valley, Arizona
*Del Ballard	Boulder City, Nevada
*Billie Barker	Escalante, Utah
*Vince Barnett	Hollywood, California
*William G. Bass	Wickenburg, Arizona
George O. Bauwens	Glendale, Utah
*Floyd Baxter	Ray, Ohio
*Armand T. Beauregard	Webster Groves, Missouri

Harry Aleson's brochure proceeds to list his previous passengers. The list has all the names you'd expect. This is just the first of many pages of names. Order the CD from CPRG and you can see the rest!

Here are more photos of that trip and some stories of running the canyon.



Bowdie Canyon Rapid, 1956



Dark Canyon overview, 1956. Note the Clearwater of Dark mixing with the Colorado.



Scouting Dark Canyon Rapid, 1956. Compare how much of the rapid has to be run to get here in previous photo.

Black George, aka George Simmons is a remarkable and fun individual as many of you know, and I encourage anyone who doesn't know him to make his acquaintance. At an evening soiree before the new millenium started, George and I were talking and he was looking for a way to get some documents scanned onto discs before they deteriorated further. One thing led to another, and I found myself in temporary possession of a large number of documents and slides, comprising the bulk of this issues' contents. There is just too much cool stuff to fit in The Confluence without publishing a book. I am not ready to put out a book just yet! However- if any of you devoted readers are interested, for a nominal donation to CPRG of $15, I will burn a copy of these photos for you (including the 50 or so not shown here, and the Georgie White brochure and Aleson contact list) onto a CD, and mail it to you.

Of course, all the photos (slides) are actually in color. They were scanned in at mostly 800 dpi, and some choice ones like the ones you see here were scanned in at 2400dpi, into TIFF files. The 2400dpi files are 20 megabytes, so a CD ROM is really the only media useable in any practical sense. I will leave the commentary on the photos to a minimum, and let the views speak for themselves. I also was able to reach Clyde Deal and Bob Quist by phone, and here are their memories of the canyon.

Clyde remembers running it in late summer of '72 and ran it in low water.
Clyde: I don't remember Dark Canyon as being anything much.
I power boated it going up. Up to somewhere fishing, trying to get up before the lake covered it. Clearwater had some kicker waves. It was low- under 10,000 for sure. (try Ken Sleight for high water runs- or Verle Green.) The mouth of Clearwater was gorgeous. There was a nice overhang to camp under that collapsed when the lake got up to it. Phenomenal camp. There was no need to think of Camps- they were everywhere.
Bowdie was super, too, especially as the lake got up. A nice ramp went up the canyon when the water got up- even though it was a scorpion camp. You'd wake up in the morning with four or five Scorpions in your bag. Both had nice benches. There were little rapids at the mouth of every canyon. In low water there was nothing big. The flow slowed down past Bowdie. There weren't a lot of ruins that I recall. Ruins were solid up the San Juan arm- not so much on the Colorado. All the side canyons, once you got up on the benches had some ruins. 5 miles below Bull Frog towards Black Mesa was a canyon with benches that was loaded. Navajo Mt up to the San Juan was filled with stuff like Chinle Wash is today. The section of Hite up to Cataract was pretty slim for ruins compared to the rest of the country. There were granaries here and there, kind of like outposts along the travel routes in and out of the canyon.



Entering Dark Canyon Rapid, 1956

I talked to Bob Quist on the phone on April 28th, and this is what he had to say.

Bob: Gypsum was as big as the big drops. Below 10 cent, you go into Imperial, and everything from there on down just kept cooking. Like the 2 rapids below 3 are now, and everything just swept down to Gypsum which was a big honking rapid. It had rocks and holes and BIG tail waves, as big or bigger than the tailwaves in 2 in big water. There was nothing to speak of from there down to Dark. Dark was a big rapid, with a long tail wave train. Dark was a good camp, it was a good beach.

One time my brother and I ran it when it was big. We had the A-frame tail dragger rigs on two 28 foot

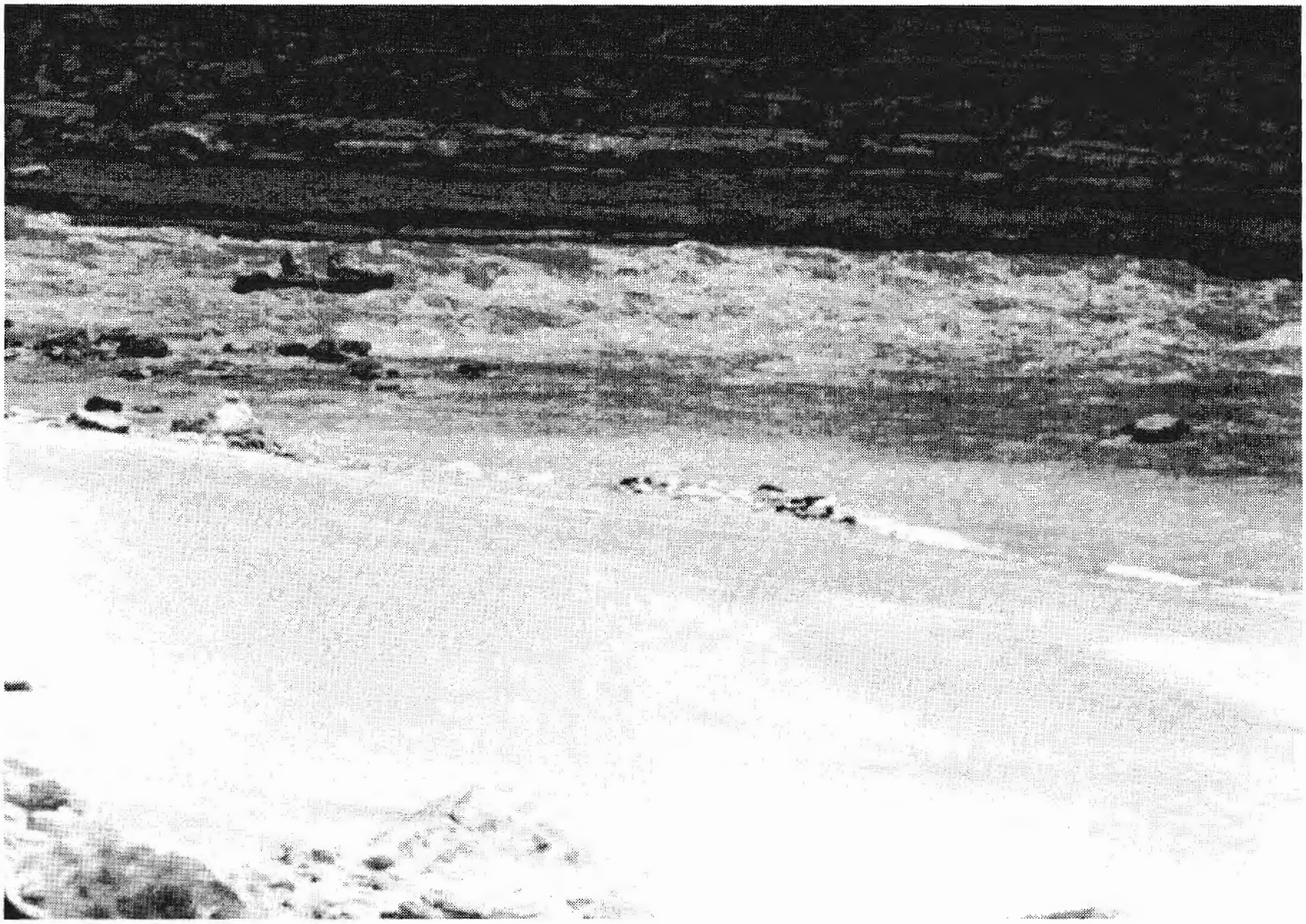


pontoons that were tied together with two 10 HP motors on each boat. Going through the tail waves the motors were flipping up and slamming down in the tail waves so hard one broke off and sank. Clair says it was my fault but of course it was his.

At sheep canyon there wasn't much of anything of any size at all. For the size of the canyon you would have thought there would be more there.

Dark at really low water, I don't think I ever ran it low. It was a spring run. Gypsum came in and out as the lake was rising, so we had that to deal with for a long time.

Mostly I remember Dark at high water, for the most part definitely over 20K. Probably up into the 40's a lot. I can't remember- it was a long looong time ago- I was a teenager. Our schedule was to run down into the Canyon, camp above the Big Drops and the next day shoot for Dark. It wasn't too hard, there was still a river there. It wasn't too hard unless you had trouble in the upper rapids. We dreaded Dark. It was as big as the Big Drops. Dark was the atypical huge side canyon rapid. You had those vertical walls and all this debris always coming in there. You know how much it flashes up there. I think there were some granaries up there, I don't remember any specific granaries, but there were artifacts around.



Clearwater rapid and Beach, 1956

Clearwater rapid was not anything really. Nice as canyon as it was, it wasn't really a stop for us, because we were beating it to Dark, which was THE camp. We weren't competing with anyone for camps. There was no one else down there then. I mean, other people were running that section, but not like today. I don't ever recall seeing another party down there at the same time as us back then. It was "THE GRAVEYARD OF THE COLORADO". Only fools ran down there. My brother and I were teenagers back then. We

worked with Ken Sleight a bunch. He had ten-mans and we had bigger boats. We would run together. Whenever either of us had clients and there was some reason for us to run together we would. One time we had Ken's ten mans running as a triple rig with a motor on the middle boat and we portaged Big Drop 2. It was running 80 or 90,000- it was huge. I argued with him for two hours about that and – I wanted to run and he didn't. We had already pancaked in Mile long and barely got to shore with me trying to hold the pancaked boat up. We portaged the Drops and it took us a day and a half. We didn't want to run without the people in the boat because we were afraid we wouldn't ever get the boats back to shore. That was the biggest argument we ever had. There was no one else down there- when you ran, you ran and that was it.

Big Drop 3, 1956 for water level comparison. My guess- 4900cfs. What do you think?



When my brother and I first took over the company, we would do any trip we could. For awhile we would find any excuse to take people and go down the river. Back then, the logistics were incredible. In order to get to the takeout at Hite you had to cross the creek bottom in North Wash at least fifty times in fifty miles. It was great fun when there was rain in the area.

The trips were low dollar trips in terms of profit. Quite often there would be people attuned to river running that wanted to do it. (Clair and Richard are Bob's brothers). Clair and I were doing most of the trips. When we were down there before the water started inundating Cat we were teens. I was 17 in '62 when they first closed the dam. Boy I remember, the section from Mile long to Gypsum was ON your toes. Water hole rapid came back out in the 70's when the lake got low for a while and I watched it turn over one of my 18 footer row rigs no problem. There were some big ass waves there. The higher the volume the bigger the waves. Just like it is now in what's left. Draining the lake, I would do it all at once, not in stages. Move all that silt down to the delta where it belongs. I say hold out both hands, you get wishes in one and shit in the other- see which one fills up first.

Editorial note(Dave Focardi): I always thought it was whiny old boatmun who complained about the lake, but the more time you spend on rivers, the more you hate the lake. Look at all that river that is underwater. After 10 cent you'd just be getting warmed up. Do a few more scouts, camp at Bowdie or Clearwater, do some hikes, run to Dark, scout, get scared, run, hike, and go camp on one of the endless beaches. If thinking about that after seeing these pictures and hearing the stories doesn't make you want to drain the lake, you need a reality check. That is just the selfish reason for draining the lake. And that's only Cataract Canyon! We're not even going down to Glen Canyon yet. Some of the REAL reasons to drain the lake: the delta wetland habitat is dissapearing, the riparian environment is a manmade fiasco, the lakes are filling with silt and the dams will be useless. If you don't get involved with the Glen Canyon Action Network, don't talk to me.

Boatmen Can See In The Dark

He led two boys up the bajada, gliding purposefully through calf-deep cheat grass, following a path that had been pounded out by footfalls of the summer's tourists. He felt the feathery seed heads brush against the sides of his sinewy boatman's legs; his toes probed through the open fronts of his beat up shoes. The line of trampled cheat went up the plain beyond the cooling shade of riverside box elders and onward toward the creek. It was joined by other campsite trails, some of which ended at the creek or at clearings signifying picnic areas in the trees. He knew without looking whether the next step would put him in the creek, over a rock, or at the boats.

He sensed the trail only to confirm his memory of it and so he was able to turn around and teach while traveling. The boys were parts of vacationing families spending their last night on the river. They soaked up every bit of the boatman's display and, when they could, even affected the mannerisms. The folded arms and cocked hip when stopped; the air of casual anarchy or vague contempt; the hidden marshmallow heart yearning to be discovered; the twitch of the hand poised to grab pliers from the holster although they had neither belt not pliers. This was how teenage boys learned to become teenage men ready to join the pride of boatmen that worked the canyons.

This is *Latrodectus mactans*, the black widow spider. Learn from it and don't let your women eat you. He also told them other sayings: this is the way the ancients made fish traps; and yet again, row the boat exactly like this; and step here, run there, stop! Look under here before cutting the *Rhus trilobata* for an arrow shaft. Look! What is it?

"A black widow spider?" one guessed.

"Scientific name?"

"Mujer que me come?" quipped the other in Spanish*.

"Excellent, my boy. Welcome to the pride."

Back at the boats others from the pride stretched to reenergize their torpid muscles for the night's feeding. There was the meat. There was the salad, the chocolate milk, the soup, the vegetables, and the dessert to prepare for 36 dudes. There would be the cleaning up and putting away and the attempts to communicate with the people from another planet – an enervating evening leaving the pride members exhausted until the night called them out to tell stories, court Venus's daughters or lead young men along new paths to enlightenment.

The ritual of getting drunk and the story telling did not appeal this night so I busied myself setting out our buckets of dish water to drown some of the overabundance of mice that bred on spilled dinners in the days before skunks fed on mice or badgers fattened on skunks. It was a simple time when Venus was close at hand and the bedroom was a bag laid down at the edge of the kitchen clearing.

I could not hear them and could not know that they were leaving the faint but useful starlight. They were moving fast, having learned the trail that afternoon. They learned that they could see enough of the trail to navigate without flashlights out in the open but tonight the lesson was about the utter darkness that broods underneath the heavy forest canopy that blocks even the astral light which, while pale, is as daylight for accustomed eyes. They advanced but the boys were surprised and wondered, "How can you see?"

"Follow my voice. Boatmen can see in the dark," he whispered as he continued to feel his way in the blackness. He felt the grass get thin and the trail widen. He knew that with another step he would be in the clearing and he would then veer just so to miss the picnic table. By now I could hear them approaching, though seeing was out of the question.

"Where are we?" they whined.

"Follow my voice," he insisted.

HUUUHHNNCKKKH!!! I exploded as my best friend's foot and 183 pounds landed on my belly and he climbed over as though my supine body were a log. "What a dumb shit," I thought. "But I can't blow the cover now. This is too hilarious for words."

"What was that?"

"It was nothing. Come on. Follow my voice."

HUUGUCHHH! I wheezed as the cub stepped on me and went through the night to join his guide.

"Where are you? Guys? How can you see where you're going?" pled the last boy, needing reassurance.

"Boatmen can see in the dark," said the cub. "Follow my voice."

I oozed out a pathetic hhhhuuuuhhhh as the third one walked over me and they careened off into the night.

As I nursed my sore diaphragm, hurt as much from stifling my laughter as from being stomped, I chortled over the irony of belonging to a self-deluding species.

---

* pronounced 'moo-HAIR kay may COE-may', meaning "woman that eats me."

© David Yeamans, 2000

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
435-259-3598

River Despair

As the years fly by every river guide must face,
This great life won't allow a perpetual race.
Eventually all of us give way to mortality,
Time plus wear at some point equals finality.

A chance step off the boat to the slick rivers edge,
A quick slip, intense pain, I can't climb this small ledge.
Walk it out says my mind as I continue to try,
I can't be hurt with two days yet of river to ply.

The pain persists as the minutes pass,
Worsening, not improving as I stretch in the grass.
How bad am I hurt? Can I even row?
The worst of the rapids are still down below.

I remember the shame as I told the trip leader,
I can't pull my load, not the normal procedure.
I sat in my boat watching the other guides work,
I should have been helping, I felt like a jerk.

Suddenly I realized, I may be hurt badly,
I gazed at the canyon and our customers, sadly.
My anguish was living and breathing - acute,
As I thought - No more river? My despair was absolute.

It's not accepted that men need to cry,
But on came the tears leaking out of each eye.
Was this my last trip down these rivers I love?
I prayed that it wasn't to my God up above.

Now I'm back on the river, recovery complete,
But I'll never forget that sick feeling of defeat.
Facing the alternative as I did last year,
Enhances each moment in this desert so dear.

So colleagues, when difficult customers reign,
Just smile and be helpful, they're the ones in pain.
You're here with your senses tuned in to glean,
The God given beauty of the enchanting river scene.

When will I be done with my white-water career?
When it comes I'll be ready and I'll persevere.
For by having faced the Tiger, I live each river day,
With this calm and insight that shows me the way,
That for this guide it really is, all of it, play.

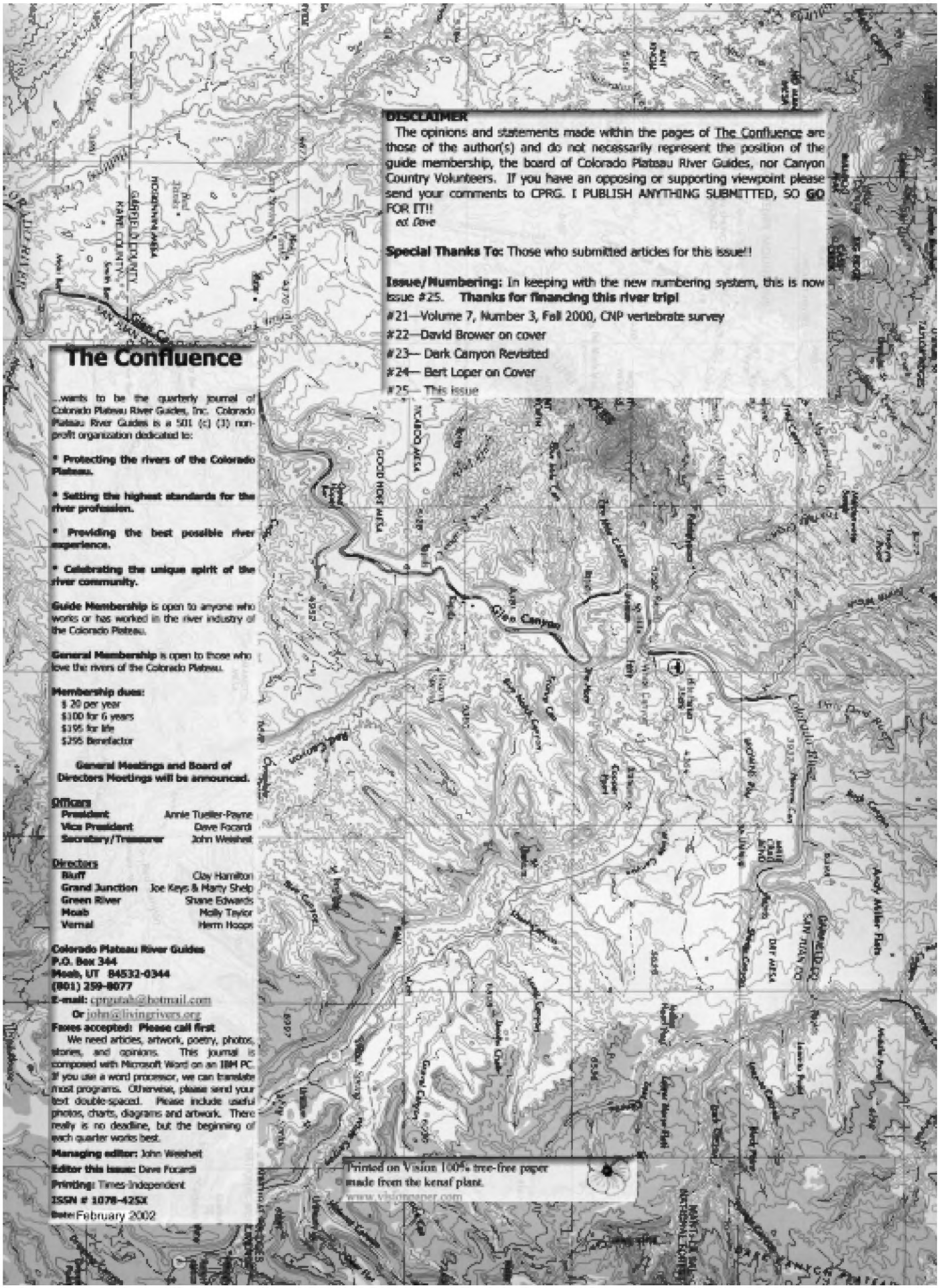
Paul "Pops" Smith, 2001



The Confluence

The Journal of Colorado Plateau River Guides — Number 25

More Pop's Poetry!
Herm Hoops: Editorial
Best Expedition: J.A. McCormick on 'Hell To Pay', Music Temple, and a Lees Ferry 'day' hike
The REAL Poop from Roy Webb
America Outdoors and YOU
More Bert Loper Testimony!
Or-how many times did he pull a boat upriver?
Upcoming Spring Interp Trips
Guide Education Seminar



The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides, Inc. Colorado Plateau River Guides is a 501 (c) (3) non-profit organization dedicated to:

*** Protecting the rivers of the Colorado Plateau.**

*** Setting the highest standards for the river profession.**

*** Providing the best possible river experience.**

*** Celebrating the unique spirit of the river community.**

Guide Membership is open to anyone who works or has worked in the river industry of the Colorado Plateau.

General Membership is open to those who love the rivers of the Colorado Plateau.

Membership dues:
$ 20 per year
$100 for 6 years
$195 for life
$295 Benefactor

General Meetings and Board of Directors Meetings will be announced.

Officers

President	Annie Tueller-Payne
Vice President	Dave Focardi
Secretary/Treasurer	John Weisheit

Directors

Bluff	Clay Hamilton
Grand Junction	Joe Keys & Marty Shelp
Green River	Shane Edwards
Moab	Molly Taylor
Vernal	Herm Hoops

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532-0344
(801) 259-8077
E-mail: cprgutah@hotmail.com
Or john@livingrivers.org
Faxes accepted: Please call first

We need articles, artwork, poetry, photos, stories, and opinions. This journal is composed with Microsoft Word on an IBM PC. If you use a word processor, we can translate most programs. Otherwise, please send your text double-spaced. Please include useful photos, charts, diagrams and artwork. There really is no deadline, but the beginning of each quarter works best.

Managing editor: John Weisheit
Editor this issue: Dave Focardi
Printing: Times-Independent
ISSN # 1078-425X
Date: February 2002

DISCLAIMER

The opinions and statements made within the pages of The Confluence are those of the author(s) and do not necessarily represent the position of the guide membership, the board of Colorado Plateau River Guides, nor Canyon Country Volunteers. If you have an opposing or supporting viewpoint please send your comments to CPRG. I PUBLISH ANYTHING SUBMITTED, SO **GO** FOR IT!!

ed Dave

Special Thanks To: Those who submitted articles for this issue!!

Issue/Numbering: In keeping with the new numbering system, this is now issue #25. **Thanks for financing this river trip!**

#21—Volume 7, Number 3, Fall 2000, CNP vertebrate survey
#22—David Brower on cover
#23— Dark Canyon Revisited
#24— Bert Loper on Cover
#25— This issue

Printed on Vision 100% tree-free paper made from the kenaf plant.
www.visionpaper.com

THE PREZ SEZ

Hi all and welcome to a new Confluence. Also, greetings from Olympic Hell! Can someone please tell me how and why disapproval of the Olympics some how became synonymous with lack of patriotism? It's not that I don't enjoy winter sports, I ski three times a week, whenever I am not in school or working on CPRG stuff. And its not that I don't like Utah. I love Utah, born and raised here and I wouldn't change that for anything. I would just like to clarify that my lack of Olympic enthusiasm has nothing to do with my love of our country. I would just like to be able to park my car. Or alternately, I would like to turn left anywhere in the greater Salt Lake area. Does that make me a poor sport? Does this make me unpatriotic? Sorry, am I on a tangent here? I know that many of you winter here in Salt Lake and are probably feeling the same way right now. So I thought that I would throw that in as a little food for thought. Actually, truth be told, I am being a total hypocrite. I purchased Silver Olympic Hockey tickets. Transportation allowing, I plan on attending.

Far be it from me to pout about silly parking problems. Lets get psyched up for another great year on the river. The CPRG events are as follows:

Cataract Interpretive Trip: Sponsored By Western River Expeditions. CPRG coordinator is Dan Phillips. April 28th through May 1st.

Westwater Interpretive Trip: Sponsored by World Wide River Expeditions. CPRG coordinator is Annie Payne. May 8th through 10th (Launch 9th).

San Juan Interpretive Trip: Sponsored by Wild Rivers Expeditions. CPRG coordinator is John Weisheit. March 15th through 18th.

Yampa Interpretive Trip: Sponsored by Hatch River Expeditions. CPRG coordinators are Marty Shelp, Joe Keys, Darren Smith (Team AB). May 6th through 9th.

River Education Seminar: River Rescue. CPRG coordinators are Annie Payne and Molly Taylor @ Big Bend Campground and daily section of the Colorado river. April 19th though 21st.

Uintah Basin Seminar: May 28th in the Vernal area. CPRG coordinator is Herm Hoops. Time and place to be determined. Email Herm at <hoops@iwworks.com>.

General Membership meeting: TBA.

OK, so is this an all star line up or what? Not bad for a little non profit such as ourselves! If you have questions, or you would like to participate, contact CPRG at 435-259-3598 or by email <cprgutah@hotmail.com>, or contact your outfitter as they often times will pay your way! Space is limited so reserve your spot now! Or, if you have any CPRG related questions, feel free to email me at <anniet@lasal.net> or call 801-220-0350. I love hearing from you guys. Mostly, I am asking all of you, to please get involved. CPRG needs new faces.

THE VICE PREZ/EDITOR SEZ

I hope you enjoy the issue. The addition of Adobe PhotoShop 5.5 has made it easier and harder to put this together—any of you computer phobes will know that the more powerful the program, the harder it is to use (at first).

Don't hesitate to send in your articles, we hardly ever refuse anything—and only rarely edit the content. (Herm!) So send us your stuff and I won't have to type and scan so much original history stuff—although I get a kick out of doing it. Speaking of which, I would like to thank guide member Randy Larsen of Grand Junction for passing on a 1956 USGS Quadrangle 1:250,000 of Escalante, Utah. You will see portions of it all over the place this issue—notably on the cover and page 2. Its basically Glen Canyon before the reservoir.

Go on the interp trips—they are a blast!

By the way, many people ask how I am doing—I would like to say that I am doing pretty damn GREAT! Thanks for your concern—Lance Armstrong and I are going to live to be a hundred!

America Outdoors Convention

by Herm Hoops

The America Outdoors convention, a "Confluence" of 450 outfitters from around the country (37 states and 50 countries), was held in Denver this past December. Four days of seminars, meetings, parties, and river equipment exhibits highlighted this congregation of the educational, political action and marketing organization. River company owners and exhibitors are the predominate attendees.

Shane Edwards (Moki Mac River Expeditions–Green River) and I (River Runners–Vernal) attended Confluence thanks to the generosity of our employers. Shane and I agree this convention is a real eye-opener for river guides. Any guide who sits in on the agency permitting policies and fee program sessions would have a better insight into what our owners have to endure and how fragile their investments are.

There are a lot of sessions that would be valuable for guides to attend. Sessions on risk management, critical incidents (deaths & serious injuries), maintaining equipment, business management, political action, the regional meetings (UGO business meeting) and others help to keep us up-to-date on old and emerging river issues. The session on critical incidents was particularly valuable–have you ever imagined what happens if someone dies on one of your trips?

Some of the topics can be disturbing. In the emerging risk management session EMS folks explained that they are pressing for ever-higher medical qualifications (and associated costs!). The way it works is that a few companies establish a higher standard, and then others, in fear of lawsuits, follow suit.

There are vast networking possibilities, this is the place to find potential work, and to see what people are paying and requiring in other parts of the country and world. The sponsors hold several large parties which presents opportunity to meet and socialize with other river folk. There is a huge trade show with exhibitors like NRS, Highside, Chaco, and others including river clothing and the newest gear. Many of the purveyors offer significant discounts.

Unfortunately few guides attend the convention, probably because the cost to attend is high (around $250), and the show is not marketed to the guiding community, though we are welcome participants. Perhaps this is something CPRG should look into, because there is definite value for those of us who earn our livelihood from river running. Next years convention (called Confluence) will be held in December at Biloxi, MS. For information you can contact America Outdoors at <www.americaoutdoors.org>.

UINTAH BASIN GUIDE SEMINAR

An Editorial by Herm Hoops

In 2001 CPRG sponsored the first river guide education seminar in the Uintah Basin. Over 50 guides attended the hugely successful day long event. The seminar was successful, largely because of support of companies like ADRIFT ADVENTURES (Dino), COBS, ADVENTURE BOUND and ARTA as well as local businesses like SMITH'S FOOD & DRUG and JUBILEE IGA FOOD & DRUG, and the VERNAL DISTRICT OF BLM.

The Uintah Basin doesn't have the luxury of widespread community, business and government agency support that Moab has. Indeed some employees of Dinosaur National Monument would rather CPRG not succeed in conducting the educational seminars.

One of the issues we needed to solve was efficient handling and accounting of donations and funds. This winter I attempted to work out an agreement to cooperate with the Dinosaur Nature Association (DNA) to handle funds and help with the seminar. Part of DNA's mission is to become a recognized educational leader in the region. Our educational mission fits nicely with the educational mission of DNA, and they conduct a series of other educational seminars.

The DNA Board of Directors recently rejected our proposed spirit of cooperation. Association and NPS managers chose not to voice strong support for the cooperation. Thus the DNA Board's decision leaned heavily on the advice of their lawyer and officials from Dinosaur National Monument who said that it was not a good idea because blah, blah, blah.

That we produced a quality, valuable seminar is beyond reproach. It seems like the individuals who turn the wheels of education up here would rather spend thousands of dollars of donations on THEIR DNA/NPS seminar (last year drew ONE person) and exert total control of THEIR river trip (draws about 15) than cooperate with us to educate fifty or more. It seems they get more pleasure from letting a historic homestead deteriorate so that they can spend thousands of dollars for publicity to rejuvenate it, than from positive efforts.

Of course the Dinosaur Nature Association and Dinosaur National Monument has a response to these comments: BLAH, BLAH, BLAH.



Elmer Kane, James McCormick, John Jacobs, John Hislop
Harry McDonald, William Edwards, James Best, Albert Gregory, Luther Jewell
Note: Gregory was not on the river trip.

The Best Expedition of 1891

The following is an excerpt from an account of the Best Expedition by J.A. McCormick, the photographer of the river trip. I chose those events pertaining to "Hell to Pay" (the rapid formerly known as Capsize) as well as some Glen Canyon stuff and an "adventurous day hike" at Lee's Ferry. This is a typewritten manuscript with penciled in editorial additions by McCormick. The "Expedition" was organized by "The Colorado Grand Canon Mining and Improvement Company". The Company was formed to "acquire by purchase or otherwise, mines and mining properties, and to work, tunnel and develop the same, and to provide and erect necessary buildings, machinery and appliances therefor; also to construct, own and operate a toll road or toll roads in the Territories of Arizona and Utah, running into and out of the Grand Canyon of the Colorado River; and to establish, acquire, own and operate a ferry across the Colorado River in said Territories, or either of them, and the necessary docks, landing places, boats and appliances therefor, and to charge and collect tolls from the public using said toll roads or ferry...erect and operate hotels...and when desirable sell same...acquire, maintain and operate irrigating canals...acquire and sell real estate...lay out, plat, and acquire town sites...carry a general mercantile business... and to engage in any business or enterprise that may seem best or desirable to its Board of Directors". Four of these men, Hislop, McDonald, Kane and Edwards, were with Robert Stanton in 1890. They launched July 10th, 1891 from Green River Station, Utah.

We landed on the east shore at the head of rapid No. 12 for the usual inspection and found that rapids 12-13-14 were so nearly continuous that there was no possible landing place indicated in the entire length. It was advised by both Hislop and McDonald that we camp here and study the channels carefully, watch the driftwood, and formulate a plan of running the entire distance in one run without the extra men. There was an ideal camping place across the river on a bar with a fine group of cottonwoods. There was nothing to prevent the extra men, the Chief and myself, from walking along the shore to the safe water below and I would have had an opportunity to get some sensational pictures of the boats in a really bad water condition. With the argument that we had made such fine progress that it was advisable to go as far as was possible and that it was still early in the day, the Chief insisted on our making the run. With such superficial inspection here was the making of a major tragedy, and it was, as far as equipment was concerned.

Peculiar as it may seem the water has all the appearance of piling up at the head of a rapid and it has this feel on the oars as one tries to get up speed for steerage. While it is not difficult, from high on the shore to pick the exact place to enter a rapid with the assurance of escaping the obstructions, it is quite another thing to be able to find that spot from the basin above where one cannot see over the brink, particularly if the inspection has been curtailed.

Lunch, observation and the arguments pro and con consumed much time so it was 3:15 when we took to the boats for the fateful run.

No. 1 with the Chief as passenger took the lead and it looked to us as though they were getting to far to the right which proved true. Their speed was so great that as they broke over the brink they were unable to swing over to the channel, and cut into the eddy which caught their bow and turned them toward shore and they were thrown well up on the rocks so that it was necessary to utilize the incoming waves and some effort to get back into the water, fortunately with no damage. We know nothing of this as we had not yet turned the brink of the rapid.

Boat No. 2 with me as passenger and Hislop steering, were well into the channel as we turned the crest but this brought us in sight of the other boat in apparent distress: Hislop swung his boat to the right to reach the other, which put him across the main current, and he immediately saw that he could not reach the eddy but would be carried onto a reef extending out from the west shore. He ordered the men to back water to escape this reef but the bow caught on the outer point and fortunately held until the current swung our boat through the opening between this reef point and a rock just below that looked as big as a cottage. This put us below and in the protection of the reef so we had no difficulty in making shore where we tied up intending to go back and help the other group. In one thousand attempts I doubt whether a boat could have reached this place safely, so it was mere good fortune.

Provision had been made for the two steersmen to have a consultation, in case of trouble, which was subscribed to by the Chief, but, in this case, when he saw that we were safe he ordered McDonald to get back into the main channel. Just as they seemed to be safely in the clear, a cross current caught them and before one could hardly bat an eye their boat was plastered across the face of the big rock that we had missed, the water poured into their boat, picked the four men up, dropped Best and McDonald on the top of the rock and carried Kane and Jewell down the river.

We boys on shore tried to follow the boys down the river but soon lost sight of them, and as the Colorado never had been known to give up it's dead we were convinced that they were lost, without hope of even finding their bodies.

We returned to our boat, got out a grappling hook, bent it to a light line and over taxed with excitement as we were, it took us an hour to get the line out to the boys on the rock. They fished up the bow line of the wrecked boat, we sent out our heavy emergency line which they spliced and with our two-one block and tackle we stretched the rope and the boys came ashore with an arm over the rope and their bodies dragging in the water.

After the boys were safe ashore we all lost our ambition and just sat there looking at the wreck and nobody had a word to say. The noise of the rapids

between these 3000 foot walls makes it necessary for us to get close and shout to be heard so we could not hear any unusual movement. Before we realized it the two lost men were back with us. Adventure certainly effects men in different ways for Kane got us together and without apparent excitement, told of his sensations while in the water and what happened. They were carried down river about a mile, bumping along the bottom with an occasional trip to the surface for air when the current released them for the moment. The current threw them into an eddy, fortunately on our side of the river, and as they were carried up stream they each succeeded in getting onto a rock fairly near shore. After coughing the water from their lungs Kane tried the water inshore, found it shallow and with no force so he waded ashore. Jewell did likewise and they came into camp. Jewell was so stunned that he had not a word to say. This put new life in the entire party and we got busy at once and established camp while Edwards got us a hearty meal. We retired early with high hopes of saving our boat in the morning.

The rock on which the boat was wrecked lay diagonally facing up stream and the opposite shore, with the bow of the boat away from us and pointing down stream. During breakfast after discussing the matter it was decided to send two men to the rock, pass them timbers from the drift, they to rig a 'jinnie', pass the heavy line over this so that we on shore could put a strain on this line while they pried the boat upstream, thus lifting the bow of the boat a little at a time until it was released from the force of the current. Theoretically, fine, but in practice we, with our combined effort could not over come the power of the water but all that we accomplished was to pull the rivits loose and wreck the bow. It was evident that blasting the rock was our only hope, but how? Our powder was in the bow of the wreck. After trying other suggested methods without success, it was decided to send one man out to the nearest civilization for powder and as we had extra powder at Dandy Crossing that was the logical place. Hislop insisted that he was best suited for the trip so he started on the morning of the 25th [July] and returned on the 31st. Hislop also arranged to have some provisions brought up to the first trail into the Canyon from below.

As Hislop came into camp he noticed that the rope attached to the wreck was nearly worn through and on more careful examination it was deemed unsafe to attempt to get out to the rock. Higher water was another factor which made it unsafe, so we broke the rope and packed, prepared to leave in the morning.

As a matter of convenience we had, from the start of the Expedition, been living off of the rations in Boat No. 2 as Edwards was oarsman and carried the cook outfit with him, for the reason that he might reach a camp ahead of the other boat. This was an added misfortune, for we lost, in the wreck, more than half of our provisions. While Hislop was out after Powder we carefully rationed ourselves, but seven healthy men will consume much food and being almost entirely out, it was imperative that we make as fast time as possible to the provisions that the Dandy Crossing boys were bringing in. It was decided that Hislop, Jacobs and Edwards should take the very much lighter boat through the rapids while the five of us walked along the shore.

Everything went fine until we reached Rapid No. 21 which was full of obstructions from shore to shore, with a huge rock in the main channel in the lower portion, making it impossible to pass the smaller obstructions and then swing free from this great barrier. The obstructions near shore made it inadvisable to try to line the boat down along shore so we unpacked and carried forward. We then took the boat out over skids to the safe water below. As it was now late in the day we soon camped for the night.

Near this camp one of the boys found a case of Cranberry preserves in the drift wood, which had been exposed to the weather for so long, that the glass was brittle and we had great difficulty in getting the bottles open. We were now down to just oatmeal with no sugar so we substituted these preserves for sugar and it made the entire party sick. A great spire of rock down stream inspired the name for this camp—Chimney Rock Bend.

Soon after leaving this camp the boys in the boat saw an inscription cut in a sheer wall (D. Julien 1836). We had found an inscription with a sailboat and a rising sun cut in a canyon wall about a hundred miles north of this point which was signed by this same D. Julien. We learned that members of a former Expedition had found another inscription by the same man in Marble Canyon, just below Lees Ferry, Arizona. We could not verify this as we left the river at that point. We concluded that he must have been a French-Canadian trapper who in some mysterious way had survived the Canyon dangers.

We reached our provisions soon after noon on this day and it was certainly a great treat after two days on plain oatmeal.

Having passed the worst of the rapids by now we made great progress. We five that were walking would stay on one shore until we would come to a straight wall, cross on the boat and continue until we were forced to return and in this way we reached Dark Canyon where we could all ride through.

We reached Dandy Crossing the after noon on August 4th and sat down to a hearty meal that the boys had prepared after we came in sight. We enjoyed one days stay here very much but were unable to get a boat that was suitable: We learned that there was a boat at Good Hope bar that we could get and with some caulking and paint would find it usable.

On the morning of the 6th [August] we loaded our boat with all the extra provisions and supplies which had been brought overland and as there was no bad water immediately below, the eight of us got aboard and although this made the boat unwieldy we were able to keep the safe channel with no difficulty but lessened speed. It was during the trip to Good Hope and below that we made a pan test of the seven bars which we located and filed on. These were mid-river bars and in each case we got free colors from the surface gravel after clearing it of the surface sand. While the gold was very fine we got a

sufficient showing to have justified real excitement. At least we should have done the necessary assessment work to hold these claims and got the locations recorded while we were at a point in the Canyon where we could get out to the nearest land office. With eight men working together we could have done the work required in ten or twelve days. Our Chief said he would send men in to do the work after we got home.

I find from my notes, that some of these locations were well below the mouth of the San Juan River and would have required recording from Lees Ferry. Supplies and machinery could be easily floated down from Dandy Crossing with little effort.

At Good Hope we were able to secure a large flat bottomed boat that required a full days work to make it usable but it permitted the dividing of the load of both men and equipment and solved our boat problem for the moment.

From Dandy Crossing to a considerable distance down river the walls receded leaving wide benches of gravel carrying flour gold. At intervals, a bench is being worked in a more or less indifferent manner and usually a grub stake is assured.

Near the mouth of the San Juan river the Canyon walls close in and from there on Glen Canyon is one continuous picture.

The mouth of the San Juan river is a spot of unusual charm with high terraced Canyon walls trimmed with a nicely distributed tree and shrub growth dotted with large gray sage and backed by a straight box canyon from which the river flows in a rushing stream. A good showing of flour gold at the grass roots made it hard to pass this point but our party had developed a sliver complex and although we would have been within the intent of the plans and it was the proper thing to do, our Chief ruled that we make haste.

This same day, August 11th, we stopped at Crevice Canyon; a narrow gash in the wall which was little more that the span of a mans arms; the pools of water reached from wall to wall and we had to wade to reach the head of this short stream which opens up in to the most remarkable amphitheater with its overhanging roof. Leaving just a spot of sky visible. It is safe to say that 30,000 people could find shelter on the ledges under this roof. The acoustics were the most remarkable I have ever experienced. We carried on a conversation across and to the upper ledges without raising our voices and there was none of the usual reverberation found in such vast openings. Could it be that the break in the roof or the narrow inlet of Canyon accounted for this freedom from echo? If this is so it would be well for the Architects to introduce these features in their plans for Auditoriums. It would be worth a special expedition of specialists on acoustics to give this intensive study.

....We reached Lees Ferry on August 14th and camped in the old John D. Lee fort and this proved to be the end of our river trip. With but one boat fit to navigate the waters of Marble and the Grand Canyon, it was declared more practical to make the head of Bright Angel Canyon by pack horse.

Following is some exploration they did while at Lee's Ferry waiting for McDonald and Best to get back from Salina with pack stock, via a board meeting in Denver.

The Canyon wall just back of our camp was about 1700 feet high and this had to be scaled before we could explore the country to the west and north. We had found a place that we could climb, with care, a few hundred yards upriver.

One morning at early daylight, Jacobs and I climbed to the top and just as we reached the crest the sun peeped over the eastern horizon. This reflected on what appeared to be numerous water pockets well out in this apparent arid stretch of desert. Johnson, who had lived on a ranch at the mouth of Paria creek for sixteen years had cautioned us about going far from the Canyon rim, for he said that no game trails indicated no water.

We studied the land marks for a time to be sure of being able to retrace our steps and started to investigate these reflections. Presently we came to a small dry wash and with no idea of being able to cross it a few hundred yards to the right, we went to the left for a mile and headed it, coming back to keep our land marks in line.

As we got back to our starting point we found that we were just a little ways from where this stream, in flood, would pour into the main canyon, and it was easy of access. I went down stream and Jacobs went up the Canyon to see if water pockets were available, as we wanted to conserve our canteen supply. I found a large stand of fine clear water near the Canyon mouth and called to Jacobs. While waiting for his answer and after an astonishing length of time, my voice came back so clear and distinct that it was startling. Before I called again my call was repeated so often that I just stood too astonished to move. When Jacobs finally came down to me we spent a considerable time testing this echo.

The elapsed time was so great that I was able to sing two lines of Annie Rooney, which was the first song I thought of, before it would start to repeat, then repeating so many times distinctly before it began to over lap soon to become a mixture of sound.

If this echo is ever made available to the travelling public, it will become famous.

We continued along the line of our landmarks, soon coming to a group of dozens of water pockets, from deep cisterns to wide shallow pockets that would have been dry only for recent rains.

While skirting a high wall near these water pockets we found the first indications of Cliff Dwellings in the caves along the wall. These were almost totally obliterated, while in fact they should have been well preserved in the protected location where found.

This whetted our appetite for exploration so we climbed to the top of these cliffs and surveyed the surroundings for other prospects. This gave us a very extensive view of the same general formation described along the Green River. To the west at some distance we saw similar cliffs to the one we were on and after carefully studying all landmarks and laying out a definite route, we struck for the nearest prospect.

This proved to be a large hard sandrock cliff which had resisted the action of the elements, except for some soft strata which had been eroded by the winds into caves, some quite deep. Each cave had well defined indications of having been lived in without other building except for defensive walls of rock layed in a square, facing to the outside. Numerous mealing stones and hand pieces, much cactus hull, game bones and corn cob indicated long occupancy.

As we approached this cliff we had picked up many arrow heads of a material very much like the petrified trees along Paria Creek and near our camp. This indicated that these people were besieged, and it may have been a last stand, justifying the lack of buildings. We made a trip on top of this cliff which gave us a most extensive view, and found that walls were placed along the edges, without doubt as a defensive measure, behind which the able bodied fought while the women and older men chipped arrowheads and made arrows. This was indicated by a large mound of chips in the protected center of the cliff top.

Returning to the caves below we found one much deeper than the others with the walls better placed. In one wing of this cave there was a wide spread of ashes. As I had read at some time that these people spread ashes from their fires over their dead, and as we were carrying a shovel for any eventuality, we began to dig to see if this were true. Presently we broke the corner off of a slab of rock, ran an arm in to explore and brought forth some bone tools, fiber fabric, a few human bones and some fiber rope with a square knot tied in it; the same knot that we tie today.

We found some scraps of pottery but none intact. The arrow heads were small, beautifully formed and we brought many back to give to our friends for tie pins.

As we dug into the grave, the ashes would cave in and almost suffocate us, and as our water was low we decided to start for camp, hoping to get back here for farther investigation. We never had this opportunity for we proceeded with the expedition after this trip.

On our way in we came to a dry stream bed, followed it for a ways and came to a deep tank at the foot of what would be a considerable water fall in flood time, which contained some hundreds of gallons of water. Drinking our fill and refilling our canteens we were in no particular hurry to get to camp. We failed to find anything of interest but returned by way of the blind trail which required much careful study before we could get started right at the top so as to be sure to reach the bottom safe, as night was on us.

We reached camp late, had a hearty meal and after describing our days activities to the boys, retired with a feeling that we had really accomplished something definite.

....Getting to Bright Angel canyon, after leaving Lees Ferry on October 15th....

A party was made up at once to go down and visit the reported silver vein. They left with high hopes, were gone three days and returned with full realization that our expedition was a total failure as far as the silver vein was concerned, and in much doubt as to how to turn failure into success.

Company goes into receivership, only thirty nine of several hundred photos developed at that time, photos go to receiver as asset, don't get developed for ten years and are ruined. Most of the rest of the considerable text are devoted to McCormick's geology theories.

There was a "silver vein" up Bright angel canyon seen by members of the Brown Stanton survey that started the whole expedition.

As much as I regret it, I must report that when we were well along on the Expedition our Chief became obsessed with the idea that if we failed to reach and secure the silver vein the Expedition would be a failure so he sacrificed everything to speed. This resulted in the loss of one of our boats in Cataract Canyon which caused much delay and resulted in slowing the field work so that it took nearly five months to reach the head of Bright Angel and the alleged silver vein which proved to be nothing more than Mica-schist. This left the Expedition at the end of the road with nothing of value but a few hundred photographic films of the scenery and this value made doubtful by the failure of the main adventure.

Editors note: *Even though the disclaimer on page 2 of the Confluence should cover me, I would like to emphasize that I in no way endorse carrying a shovel "for any eventuality" on dayhikes and using it to dig up Hisotsonam burial sites, nor do I endorse collecting arrowheads to make into tie clips for friends. However, carrying powder in the bow of one's boat has some possibilities! Dave*

A River Runnin' Black

by Pops Smith

I keep having these words hanging around in my head and I have to get them on paper before they go away. This poem is about the most unique trip I have ever experienced. Joe Keyes was the trip leader and I'll bet even with his wide experience it was an unusual one for him, too.

I guess I should have known,
At the beautiful Gates of Lodore.
When everything felt so different,
And my belly it was sore.

This would be an uncommon trip,
With memories to bring back.
Of when Coyote, the Trickster's blood,
Turned a mighty river black.

How can the Green River be mighty,
When running so little flow?
Around 750 per the scuttlebutt,
Now that is really low!

In an 18 foot self-bailing Demaree,
A rock magnet premier.
I'll be doing far more sticking,
Than floating the River I fear.

The crew this trip can't be topped,
Except by very damned few.
With Joe as the trip leader,
Guides Jeff, Beth and Crunch too.

And Pops in the sweep boat,
I'll be bringing up the rear.
To pick up all the pieces
And any left over gear.

Another clue of our demise,
Came the following morning.
Our vans with folks are running late,
Another dire warning.

Still feeling under the weather,
I really could back off.
Marcus can run the sweep boat,
And his driver's hat I'll doff.

But the last trip of my season,
And maybe of my career?
I may be leaving forever,
The cost would be severe.

If fate deems that I can't return,
I'd better be damned sure.
My reasons now are valid,
And I truly cannot endure.

And Beth, a good river friend,
Her sis and family here.
Good folks to meet and get to know,
I really must persevere.

This trip, it will be different,
An exciting sensation is strong.
If I don't belly up I'll regret it,
I'd better go along.

Look around you in awe,
And then, Pops, revel.
This river, this canyon is where
The Ancients often dwell.

What a waste it would be to miss it,
By looking inside miserably.
There's yet so much to see and feel,
Just look outward, lovingly.
Below the put-in, I'm all alone,
Most everyone chose a duckie.
At least I'll have some solitude,
Rowing in the back, so free.

Is this illness just the blues,
With this great year at an end?
Can it make you physically sick,
When feelings so low descend?

Lunch is set up right away,
So late did we get to start.
A quiet affair among strangers,
Guests still staying far apart.

The river soon will change that,
It's flowing low, but brisk!
Self rescue drills in the duckies,
Bring home that there is risk.

Two folks on my boat now,
Declining after the drill.
For the security of more rubber,
And less chance of a rapids spill.

Marge and Chelsea new to the river,
A lesson they have learned.
On the Green it's serious business,
Better cautious and not burned.

But mother Marge is feeling low,
To fail a seldom thing.
Usually up in front of the pack,
An injured arm she's favoring.

Do not fear a boring time,
There'll be plenty of kicks you see.
Just bask in His great glory,
Brahma will challenge relentlessly.

Disaster Falls is just ahead,
My adrenaline starts to rise.
Shallow rocks are already clawing,
That fact is no surprise.

Five big boats, identical,
Classy scene that's for sure,
But all five stuck on rocks!
Don't want that in the brochure.

I've been hard stuck before,
It's a part of rowing Lodore.
But never so often or so hard,
This is a son of a whore.

Why, when given a way out.
Why did I stay?
I'm nuts or perhaps delusional,
I truly cannot say.

Stuck I am, again and again,
Wild oars popping off'n the pin.
Settle down Pops, take small strokes,
Pulling shallow is not a sin.

Stuck once more in Lower Disaster!
Joe came on back to help.
Why so run down, so exhausted?
I'm weaker than a whelp!

The final straw is in the rapid,
Above little Zenobia Creek.
I'm so stuck and so is Jeff,
Oh! But it looks bleak!

Stuck again, this time for good,
I can't lift this damned boat free.
Ol' Coyote may have won,
But why with such obvious glee?

Onto us He brought great Thunderer,
Roaring loud and striking out.
Hitting high trees with lightning,
Starting fires all about.

A stinging hail, a driving rain,
And no protection, a dilemma!
Little Chelsea full of fear,
Marge yelling Enough drama!

A rigorous test from the Trickster,
Do I have the mettle to succeed?
Shape up Pops! Get that boat goin,
Camps around that yonder lead.

Get these people to safe haven,
And rain gear for to warm 'em.
To win the war will avenge this battle,
That'll be the ultimate gem!

As we approach the Pot Creek camp,
The violent elements recede.
Bright sun shines upon the sand,
Seemingly mocking our human need.

Six hours of rowing and just nine miles,
The toughest I've had to endure.
Then over a beer, comments Jeff,
Hardest I've ever worked I'm sure!

I quickly look inside myself,
Reassured I've not been alone.
In this feeling of exhaustion,
That has me nearly prone.

But I feel good! No longer sick!
Coyote, he started this war!
Now I'm ready for the rest,
He'd best bring more to the fore.

I stand and yell toward the heavens,
You're gonna need more next time!
Fist raised high in defiance,
I'm feeling closer to my prime.

Good food cooked for the folks,
To reward the day they've had.
750 flow is really really low,
And on this Green River it's bad.

Day two dawns with a promise,
It's gonna be dry and hot.
How will we down along the way,
Beat this strong and Ancient hotshot?

Boatman Prayer at the launch,
A good start I missed yesterday.
Triplet Falls then Hell's Half Mile,
We may really need to pray!

Stuck once more in Triplet,
My oar flew out again.
Calm down and keep 'em shallow,
You really want to win.

Beth nailed in Hell's Half Mile,
Boat wrapped 'round Lucifer.
Family high siding like old pros,
That made the difference for her.

She's off that rock, Coyote!
You've met your match this day!
When were done with this Half Mile,
You'll really have hell to pay.

I run fast and clean past Lucifer!
Trickster, you've shot your wad!
Better get more help today,
You're not a strong enough God.

Ol' Trickster must have laid back,
To lick hard every wound.
We've given him a bad day,
But he's figuring how were doomed.

Limestone camp, have we beaten him?
The sun is still shining full.
It's early and there's time to play,
But he'll sneak up; No bull!

A leisurely boatmen's meeting,
Talk of business and later a hike.
This is what guiding river trips
Is supposed to always be like.

Start the coals, the dutch oven,
Also soup, but be vigilant!
The Ancients live here everywhere,
And by now they're militant.

Is that a wisp of cloud,
Peeking over yon canyon wall?
I'll surely keep one eye upward,
But it seems so very small.

Cooking coals are nearly ready,
Is that a little wind I feel?
Where is the sun, it's getting dark?
Way too early, what's the deal?

We're in it again, a renewed attack!
Get a tarp and protect the coals!
Thunderer roaring, Windbird screaming,
Rainman opening in the sky, great holes.

Lightning crackling and reverberating,
Tumult, commotion, uproar and din!
Are words too mild and inadequate
To describe their desire to win.

On rages this noble battle,
Our guests jump into the fray.
Not another day like yesterday,
All feeling so much like prey.

So how do you beat 'em,
They're so powerful you say?
Just crack a beer and cope,
Make it fun, go on with your day.

For an hour they raged intensely,
And then for a half an hour more,
Till their anger was clearly spent,
Our affronts had left them sore.

Soup and beer were served in shifts,
Out from under the tarp.
And chicken grilled anyway,
No matter their thunderclaps sharp.

And later after they'd retreated,
A few drinks near my raft.
Some folks hiked up the canyon,
No more fear of these spirits' wrath.

Poems about these vengeful Gods,
And of the river seemed right.
As the end of the day faded gracefully,
Into a lovely moonlit night.

The theme of this is how unique
And how special is this trip.
Facing low water and wrathful Gods,
Unblinking as their ire lets rip.

And the sign they sent that we'd prevailed,
I was sorely taken aback!
In the bright full moon around midnight,
The Green River was flowing jet black.

I took that late walk to the rafts,
Five white tops in sharp relief.
Against velvet and obsidian ripples,
Flashing moonbeams, beyond belief.

Never in all the other times
I've run this Canyon so primitive.
Has it been so different, so unmatched,
So alive and intensely provocative.

Other ethereal things did happen,
Before we ended our stay.
Like on the hike up Jones Creek
After noon the following day.

A herd of bighorn ewes and lambs,
Were unusually calm and tame.
A mule deer doe and her new fawn,
So close to them we came.

The pictographs above the creek,
Defaced with a shotgun blast.
Sage ten feet tall along the trail,
A wonder that in my mind will last.

And the river still flowing black,
Though it's now late after noon.
You'd think Coyote, the Trickster,
Would stop his bleeding soon.

And down below the Compromise camp
The last day we were out.
Normally I see full curl rams,
They're usually all about.

But this time they're very scarce,
There don't seem to be any.
Why would they flee water?
Their absence seems uncanny!

I run clean in Moonshine rapid,
And especially through S.O.B!
Every other time they trashed my boat,
Regular as a ticking clock, you see!

And a noisy and violent rockfall,
Only the third seen in all these years.
Definitely a clue this trip has entered
Into other way-out spheres.

Then approaching Split Mountain takeout,
That powerful and eerie wind.
Driving boats against the wall,
I'm sure the Ancients grinned.

I feel it was a fond farewell,
And a warning for us to heed.
You got away this time great foes,
But hurry back, Godspeed.

And finally, as I write these words,
Far away in my home so dear.
I wonder if they're reaching out,
Somehow to interfere.

For three times my computer,
Has encountered a strange new glitch.
Off went the text into cyberspace,
To find it's own little niche.

I know how badly we beat 'em,
And now they have to eat crow.
It should be eaten soon, while hot,
Hard to choke down cold, I know.

If this was truly my last trip,
I've the privilege to look back.
To the time Coyote, the Trickster bled
And the mighty Green River flowed black.

Paul R. Pops Smith—2001

Colorado Plateau River Guides & Grand Canyon River Guides

Joint Meeting Report

Colorado Plateau River Guides (CPRG) and Grand Canyon River Guides (GCRG) met jointly at Sand Island campground near Bluff on November 3 & 4. We had a great time getting to know one another, learned some great natural history and discussed Glen Canyon Dam. Thanks must be conveyed to the presidential organizers, Annie Tueller-Payne and Richard Quartaroli.

Over 60 organizations, including CPRG, have endorsed the campaign to drain the reservoir before Glen Canyon Dam. With this in mind we asked Grand Canyon River Guides to focus on decommissioning Glen Canyon Dam rather than focusing on the collaborative process of the Adaptive Management Working Group. We expressed that we believe the Program is flawed and that habitat restoration cannot be achieved until Glen Danyon Dam is decommissioned. We also appealed to GCRG to understand that as long as Glen Canyon Dam stands, the upper basin's reaches will continue to be impacted by accumulating sediment, which is already problematic on the San Juan River and soon to be on the Colorado River. We cited the recent closure of Pearce's Ferry on Lake Mead as an example.

Our appeal was welcomed by GCRG but was not readily endorsed. Previous to the Sand Island meeting, the board of Colorado Plateau River Guides approved a position paper on Adaptive Management in Grand Canyon. It is printed in the next column for all to review.

Simply stated, a wild and free Colorado River in Grand Canyon National Park as soon as possible is what Colorado Plateau River Guides endorses.

John Weisheit

Colorado Plateau River Guides

Statement on Adaptive Management

Colorado Plateau River Guides (CPRG) has been a leader within the river guiding community, in advocating for river protection and restoration. Guides have a special role to play in educating the public about the problems that rivers face and the urgent need for society to address these problems.

CPRG is the only river guides' group to date, that has called for the decommissioning of Glen Canyon Dam. We invite other guide groups to join us.

Glen Canyon Dam and its reservoir represent a major, continuing threat to the ecological integrity of the Colorado River besides the Grand Canyon. This includes the lower sections of the San Juan River, Escalante River and Cataract Canyon, and the entirety of Narrow Canyon and Glen Canyon. This also includes the Colorado River delta, which requires immediate instream flows to avoid total ecological collapse.

The U.S. government has recognized some of the dam's negative impacts, and has responded with an "adaptive management" program pursuant to passage, in 1992, of the Grand Canyon Protection Act and the subsequent 1996 Record of Decision on Glen Canyon Dam operations.

CPRG recognizes and appreciates the research and monitoring of Grand Canyon ecosystem conducted under the auspices of the Adaptive Management Program (AMP). We also recognize the contribution that Grand Canyon River Guides (GCRG) has made to promoting sound science within the AMP.

However, despite the good work and intentions of scientists and the GCRG, CPRG remains very concerned that adaptive management is functioning primarily as a delaying tactic that is diverting attention away from the fact that Glen Canyon Dam is responsible for most of the problems in the Grand Canyon. That the best way we know to address these problems is to eliminate their source, i.e. remove the dam.

Problems with the AMP

A collaborative/stakeholder group, known as the Adaptive Management Working Group (AMWG), is the primary decision-making body of the AMP. Its primary roles are to oversee and direct research and monitoring carried out by the Grand Canyon Monitoring & Research Center, and to make recommendations concerning dam re-operations to the Secretary of Interior.

The AMWG is a body of political appointees, including many of the very interests responsible for the dam's construction and for its continued operation. The AMWG

will never support decommissioning Glen Canyon Dam, nor will it support any serious study of the need for decommissioning.

Any adaptive management program focused on addressing the effects of Glen Canyon Dam on the Grand Canyon ecosystem will have major inherent limitations on its effectiveness if it does not study the relative benefits of decommissioning to other "re-operation" scenarios.

The AMWG does not even focus exclusively on mitigating environmental damage to the native ecosystem. Among the AMWG's goals in its recently adopted "strategic plan" are the need to increase hydropower production at the dam, and to provide for maintenance of self-reproducing populations of trout, especially in the Lee's Ferry reach below the dam.

CPRG Position on AMWG/AMP

The Adaptive Management Working Group is a political body, not a scientific body, and thus should not be in the position of directing scientific research and monitoring activities at the Grand Canyon Monitoring & Research Center. Scientists, not representatives of the water, power, and recreation industries (as constitute a significant portion of the AMWG membership) should decide the appropriate range and scope of work.

CPRG opposes participation by river guides, scientists, and environmental interests in the AMWG/AMP process, as such involvement tends to communicate support for the process.

We call on all those who support restoration of the Colorado River to join us in opposing the AMWG/AMP. We call on our colleagues in the Grand Canyon River Guides (GCRG) to withdraw their formal membership/representation in the AMWG, and to publicly join us in supporting decommissioning of Glen Canyon Dam.

We emphasize that we support the need for scientific research on restoring the native ecosystem of the Grand Canyon, free of political interference and manipulation by the water, power, and recreational industries. As CPRG is a part of the recreational industry above Glen Canyon Dam, we feel that it is also important to state that CPRG does not believe there will be any negative impact on the recreational boating community in Grand Canyon when Glen Canyon Dam is decommissioned, for we in the upper basin already operate a full season without it. We enjoy the relatively free-flowing characteristics of the Colorado, Green and San Juan rivers above Glen Canyon Dam and the challanges of seasonal river flows. We also look forward to the day when we will have more miles of natural river ecosystems to enjoy and will not have to deal more and more with the negative impacts of the progressive sediment load building in the reservoir behind Glen Canyon Dam.

THE CHANGING RAPIDS OF THE COLORADO RIVER

Brown Betty Rapid (Rapid 1)

By Jayne Belnap, Bob Webb and John Weisheit

There were many strange aspects to what Frank M. Brown planned for his expedition down the Colorado River in 1889. First, the premise: he was planning the construction of a water-level railroad from Grand Junction, Colorado, to Yuma, California. Second: Brown had a bipolar crew of friends and hired surveyors, and none of them had significant river experience. Third: he was either cheap, or financially strapped, and brought equipment unsuited for the expedition. Finally: he allowed his chief engineer, Robert Brewster Stanton, to bring his family's personal servants, H.C. Richards and G.W. Gibson, who had the titles of "Steward" and "Cook" (Smith and Crampton, 1987). Was this a serious business trip or a cheap outing by wealthy westerners?

In part because they were black, and possibly because they were servants, Richards and Gibson were given their own boat, which had an interesting history. Brown hired a second engineer, Frank Kendrick, to survey the railroad route from Grand Junction to the Confluence (Stiles, 1964). Kendrick and his crew portaged Westwater Canyon (by wagon and road), but they rowed an open dory made of oak down to the Confluence and upstream to Green River, Utah, where they gave it to Stanton. This boat, named the *Brown Betty* after a favorite desert of the time, became the cook boat. Because Brown and Stanton hadn't accounted for the voluminous baggage in the other boats, the kitchen—packed in water-proof compartments that were removed from the other boats—was towed as a "float" behind the *Brown Betty*.

The water level was high—40,000 ft^3/s is our estimate from the photographs taken on the trip—and the float made the *Brown Betty* difficult to maneuver. When the group reached Rapid 1, they were on the left side of the river, where the railroad line was supposed to be. Brown ordered the crew to cross the river, possibly to begin a portage and surely not to camp since the better camp is on river left at this point. As Richards and Gibson reached midstream, they knew their float would drag them into the rapid and potentially to their deaths. They cut the rope, saving themselves but losing valuable provisions.

Because of this boating accident, river historian Dock Marston decided that Rapid 1 should be called Brown Betty Rapid. This is highly ironic, because the *Brown Betty* survived the accident and was destroyed downstream in Rapid 6. Like Capsize Rock in Rapid 15 (Hell to Pay), which is not the rock that the Best Expedition wrapped on, the name of Brown Betty Rapid does not coincide with where the boat sank. Perhaps Rapid 1



Figure 1. Rapid 1 from River Left. (files s2908-1889.tif and s2908-1994.tif)
A. (May 31, 1889). While Stanton surveyed and Brown ordered the boats carried around rapids, Franklin Nims photographed Cataract Canyon. This downstream view shows Rapid 1 at about 40,000 ft^3/s. Shortly after this photograph was taken, the raft attached to the *Brown Betty* was cut loose and swept into the rapid (Nims 40, courtesy of the National Archives).

should be renamed "Richards' and Gibson's Float Rapid" (we're kidding). A better renaming would be to call Rapid 6 "Disaster Falls," since Powell flipped there (in 1869) and Brown-Stanton wrecked the *Brown Betty there* (in 1889).

Few river trips, other than the Brown-Stanton expedition, have had problems in Brown Betty Rapid. Most of the early expeditions seemed to run the rapid without troubles. Despite the fact that a debris flow has entered the upper right side of the rapid, little appears to have changed in its hydraulics. The little, thrashing hole that appears at right center at low water (5,000 to 10,000 ft^3/s) appears in several early photographs, the few rocks have been moved from the river banks. So, other than a strange and inappropriate name, why would anyone be interested in Brown Betty Rapid?

Rapid 1 is the beginning of the longest sustained drop in the profile of the Colorado River downstream from Grand Junction. Upstream from this point, debris flows—if they occur at all—are small and don't significantly affect the channel. Downstream from this point, all the way to Dark Canyon, debris flows dump significant amounts of rock into the river, creating all those wonderful rapids. If you look high up in the cliffs above Rapid 1, you will see a reddish brown ledge of soft rock that isn't visible in the strata upstream. This rock, the first outcrop of Halgaito Shale, is one of the primary reasons why Cataract Canyon exists as a whitewater run. Mix 1 part Halgaito Shale with 10 parts sand to boulders and 2 parts water, dump it off a cliff, and voila! debris flows result. The red-stained gullies that scour the slopes just downstream from Rapids 1 and 2 and mute testament to the influence of Halgaito Shale on Cataract Canyon. In that sense, Rapid 1 is perhaps more a testament to the influence of debris flows in bedrock canyons than a reminder of a trivial incident in river history.

REFERENCES

Smith, D.L., and Crampton, C.G., 1987, The Colorado River survey: Salt Lake City, Howe Brothers Books, 305 p.

Stiles, H.J., 1964, Down the Colorado in 1889: The Colorado Magazine, v. 41, p. 225-246.



B. (March 28, 1994). Despite the water-level differences, the beach below Rapid 1 is larger now, and tamarisk lines the bank. A debris flow from river right has slightly changed the head of the rapid (Steve Tharnstrom, Stake 2908).

CPRG's Fiscal Sponsorship A Board Meeting Report

The board of Colorado Plateau River Guides met on February 10th with Brad Wallis, the executive director of CANYONLANDS NATURAL HISTORY ASSOCIATION (CHNA). CPRG is fiscally sponsored by CHNA, which is strictly an educational non-profit organization.

CPRG has established itself as an educational organization by publishing articles in THE CONFLUENCE and providing various programs for river guides. CPRG is dedicated to continue this line of educational programming. However, CPRG is changing by becoming more involved with river protection issues and has sponsored or organized environmental advocacy programs, such as the campaign to decommission Glen Canyon Dam and the campaign to mitigate the Atlas tailings pile. The CPRG board feels it is very important to walk the talk.

The board felt that CPRG should endeavor to establish autonomy and obtain its own 501(c)(3). As such a step takes time and money, the board decided to accomplish this by Dec. 31, 2004. In the meantime, LIVING RIVERS, a non-profit advocacy organization based in Moab, has offered CPRG temporary fiscal sponsorship. The CPRG board accepted the proposal with the blessing of CNHA. All involved in the discussion felt it was a logical step to make. The action goes into effect on May 1, 2002.

John Weisheit
CPRG Secretary



Figure 2. Rapid 1 from river left (files s3575-1909.tif and s3575-1994.tif)

A. (October 18, 1909). The little hole at right center of Brown Betty Rapid is crashing in this view. (Cogswell 485, courtesy of the Bancroft Library, University of California Berkeley).

This article is a result of investigative work that began in 1992 and completed in 2001. Look forward to more such articles appearing in **THE CONFLUENCE**. The work will be published as a book entitled, Cataract Canyon: A Human and Environmental History of the Rivers of Canyonlands National Park.



B. (March 30, 1998). The water level is much higher, drowning out the beach. A debris flow has swept into the right side of the rapid, scouring the talus cones and depositing a few new boulders in the river. (Dominic Oldershaw, Stake 3575).

"Gone to the NEEDLES"

by Jim Knipmeyer

In June of 1989 my good friend Mike Ford and I had jeeped down the old Horsethief Trail to the Green River and then proceeded south along the White Rim road to the short spur leading westward to Fort Bottom. Down on the flat below the ancient Moqui watchtower sat the slowly dilapidating remains of what showed on the USGS map as Wild Bench Cabin. According to local folklore a hideout of Butch Cassidy's "Wild Bunch," it was actually built by Moab cattlemen shortly after the turn of the century (the 20th!). On its rough-hewn log walls are carved and written many names and dates, most of relatively recent river runners and overland visitors. One in particular, however, caught my eye.

Painted, or perhaps printed with a lead pencil, to the right of the doorway was the following inscription:

A. J. Tadje
Moving Pictures
Oct. 11 – 1914
Gone to the NEEDLES.

Somehow this simple, now-fading signature gave me pause. Just *who* would have been down in the Green River's Labyrinth Canyon three-quarters of a century earlier taking *movies*? And his last statement, "Gone to the NEEDLES," evoked a kind of wonder. The Needles district of Canyonlands were, indeed, visible from the narrow neck of rock leading from the end of the jeep road out to the prehistoric Anasazi ruin. But in 1914, The Needles were an unknown, little-visited region, except to a few cowboys from the nearby Indian Creek Cattle Company. Did Tadje reach that mysterious land of graben valleys, hidden arches, and rock spires?

After returning home to Missouri a search through my library of southern Utah materials answered my questions for me. Though the notion of an early trip to the rock-pinnacled Needles was summarily dispelled, a no less interesting chapter in Green-Colorado River boating was brought to my attention.

August J. Tadje, of Salt Lake City, Utah, was the camerman on a voyage through the canyons of the Green and Colorado rivers for the purpose of making a commercial motion picture film. The brain-child of Charles S. Russell, who in 1907 had descended the same canyon streams from the town of Green Rive, Utah, to below the last canyon on the Colorado, he now wanted to make a motion picture record of a similar voyage to show to paying audiences. After a futile attempt earlier in the year, in the early fall of 1914 Russell contacted Tadje, who at that time was working at the Utah Photo Studio in Salt Lake City. Arrangements were soon made for Tadje to serve as camerman, and on October 8 the pair, plus William Reeder as a second boatman, departed the Utah railroad town of Green River.

Years later, in 1947, Colorado River historian Otis R. "Dock" Marston contacted Mr. Tadje, still residing in Salt Lake City, and urged him to write up a narrative of his 1914-1915 venture. The resulting account, now on deposit with the Marston Papers at The Huntington Library in San Marino, California, provided the facts for this article.

"We had a boat called the *Ross Wheeler*.…Towards evening [of the first day] we reached a sort of island in the river and some friends of Mr. Reeder hailed us and wanted to know where we were going. "Going downstream, of course. We are going down through the Grand Canyon.'" The trio's ultimate destination, however, was the town of Needles, California, on the west bank of the Colorado. Thus Tadje's statement in his inscription on the old log cabin at Fort Bottom. They were going to Needles, California, *not* The Needles of southeastern Utah!

In his 1947 narrative Tadje does not mention stopping at the cabin at Fort Bottom, but he did describe Stillwater Canyon of the Green just a few miles below. "….the water was rather quiet and we had to work rather hard on the oars, even going downstream. The interesting part here was that the sides of the canyon were rather perpendicular and many feet in height, of a crimson color, of which we found more of the same structure as we went downstream."

Reaching the confluence of the then Grand and Green rivers, the *Ross Wheeler* and its three passengers started down Cataract Canyon on October 14. In what Dock Marston identified as Rapid No. 5, the boat struck a rock, throwing the men into the water. However, they managed to pull the craft to shore. Tadje later stated that he put his name near this point on the left (east) side of the river. [Author's note: To my knowledge this inscription, if still visible, has not been noted in modern times.]

Here the three adventurers reclaimed the boat that had been abandoned during Russell's aborted voyage earlier in the year. Now proceeding in two vessels, Russell promptly sunk the newly acquired craft after "he had encountered an object in the stream that….ripped his boat in two…." Now near Dark Canyon, the trio went on in the original *Ross Wheeler*, arriving at Hite in Glen Canyon on October 23.

In his 1947 account Tadje states that, "We didn't line any rapids in the Cataracts but shot them all." This notwithstanding their two "encounters" with "objects" along the way! Tadje also later stated to Dock Marston that he had painted his name in black at least five times in Cataract Canyon at different places along the canyon's walls. But again, none of these have been reported in recent times.

After reaching Hite there was a respite of several weeks from the river voyage. Reeder quit at this point, and while Russell remained at the river Tadje went back to Salt Lake City to arrange for a new boat to be built and to get another boatman. He expresses his great disappointment when the new craft was ready. "It was altogether the wrong construction….It was built perfectly flat instead of stern or bow being raised somewhat from the water level. It made it extremely difficult to manipulate this boat in the water." Perhaps prophetically, the new vessel was christened *Titanic II*.

The new boatman was Goddard Quist, Tadje's wife's brother-in-law. Leaving Hite about December 6, the pair of boats headed down through the calm waters of Glen Canyon. In his narrative Tadje describes Hall's Crossing, the Hole-in-the-Rock, and the junction with the San Juan River. Though it is not mentioned, they must also have stopped at the mouth of the Escalante River, as

before being drowned by the rising waters of Lake Powell reservoir, immediately upstream was still to be clearly seen the painted inscription:

A. J. TADJE
M. Pictures
Dec. 10 1914.

Arriving at Lee's Ferry, Arizona, two days later, after several days they started on down Marble Canyon. But at Soap Creek they quit the river on account of cold weather and much ice on the water. By the end of February or beginning of March, 1915, the trio began again, after they "had to cut [one of] the boats out of the ice as it was frozen in." Tadje describes stopping at Vasey's Paradise, Redwall Cavern, and the mouth of the Little Colorado. Though he does not mention it in his narrative, Tadje later told Marston that he had also painted his name in Marble Canyon. Once more, it has not been noted in modern times.

Upon reaching Bright Angel Creek the trio climbed up to the South Rim of the Grand Canyon, where they remained three or four weeks. Here Quist had to leave the party, and here also the expedition began to disintegrate. Tadje persuaded an acquaintance of his, a Mr. Jake Jeffs, to come out from Los Angeles to take Quist's place. No sooner had they shoved off than Jeffs was thrown out of his boat in rough water. An inexperienced boatman, he became so frightened and hysterical that he immediately quit.

The party was thus further detained while Tadje prevailed upon yet another friend, Mr. Clement Clemens, also from the Salt Lake City photo studio, to join them. But before they even started this time, the *Titanic II* was lost while attempting to move it to a more sheltered mooring. Another month's delay was endured while yet another new boat ordered and shipped to the South Rim. However, upon reaching the river in the latter part of November, it was found that a falling rock had punctured a hole in the *Ross Wheeler*, necessitating yet another delay while repairs were arranged and made.

Finally starting once more, they "hadn't gone but two or three rapids when [the] boat we had just added….was lodged in the river." Again they climbed back up to the rim to get help in freeing the pinned boat. But it was ultimately abandoned and the trio proceeded on in the old reliable *Ross Wheeler*. Upon arriving at the Bass cable crossing they rowed to shore in a "rather heavy rain." While huddled in their small tent, in the cold of December, the decision was made to give up the expedition altogether.

The *Ross Wheeler* was pulled "some one to two hundred feet from the river, and it is there to this day to my knowledge." Tadje was correct in this assumption, the metal boat still to be seen near river Mile-108 in the depths of the Grand Canyon. What had begun as a rather successful voyage as far as Bright Angel Creek had now rapidly fallen apart and been terminated. Practically all of their original 20,000 feet of movie film and 150 to 200 still-picture films had been lost in their various capsizings and sinkings. And August J. Tadje, "Moving Pictures" cameraman, never did reach "the Needles."

Bert Loper's Testimony from the Colorado River Case

Continued from Bert's testimony as published in THE CONFLUENCE, Number 24, Fall 2001. Editorial comments are in brackets.

Q: On one occasion when you were on this trip was it necessary for you to bring some supplies a short distance by boat?

A: We had a pack train meet us at certain points along the river; the last place the pack train was due to meet us was at the mouth of Piute Canyon, twenty-one miles from the junction; the pack train always beat its time about a day, until this time it was four days late; we was running out of grub; and one night about sun down we heard a shot fired, and here came the packer on horseback, but no packs: he came down and he told us the big rains had made part of the trail up the big cliff up Piute canyon slip off, and he couldn't get his packs out.

So Mr. Trimble came to me and asked me what we had better do.

I says, "Have him come into Spencer canyon; that was where the pack train had met us the last time, three weeks before."

We had to take the boat back up the river and get those supplies.

Q: How did you get the boat up the river?

A: We drug the boat up the river the next morning; they gave me the bulk of the grub they had left, and I stripped down to my BVD's and was preparing to go up and take the boat up the river; when I got up to where the boat was, Mr. Hugh Miser, the geologist in our company, was up there, also in his BVD's, if it hadn't been for Mr. Miser, I don't know how many days it would have taken me to get up.

That is what you call a heart breaking trip.

Q: How many miles was it?

A: It was seventeen, and it took us two days of the hardest work I ever done, to get that boat up there.

Q: Through that seventeen miles were there any rapids?

A: No sir

Q: What stage was the water?

A: It was very low, there was reefs across there that wasn't four inches deep, because Mr. Miser was a big man, and I wasn't so little it took about all we had to go up there in two days, seventeen miles. ...The supply train arrived about an hour after they had gotten the boat up the river.

Q: And then did you and Mr. Miser start down stream?

A: Not until the next morning; it was late then, and we had had two very strenuous days.

Q: In going down stream, did you find enough water so you could row?

A: It took the two of us a whole day to make seventeen miles.

Q: The question is , did you find enough water so you could row?

A: No sir.

Q: What did you do?

A: We pulled that boat a good part of the way, got out, went down the same as we went up; although there was places we could ride, and lots of places we couldn't. That place I told you there was a bar across there, that wasn't over four inches deep; we just ended the boat around; we could pick this end up and pack it around until we got it across that reef or sandbar.

Q: Mr. Loper, in spots or at various places along the river on this trip was there no deep water from one side of the river to the other?

A: There was places that there was water that we could ride over, but the shorter the bend is, you will find– you are more able to find a channel for a short distance until the river straightens, or commences to make the reverse curve, then you have a crossing–many times you have a crossing from one bend to the other, you have no channel, your channel spreads out the same as the sand does.

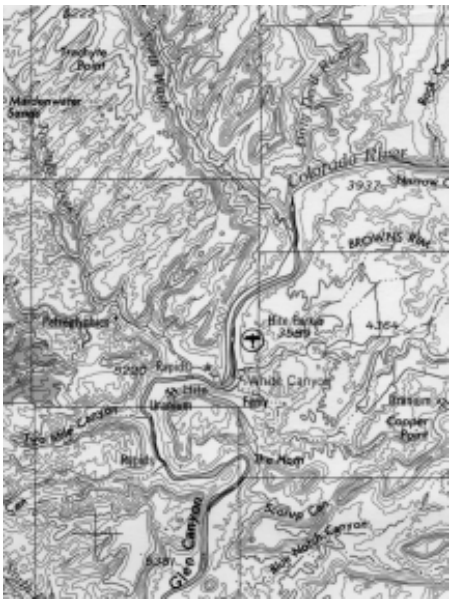
Q: Could we sum up this way, generally, throughout these trips you had trouble with sandbars?

A: Sure, yes sir.

[Discussion clarifying "crossing bars" and "crossing channels." He did not see any boats on the San Juan River during the year 1921 while he was there. There was no ferry boat at Mexican Hat.]

A: ...finishing trip and going to Lee's Ferry and back up with a 26' stern wheel boat–having to push it on occasion over sand bars.

[The following are excerpts from the Charles Russell and Ed Monette mining trip. Bert did some placer mining in Glen Canyon, first entering there in 1907 when he went on a prospecting trip, starting from Greenriver, Utah, September 19th, 1907, and from there he went to Hite in Glen Canyon. Besides himself, Charles Russell and Ed Monette were members of the party.



The party was equipped with three steel boats made by the Michigan Steel Boat Company. They were launch hulls, sixteen feet long, about eighteen inches deep, forty-eight inch beam, with no motors, although they were made for motors. He and his companions made compartments for the boats and decked them over. They were keel boats.

When they left Greenriver the water was quite low because when they started each morning it was a guess to see who would get out and get wet first and sometimes they would all get wet by getting out. On that trip immediately below Greenriver, they hit a riffle]

A: ...where the iron divides the channel, and I believe we struck the gravel just below the harbor, and then, as I remember, we had no more trouble until we got below the mouth of the San Rafael, when we began to encounter the sand."

[In Labyrinth and Stillwater canyons trouble was encountered a nearly every channel crossing.]

A: ...one or the other, or all of us would run aground.

[A channel crossing is a place where the channel leaves one side of the river bed and crosses over to the opposite side of the river bed. On a loop the channel is naturally expected to be on the outside and if the river starts to make a reverse curve the channel has to change over from the outside of the first loop across the river to the outside of the next loop, so in this crossing the channel spreads out. It is in these places where you have trouble navigating these rivers because there is no channel, it spreads out evenly over the shifting channel.

Difficulties with channel crossings and sand bars occurred daily and sometimes several times a day.]

Q: Is it more difficult to take a keel boat off a sand bar than a flat boat?

A: A great deal more difficult; you just draw the width of your keel more than you will a flat bottom boat.

Q: How did you and Mr. Monette and Mr. Russell get through Cataract Canyon?

A: We struck numerous rocks in the rapids, but we only portaged one rapid, boats and loads and everything.

Q: And do you recall which rapid that was?

A: If I am not mistaken, it is No. 55 in the book there; I think it is 55, what used to be locally known as the sixteenth cataract, which is a bad one in Cataract Canyon; we got over that nicely; I struck a rock, my boat went completely under the water, but it was made so it came right up and went on; no trouble at all.

[The members of the party wore life preservers and did not run a rapid without having them on. Many times they would not be taken off between rapids.]

A: if we was starting out of smooth water, probably wouldn't put them on until we got to the first rapid. The life preservers were not worn on the Green River.

[On the trip in 1907 the party camped at "Mill Creek Bend" (Mille Crag Bend) at the end of Cataract Canyon, where Narrow Canyon begins which is six or seven miles long, very narrow, and the water is still so that a person, in order to make time in a boat at all, has to work

hard. It had rained that night, the party was wet, the boats were wet. From the end of Cataract Canyon the party proceeded on down past the mouth of the Dirty Devil to Hite, there they stayed several days.

The water in the narrow part of lower Cataract Canyon is not over one hundred feet wide and is very still and deep. The water is quiet in Narrow Canyon too, because it is very deep.]

A: Frank Bennett and I made a trip through there; we had a pole about sixteen feet long; we pushed it down in several places, clear to the end, lots of places never touched bottom.

[From the Fremont or Dirty Devil down to Hite they had the same "old conditions again." At the mouth of North Wash they had a crossing bar, and naturally the channel crossed also.]

A: The channel across the gravel reef of this crossing is always very narrow; there is just one little channel through there, and there is one place in particular in Glen canyon where that channel has been there ever since, I think, and is still there; we made a trip through it this month, the same place.

[He went to Hite and Glen Canyon in 1907, and stayed there until 1915. He went back again in 1916, and then came out again in the same year. He made one trip out in 1914, but went back again.]

A: I had my place there all the time.

[He was there for about eight years. At that time he, Mr. Monette and Mr. Russell went down to the old Stanton dredge, which is located about forty-two miles below North Wash, and after taking out a little gold that was placer mined they went back to Hite. At Hite they were 125 miles from a railroad, so the provisions and supplies that he had sent for had to come by freight team. He then went down to Lee's Ferry, where he was supposed to meet Mr. Russell and Mr. Monette, but on arrival discovered that they had gone down the Grand Canyon with an Arizona engineer. He pulled his boat back up the river from the Stanton dredge back to Hite. This was in November 1907.]

A: It took me–must have taken me five days, because I didn't know how to rope a boat then like I got to learn afterwards; I couldn't make the time.

[When he started down the river from Hite he went direct to Lees Ferry; that was the beginning of the next year (1908); the first day of the new year. It took him five days to make that trip, from Hite to Lee's Ferry. During the trip he grounded numerous times and ran on to rocks in several places. "...but the most serious one was in Shock Rapid," which is about one hundred miles above Lees Ferry.

He knows of a rock ledge that runs across the Colorado River in Glen Canyon, and he recalls crossing that ledge on this trip. This ledge is located just below the mouth of the Lake Canyon. He did not have much trouble in getting down over the ledge, but just before he got in it he ran on to some gravel, and as he went over the ledge, "I drug my oar, seemed to be smooth." He was still using the steel boat. When he got to Lee's Ferry he obtained enough supplies to take him back to Hite. The journey back upstream from Lee's Ferry to Hite was an awful trip.

A: I was wet to the waist for about 24 days in February; started in January, and one thing that caused that trip, probably, to be so hard, was the mental condition along with the other, because things were looking pretty blue.

There were times during the trip that he did not know that he had any feet under him. In towing the boat up the stream he had a line about one hundred twenty feet long attached to the bow and then a round to the stern.

A: I would get up there to where I would quarter my boat like that and walk up the river, and the action of the water on this side of the boat will keep it out in the river to a certain extent. While you can walk along there on those turns in Glen Canyon there is always places there you have got to get out and wade in order to get your boat around the point of sand on the turn of a sand bar. That is where I would always get wet.

When you come to a rapid you coil your rope up and put it in the boat and get the nose of your boat and get out in the river to go up over the rapid.

[That is what is called nosing the boat. He made this trip alone. After returning to Hite he spent that summer all by himself placering on the Olympia Bar, about 35 miles below Hite.

A: By the way, in making this trip up the river I was pretty badly run down, took me all summer to get over that; I was pretty badly shot. I made the same trip afterwards and didn't hurt me near so bad, because I had different conditions.

[His nearest neighbor at that time was about three and a half miles away, and about fifteen miles away lived Cass Hite. After that summer he located at Red Canyon. He saw no other placer miners at that time, Mr. Adams being on his place in Red Canyon but not mining. When he went back up the river in the summer of 1908 some people were mining where he, Russell and Monette had done some placer mining. They mined for a while and then left by wagon from the old Stanton dredge. There was no one else there after they had left. After high water, he went up the river to Red Canyon with Mr. Adams. During the time he was there placer mining he obtained food by wagon from Hanksville or Greenriver, the supplies being brought to the river at Hite.]

Q: Then how would you go to Hite to get them?

A: Dragged my boat up the river

Q: Mr. Loper, just describe Hite, Utah as you saw it there in 1907.

A: Hite, the post office at Hite consisting of two log cabins is at the head of a bar approximately two miles long, not very wide; some places, maybe a quarter of a mile wide; other places, not so wide; and Trachyte Creek comes down to the river in the middle of that two miles. There is where Hite and Gibbons had their little farm, but their cabin was a mile up the bar.

There was cultivated and irrigated land on both sides of Trachyte Creek, there being probably twenty acres under cultivation. The fields were on a bar on the side of the river. There were willows along the river but no trees. The walls of the canyon on the right hand side was pushed back away from the river itself at that particular place, but the walls on the left hand bank was approximately quite close; just a talus slope down to the

river.

[Red Canyon was on a high bar, 195 feet above the river. On the lower bar or bottom land there was a little ranch of about seven to nine acres under cultivation where horse feed, fruit and grapes were raised. There was a chicken yard, wagon, mower and things like that.]

Q: I suppose that is all irrigable from the river, isn't it?

A: No sir. From Red Canyon there is springs, four miles up; Red Canyon flows quite a little stream, there is a point of land runs down here, a ditch comes around like that (indicating).

[He left Red Canyon to make a trip through the cataracts in 1914, and then he went back there in 1914, and then was up and down the river. Between 1907 and 1914 he had an opportunity to study the river, and he did study the river.]

A: I lived with that river so much, it pretty near became a part of me; I would sit on the banks and watch it; I would boat it; I would do everything, about the only companion I had.

[During those seven years he was living there alone and up to that time traveled on the river from Greenriver, Utah to Lee's Ferry. During that time he also made numerous trips to the (Stanton) dredge; other trips to the Olympia Bar, and a trip or two to the California Bar; short trips like that.]

A: I never counted them trips.

[During the seven years that he was there he had an opportunity to observe, and he did observe, the conditions of the channels, sand bars , and so forth, at the various stages of the river.]

Q: At what different stages of the river did you note changes in the channel?

A: At all stages except high water, then your channel is in one place; extreme high water there is only one place for the channel, that is on the outside of the (bend of the) river.

Q: What about the sand bars, did you always find those in the same location in the river?

A: Sand bars left by high water is invariably on the inside bend of the river; but when the river starts to go down, and the summer rains start, they begin to cut under bars left in high water, and, in other words, the high water cleans the river; it has a house-cleaning every spring.

Immediately after that the summer floods come along, and undoes the work of the high water, fills the channel full of sand again that the high water has cleaned out.

[Questions and answers about channels not being reliable.]

Q: Now , then, why is it that a person coming down the river at a stage other than high water would not be warned to look out beyond those curves for that condition you describe [river turning back on itself at bends and the channel disappearing].

A: They are warned.

Q: If they know the river, that is?

A: All the years I have spent on the river I never learned where to go over the crossings; that is, there is places there, we will say there is places through that crossing that is two feet deep, but I can't find it until I run on to the bar and get out and wade around. ...At Red Canyon I have had the whole channel right in front of my cabin; didn't belong there; belonged on the other side; but I have had it there. And maybe before the night was over it would be back where it belonged. I have seen that.

[In December, 1911 he made a trip from Hite to Lee's Ferry with a man named (Bert) Seaboldt and George Meiss. He used and eighteen foot boat, fifty two inch beam, flared sides and flat bottom, which drew about six inches of water. The object of that trip to Lee's Ferry was for Mr. Seaboldt to obtain information and data on the way regarding placer mining. The boat was not equipped with a motor.]



The Poo Song

by Roy Webb

Groover. Porto. Banyo. Shittoon. The Unit. Portable Outdoor Waste Management System. For all the joys of river running, for all the exhilaration of that big rapid successfully run, the subtle glories of the morning canyon light, there is still that one thing that hangs over every river trip, if you're a commercial guide or private boatman: the toilet. It's just one of those things you have to learn to deal with. Everyone who's ever had to has some kind of horror story, like the Scatmaster machine at Lake Mead that supposedly exploded onto the faces of some startled river runners; or cans that weren't properly sealed spilling in a boat, or one tipping over when that fat complainer sat on it (Although you also have to admit that is one of the finer things of boating: finding just that right spot for the groover, screened by tammies, access to a little beach, a beautiful view...) I rowed all the way through the Grand Canyon with two full (and I mean full) rocket box toilets strapped under my front frame, and was grateful for the weight in Lava Falls, but when we got to the lower canyon and it started getting hot one of the cans started to burp gas occasionally; I was hard pressed to get passengers in my boat. I remember a guy on another trip who was tough and mean, muscles rippling on his chest and arms, a college wrestler who liked to hurt people; but when faced with squeezing the air out of the tripled plastic bags (back when we used to do that) he quailed, retched, and ran away sobbing. Another time on one of those glorious Grand Canyon mornings, in the days of the notorious tides caused by releases from the dam, awakening to a swirling noise; the water had come up drastically in the night and I could see one of the boatman standing on shore, his hands on his hips in a characteristic pose, watching an expensive custom portable toilet serenely circling in an eddy that had been a high sandbar the night before. Once I was in a warehouse in Kanab with two of the really old timers of the river, pioneer outfitters with decades of river running experience between them, and they talked for three hours straight about portable toilets. It's just a fact of river running life, and no one wants a return to the bad old days of toilet paper everywhere and cat holes in every beach.

The "Poo Song," below, came about as a result of a private San Juan trip that my two daughters and I were on last summer. I was a last minute add-on to the permit, because they needed an extra boat, so to help out I agreed to rent one of the portos and some other gear from the University of Utah outdoor program. It was one of those two-rocket-box systems, with connections for flushing into a holding tank. In the fullness of time on the trip we used it and indeed filled it up, so at the end of the trip I had to get it emptied and cleaned out so I could return it to the outdoor program office. That sounds easy enough save for two things: I'd never actually done that before, and I had no vehicle. Oh, I'd helped commercial guides set them up, take them down, empty them out at the end of the trip; I figure as a historian if you are going to document the river running experience you might as well see it all, but I'd always just done what the boatmen told me to do, and not paid attention to the fine points of the technique. And my SUV was in the body shop, a result of a traffic accident before the trip.

Since I had a bunch of other stuff including a rolled up raft and paddles to return, using my wife's little station wagon was out of the question, much to her relief. The guy at the body shop, though, knowing he had been dawdling on the repairs, offered me his girlfriend's Nissan Pathfinder. Desperate by this point, I said yes, and drove to her house to get it. It turned out to be one of those nice ones, fancy paint job, leather seats, CD changer, all tricked out for cruising State Street in Salt Lake, but not like my own abused Trooper, which has seen more than its share of mud, river sand, dirt, salt, snow, spilled chocolate shakes, and dog hair. I neglected to tell the girlfriend just what errand I needed to run, and with my two daughters, 8 year old Sarah and 13 year old Rachel, we set off. The younger of the two girls viewed the whole thing with equanimity throughout, but my teenager is of a sensitive bent and was, in a word that doesn't begin to describe her expression, disgusted to be sitting close to a can full of human waste.

Edging as far away as she could get from the cans, she would say, as if I didn't know, "Daddy, there's POO in this can!!" As I turned a corner and the cans bumped together, she would repeat in a stricken voice, to remind me as if I had forgotten, "DADDY! THERE IS POO IN THIS CAN!!" I had heard about a local car wash on 33rd South that had a waste dump, so we went there first, but there was no one around. As I was wondering what to do, along came a man in a big RV on the same errand. He called around on his cell phone and found that you could use the dump tank at a local RV dealership, so we set off there and learned, to my vast relief, that you could indeed dump such cans for a $5 fee. By this point I would have paid ten times that to be rid of this albatross, so I forked over my fiver and asked the guy if there was anyone to show me how the hoses hooked up. Jerking a dismissive thumb toward the door he said, in effect, you'll figure it out and if you don't just hose yourself off. After that, the events transpired pretty much as described in the song. Rachel got out to help me, although she mostly stood waaaay off and screamed whenever something went wrong; Sarah I made stay in the car behind glass. I didn't want to have to tell my wife I had doused either child with... you know. I had a hard time figuring out the connections, and the lid did pop off at one point, revealing a hideous sight; I then tried to hose it out by standing it on end and squirting water in, which was not a good idea; and once I did get the hose connections on straight it turned out there were indeed holes in the hoses and the waste was squirting out in the parking lot. You all know how after any river trip your hands are in sad shape with cuts and abrasions (especially word processor hands like mine), and I looked at each little squirt and then to the big cut on my thumb, just imagining the deadly germs crawling into my veins. I considered writing a letter to the health department about it but finally figured that such negligence usually brings its own rewards, although I haven't heard about employees of a local RV dealership being felled with typhoid fever, more's the pity.

Writing an email to my family about the whole trip, the experience with the rocket boxes was so vivid that the words just flowed, so to speak, and we called this the Poo Song. We tried to do it with a sort of bluegrass rhythm, but just about any melody will do.

THE POO SONG

Well, I'm drivin' down the road, with a can full of Poo;
Don't know where to go, and I don't know what to do.
We filled that can up on the ole San Juan,
and now I can't rest until that Poo is gone.
I'm drivin' down the road, with a can full of Poo,
feelin' so forlorn 'cause I don't know what to do
in the back there's a blonde who's sayin "Daddy Quick!
if we don't ditch this Poo I'm a-gonna be sick!"

So we're driving down the road with a can full of Poo,
ask the guy at the car wash "what should I do?"
He tells me "Son, there's a place nearby I know,
to get rid of Poo to Motor Sports Land you should go!

So we drive down the road with that can full of Poo,
get to the Promised Land and ask "What should I do?"
The guy at the desk takes my Fiver and scoffs,
"if you spill it on yourself, then just hose yourself off!"

So I'm ready to deal with this big can of Poo,
I hook up all the hoses, still not knowin' what to do,
When I start squirtin' water, O! man what a fright,
that lid falls off and we can see right inside!

Little Sarah wants nothin' to do with that Poo,
so she's waiting in the car, just I told her too,
I said, "Sarah watch out, and stay behind that glass,
If I do this wrong that Poo will go splash!"

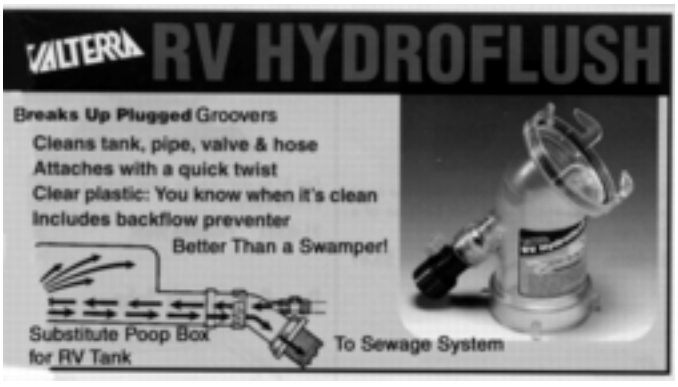
Then Rachel she screams "O! Daddy look out!
that Poo is about to come a-sloshin' out!"
But I grab the right hose and get that water goin',
and pretty soon to the tank that ole Poo is a-flowin'.

The hoses they are full from that big can of Poo,
they're a-flushing and a-gushin',
just like they're s'posed to do
then the blonde she screams and says with a shout,
"there's a hole in the hose and the Poo is squirtin' out!"

But finally o're that Poo we at last do prevail,
and that really is the end of this here Poo-tale,
Even though it was gross and yucky and it stank,
that Poo is now safely poo-red into that tank.

So now I'm driving down the road with no Poo
in the can, a smile on my face,
the kids clappin' their hands.

We successfully dealt with that big can of Poo,
and next time this happens I'll know just what to do.



The Solution

by Dave Focardi

If you don't want your own "poo" story, then pay attention. The following solution I got from T-Berry after a 30 day private Grand trip last year where we had 5 groovers that had not had ANY water added at all; they were washed 5 days after getting back to town, too. This is also one of the cheapest "groover systems" out there.

You'll need a rocket box (20 mm ammo can) or anything else with a good sealable lid. Rocket boxes work well because of their modularity. This works for privates as well as outfitters. You'll need to modify a lid by putting a 3" male RV outlet on it. Take the lid and remove the corrugated metal piece inside, and cut a hole in the lid at one end a few inches from the edge. Be careful to make the hole as close to 3" as possible without exceeding the square profile of the 3" male piece, otherwise more cut and pasting of unsatisfactory materials will result. Drill __ inch holes aligning with the holes in the 3" piece in the lid and use a good silicone caulk to seal the 3" piece and __ inch bolts to hold it on the Rocket box lid. This lid will receive the Valterra™ hydroflush thingy for cleaning out the groover. A cap can be put on the 3" male piece on the lid if the lid MUST be used while the groover is in service due to lack of rocket box pieces, but be sure not to load stuff on top of the capped lid as this will weaken the seal and we all know what that means! You'll also need the 3" hose with the RV attachment on the end to direct the copious flow into the sewage hole. One without holes will be better than what Roy had. See if you can get clear 3" hose for that magical touch. The hydroflush will work on Magic Groover™ as well, but you can go back to bare bone plain jane rocket boxes again and recapture that lost space and save a couple C's.

After your trip, when you get back to town, use the lid with the 3" piece, hook up the Hydroflush and a standard garden hose and Voila! ANY groover becomes clean. There is no "**donking**" noise from groovers ready to blow because the hose pressure is outside of the groover. The garden hose creates a swirling vortex of cleaning water pressure churning up the most stubborn logs created by the most dehydrated passenger. Plus, the Hydroflush is CLEAR, so you get to SEE the whole process in action! The boatmun will be fighting for the opportunity to clean the groover–except it will clean out so fast that the TL will know who is a slacker when they don't come back in 10 minutes! No more time for a smoke or that surreptitious nap while the rest of the gang busts out the de-rig!

If I wax poetical, it's because THIS THING WORKS! Five groovers cleaned in less than 25 minutes, no mess, and no fuss. The only caveat is that the Valterra Hydroflush is plastic and is prone to breaking if you run over it with your rig, and it is so desirable that it is prone to theft.

Colorado Plateau River Guides
P.O. Box 344
Moab, UT 84532
435-259-3598
cprgutah@hotmail.com

Forwarding and Return Postage Guaranteed / Address Correction Requested

Also in this Issue

Brown Betty Rapid
Position On Adaptive Management
Fiscal Sponsorship
Gone to the Needles: August J. Tadje



Bert Loper in 1948

The Confluence

The Journal of Colorado Plateau River Guides Number 26, December 2002

Comments from the Board

Grazing Issues at Dinosaur

A Story and a Poem

New San Juan River Guide

River Bed Testimony

Charles Spencer

Jim Knipmeyer

Labyrinth Canyon

Motors and Grand Canyon

River Ethics

Otis Marston & Sportyaks

and more



Steamboat pilot Harry T. Yokey of Elgin, Utah

The Confluence

wants to be the quarterly journal of Colorado Plateau River Guides. CPRG has a fiscal sponsor, LIVING RIVERS, a 501(c)(3) river advocacy organization that promotes river restoration.

CPRG is dedicated to:

- Protecting and restoring the rivers of the Colorado Plateau
- Setting the highest standards for the river guiding profession
- Providing the best possible river experience
- Celebrating the unique spirit of the river community

Guide Membership is open to anyone who works, or has worked, in the river industry of the Colorado Plateau

General Membership is open to those who love the Colorado Plateau

Membership dues
$20 per year
$100 for six years
$295 for life
$495 as a benefactor

General meetings and board meetings will be announced

Officers

President	Annie Tueller-Payne
Vice-President	Mark Sundeen
Secretary/Treasurer	John Weisheit

Directors

Bluff	Michael Smith
Grand Juntion	Joe Keys & Marty Shelp
Green River	Mike Lewis
Moab	Vacant
Vernal	Herm Hoops

Colorado Plateau River Guides
PO Box 344
Moab, Utah 84532
435.259.3598
riverguides@lycos.com
Fax: 435.259.7612

We need articles, artwork, poetry, and photos. We use PC and MacIntosh computers and can translate most formats. We also accept text that is typewritten. Please include photos, charts, diagrams and artwork with your submission. There really is no deadline, but the beginning of each quarter works best.

Managing editor	John Weisheit
Editor this issue	John Weisheit
Printing	Times-Independent

ISSN: #1078-425X

Printed on 100% kenaf paper
A tree-free alternative by Vision Paper

Disclaimer: The opinions and statements made within the pages of *The Confluence* are those of the author and do not necessairly represent the position of the guide membership, the board of the Colorado Plateau River Guides, nor our fiscal sponsor. This forum is open with no restrictions at the present time. If you have an opposing viewpoint, please send your comments to CPRG.

A Special Thanks to CNHA: Canyonlands Natural History Association has been the fiscal sponsor of Colorado Plateau River Guides since 1995. We thank CNHA staff for their generous assistance and support through the years. CPRG would especially like to acknowledge the grateful assistance of Sue Axtell.

A Special Thanks to 2002 Donors: CPRG would like to give thanks to those who provided generous financial support for our River Education Seminar (RES), which include the National Park Service, Southeast Utah Group; Bureau of Land Management, Grand Resource Area; Utah Guides and Outfitters; Utah State Parks and Recreation; Headwaters Institute; Demarree Inflatable Boats; Maravia Corporation; and Smith Foods.

CPRG Web Page: Volunteers are presently working on designing a web page for CPRG. The home page will emerge soon and will include links to the articles and graphics of *The Confluence*; a search engine feature will also be provided.

CPRG Membership Renewal: For those who need to renew their membership to CPRG, you should find the necessary form included in this issue. Thank you for your continued support!



CPRG Spring Meeting in Fruita, Colorado
Top Row: John Weisheit, Dan Phillips, Michael Smith, Herm Hoops, Tom Emanuel.
Bottom Row: Marty Shelp, Susette DeCoster, Annie Payne and Joe Keys

Message from the Prez

by Annie Tueller-Payne

Welcome to the 2002, end of season edition of *The Confluence*. I could have written volumes about the water conditions, or lack thereof. *Holy cow*, was it low or what? I would like to assert my special admiration to everybody who was out there getting trips done safely and lending a helping hand when necessary.

The CPRG interpretive river trips and events went very well this year. As for the river trips, the Cataract and Westwater programs were both heavily attended. The Yampa River trip was sponsored by the National Park Service and also went well.

The River Education Seminar, which primarily focused on a special request program of river rescue, was a big hit too. We had over 60 people in attendance on Saturday. I think all that attended learned something new and were properly introduced to the senior guiding community. This program was also augmented by two evening presentations by river historians. The decision to conduct a river rescue course was prompted by popular demand from the membership, which we were glad to accommadate. We decided that CPRG needs to be flexible and responsive to the needs of the membership from time-to-time.

This upcoming spring seminar will return to a traditional theme pertaining to natural and human history. The coordinator for the upcoming River Education Seminar will be Dan Murphy, who had an outstanding career with the National Park Service. Dan is a a lifetime member of CPRG and has donated his time and skills to CPRG many times in the past.

CPRG would like to take this time to thank all of the contributors to this years River Education Seminar: Kirk Livingstone, Michelle Hill, Molly Taylor, Nancy Allemand, Bego Gerhart, Dave Dawson, Kyler Carpenter, Roy Webb, John Weisheit, Ranger Trevor, Tim Payne, Marty Shelp, Aimee Mullock, the Adventure Bound team, Fat City Smoke House and all the fiscal and in kind contributors.

CPRG would also like to thank this years outfitters: Hatch, Western and World Wide who sponsorsed the interpretive river trips. A big thanks to Western's guides Wes, Leslie, John & Nudy, who worked their tails off for the event. CPRG would also like to thank the presenters for the interpretive trips, John Weisheit, Kent Frost, Homer Bosserman, RJ Johnson, T-berry, Trevor and all those who I am inadvertantly forgetting right now.

Finally, the "Boatman's Bash" was held at Rimrock Adventures along the shore of the Colorado River at Fruita. Thanks Travis! We have plenty of projects coming up this summer. If you would like to help, please write me at <ptannie@qwest.net> or call me at (801) 580-5621.

Message from the Veep

by Dave Focardi

I have been out in the Mojave counting desert tortoises, so anything that happened while I was gone can be blamed on me.

In April, I was privileged to give a presentation as a representative of CPRG for an event that was sponsored by Living Rivers and held at the Moab Arts and Recreation Center (MARC). Other speakers included Philmer Bluehouse, a Diné medicineman, and John Weisheit gave a history program on the Green River. I thought you all might want to know what your officers are saying in your name. If you agree with this, go out and spread the word. If you don't, *The Confluence* publishes ANYTHING short of libel. Also, its very easy to get involved: if you have something you want done, get it going and we'll support you. Also, now is a good time for all of you to get one more person to join CPRG. Still a bargain at only $20 a year.

Now back to my presentation at the MARC. I used to think it was only the crusty old guides who whined about the reservoir. But the more time I spent down there, the more I realized that either they were right, or I was becoming a crusty old guide. What irked me was: I'd be on this perfectly good river trip, and we'd just be getting into the flow of things and—wham!—we weren't on a river anymore. We are on this dead reservoir with crummy camping spots and silted-in hikes.

Instead of being on a great beach of sand, we were on a tammy-choked mudflat. Instead of having another day or two of a river trip, were trying to get off the reservoir in the most painless way possible. I learned to hate the reservoir and the long, tedious motor run to get off it.

The only problem with having personal reasons for getting rid of a dam is they don't fly very well in the face of people who like central airconditioning, swimming pools, golf courses, and throw their money away on consumptive reservoir hobbies. The way to get rid of a dam is to use knowledge and facts. So get your facts right! Even though the clean-up will be a heavy burden to U.S. taxpayers, when sediment build-up eventually forces dam decommissoning, typical Americans still think dams generate huge economic benefits and provide millions of user days for recreation.

If the regulating agencies wait till the last possible minute, as we know they will try and do, then the costs of decommissioning and cleanup will be far more exorbitant than they would be if we act now. The longer we wait, the MORE silt there will be. By the time the regulating agencies are ready to deal with it, there won't be any power generation to offset the cost of clean up. Who will bear the cost? I will, you will, and all taxpaying citizens will. I haven't done the math, but judging from what has been said concerning the cost to clean up the Moab tailings pile, I would guess the cost of dealing with the reservoir sediment will be far more than the power earnings have been to date.

Hydropower is very seductive: it looks clean but in reality it destroys huge amounts of habitat and the organic material that decomposes in the sediment layers emits greenhouse gases. But later, as dams are decommissioned for reasons of safety, the cost and energy associated to mitigate these sediment problems will be an astronomical burden to society. Be forewarned, they don't want to decommission Glen Canyon Dam. They will want to build others to hold the silt back just like they built Glen Canyon Dam to save Lake Mead reservoir. This will only save one generation of policy makers from the pain of dealing with the mess coming down the road.

I won't go very far into the issue that most of the water is being used to feed cows in a market that can't even begin to compete with the mid-western grain belt where, by the way, they have plenty of WATER. It's enough to raise your blood pressure and cause illness.

Speaking for Colorado Plateau River Guides, at a 1996 board meeting at Ray's Tavern in Green River, we voted unanimously to support draining the reservoir. One absent board member would have voted to study it and not to just drain it. Never-the-less we went for the whole enchilada. We KNEW the lake was a bad thing and that studying can be a delaying tactic used by both sides of an issue to prevent a victory by one side or the other; studying stops progress. So what does the CPRG vote accomplish? Not much on just face value, but it was a start. Now draining the reservoir is a real issue being discussed by policy makers at the highest level. As guides who appreciate what a river IS—and here comes a cliched statement so bear with me—we are in a unique position to inform the voting public about yet another issue. Instead of just educating our guests about natural history, we can educate them about this political issue. Make no mistake, it will take political will to remove the dam. So guides—get your facts—educate yourself so you can educate your guests. Read Philip Fradkin's *A River No More*, Marc Reisner's *Cadillac Desert*, Russell Martin's *A Story That Stands Like a Dam* and High Country New's *Western Water Made Simple*." Get the background on these issues. Get involved with Living Rivers and stay informed about what's happening. When you talk to your guests don't just speak from emotions, speak from knowledge.

The reservoir sediment is going to kill the river trip business here in southeast Utah. Cataract Canyon is the premier selling trip and what's happening at the end of the San Juan River is going to happen to the Colorado River. Its time to do something before its too late, although mankind has been pretty lax about realizing when the backyard is full of filth. Time and again shortsightedness for near term revenue generation result in higher costs for cleanup later. Industry gets the revenue, we taxpayers bear the cleanup costs. Its going to happen at the White Mesa mill down the road, its happening right here at the Atlas tailings pile, and its going to happen with Lake Powell reservoir unless we do something as soon as possible.

Grazing Issues at Dinosaur

The following letter of May 11, 2002 was submitted on behalf of CPRG as public comment concerning grazing in Dinosaur National Monument. CPRG was not aware that Dinosaur was taking public comments until the day before the comment period closed. The CPRG board was not able to vote on this issue until after the letter was drafted and mailed; there was one opposing vote.

Dear Superintendent Cartwright:

Colorado Plateau River Guides (CPRG) wishes to have this letter included as comments for the Environmental Impact Statement concerning the Livestock Management Plan (LMP) in Dinosaur National Monument (DNM).

CPRG is currently disappointed with the current LMP proposal for three reasons:

1) Last fall CPRG contacted staff at DNM requesting that all information requiring public comment from the DNM be sent to the CPRG office. CPRG was not informed of the upcoming new management plan concerning livestock. CPRG was not alerted to this issue until today and subsequently feel that we were not allowed to participate in this process properly from the beginning. We also do not feel that we have adequate time to respond properly in whatever time remains.

2) Upon visiting the DNM website, CPRG was disappointed that a PDF of the EIS is not available for review.

3) CPRG is also disappointed that a full-range of alternatives is not included in the EIS. We believe strongly that a no grazing alternative should be a part of the management plan. CPRG does not feel that the current alternatives adequately address the problems and subsequent solutions to the land and river damage happening in DNM due to livestock grazing.

Colorado Plateau River Guides would also like to make the following suggestions:

1) CPRG would like to be included on the DNM mailing list for all matters concerning public participation.

2) CPRG insists that DNM include an alternative that includes the elimination of all grazing in DNM and the purchasing of the Mantle Ranch.

After completing my first Yampa River trip of year 2002, I reported back to the DNM river office that there were 30 dead cows along the riverside between Mather's Hole and Tiger Wall. The DNM river office called to confirm my citing. Two months latter, I noticed that the cows are still there and there does not seem to be any plan of action to deal with problem. River runners find the cows both offensive and a health hazard as our guests and guides swim, wash and perform kitchen duties down stream of the cows.

CPRG feels that by eliminating all grazing in the future will save Dinosaur National Monument money and resources in the future. Dead livestock along the rivers is not atypical, it happens annually. CPRG feels that by allowing cattle to decompose along the river without resources and finances set aside to alleviate these problems leaves the Monument open to litigation and costly laws suits.

CPRG also believes that grazing in a national monument is not an appropriate use of resources. We believe that resource protection and enhancement should be the result of implementing a Livestock Management Plan.

CPRG understands the livestock issue and grazing issue. Most of our constituents were raised in the Western United States. Some in our community were raised in ranching and farming families. We do not want any more subsidies or tax dollars spent on the notion of preserving the "ranching lifestyle." Many of our former ranching constituents would rather see the tax dollars spent on quality career education so as to enjoy a better long-term career. We find nothing patriotic about destroying places like DNM to sell subsidized beef. In fact we find the whole notion of grazing in any resource area protected by the National Park Service to be demoralizing and environmentally offensive.

CPRG further feels that the National Park Service should fully acquire the Mantle Ranch. We feel that eliminating grazing in DNM will save enough money in the long-term to finance, acquire and incorporate the Mantle Ranch into the monument. CPRG would like to caution the Park Service to act carefully in the Mantle Ranch issue. Allowing private developers to buy and subdivide the area would create an enormous resource and economic loss for the American public.

CPRG would like written correspondence from your office confirming that you have read our requests and confirm that this letter will be incorporated into the final EIS.

Thank you for your time on this issue.

Sincerely,

Annie T. Payne, President CPRG

The Water People

by John Weisheit

There is more reason to look at decommissioning dams on the Colorado River than for reasons that would satisfy the perspective of our dominate society. We happen to share this region with others that have natural laws much older than ours and, thankfully, still very much in effect. The indigenous peoples are what I speak of.

The Navajo call the fish of the Colorado River "The Water People." Like the indigenous people of the Colorado Plateau, our native fish populations are hanging on to their heritage as best they can under the current dominate society.

The Bureau of Reclamation (BuRec) is engaged in several Environmental Impact Statements to save the endangered species of the Colorado River. The decommissioning of Flaming Gorge and Navajo Dams have also been identified by river activists as a solution to recover these incredible native fish species.

So which dam should be decommissioned first? In interviewing aquatic ecologists I learned that spawning habitat is not as diminished as is nursery habitat. Spawning is occurring on the Green, Colorado and San Juan Rivers, but as the juvenile fish naturally migrate downstream, they end up in Lake Powell to be consumed by that dominate exotic fish population. What is needed more than upstream spawning habitat is downstream nursery habitat and a way for the endangered fish to migrate in and out of these three arteries of the Colorado River system that all converge into Lake Powell reservoir. The other gain in habitat restoration includes the Grand Canyon reach. That's a lot of habitat diversity for the decommissioning of just one dam.



River Rescue Participants at Ida Gulch during the 2002 River Education Seminar

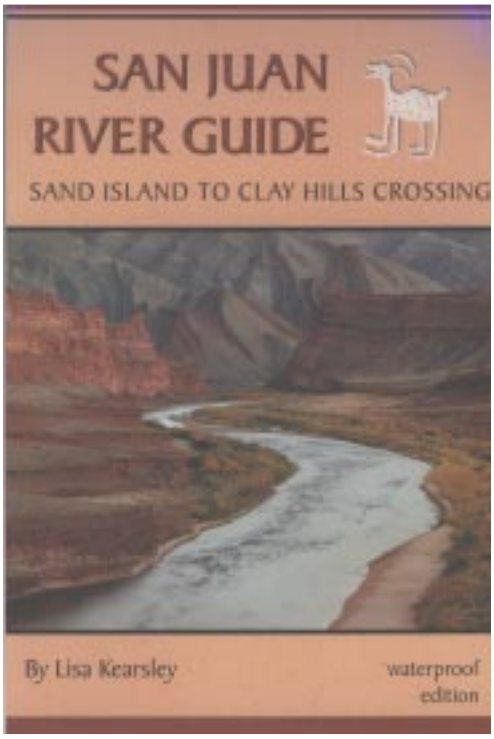
River Rescue Seminar, 2002

The River Rescue Seminar was a big success. This event was the first time CPRG actually attempted an "in the water" seminar. The seminar hosted over sixty students. Roy Webb and John Weisheit provided the two evening programs that focused on river history and river geomorphology. Dan Murphy will be the River Education Seminar coordinator for the 2003 seminar and will focus on the natural and human history of the Colorado Plateau.

New San Juan River Guide

A new guidebook has hit the streets, the "San Juan River Guide," by Lisa Kearsley. It is a well illustrated, comprehensive guidebook that gives people a great overview of the area.

One of the book's best features is its river map from Sand Island to Clay Hills Crossing. The map is updated, it faces downstream, it is detailed with 100-foot contour intervals, and it has site-specific information boxes with page references to the text for those who want to learn more about what they're passing. It also starts at the back of the book so is easy to find and follow.



The book's other sections include a San Juan River overview that gives the reader a feel for the entire river. Logistics and safety goes over the nuts and bolts of different aspects of San Juan trips. Human history spans from the Paleo-Indians to the environmental movement. It includes informative charts showing ceramic development and rock art types. Geology, written by Wayne Ranney, provides a forum for understanding the dynamic geologic processes in the region. And finally, the biology section not only discusses present-day challenges, but provides a background for how the plants and animals arrived at their present state, and where they're heading. The book also has a mini field guide with illustrations and interesting facts about the most noticeable plants and animals on the San Juan. High quality illustrations and maps are found throughout the book.

Anyone who reads this guidebook will have a more thorough understanding of and deeper appreciation for the San Juan River and the challenges it faces. The book is available in regional bookstores and on the web at <www.shivapress.com>.

A Short Story

by Sarah Clinger

I am sitting on a beach, a beach of a desert river. I undo my wet sandals, with their sand-caked rinds, as if I was undoing a bandage, slowly and gently. I drop them to my side and curl my toes, sinking them below the surface of the sand into the cool layers, which feel like pollen. There are small tides of water which splash in and out of the rocks near my feet. Every second or so a new layer of sand is thrust along the wet line and abandoned, something like the ocean. It is evening at the bottom of the Grand Canyon, and I am painting in my sketchbook, trying to catch the fleeting light. The dusting of halflight disappears in a glance. I give up and begin to turn the pages; these scraps of places and times illuminating in my mind like the quiet light of the evening revisited.

Early in the book there is a picture of the San Juan River from the boat launch of Sand Island. This is a pencil sketch, yet I remember the colors. The complexions of the bluffs hemming the river at Sand Island are like no other place on earth. Here all of the dramatic colors of the landscape are softened, as if this were the underbelly of the desert. At the time I was just learning to row a raft, not too sure of my abilities, even for the placid San Juan River. I was alone, having just arrived, and wasn't to meet the rest of my group until the next morning. Across the top of the sky I had written:

7/19/93 - Looking upstream at sand island. As I drove in this evening, I saw a big white towncar manned by teenagers, doing donuts at the boat ramp. From a distance it looked like some giant white fish, scooped from the river and left thrashing on the shore.

I smile at the thought that almost three years later I am once again sitting by myself on a riverbank. I set the sketchbook to my side and stretch. Cool air is rolling off the water, and I set out for a pair of long pants and a cup of tea. I light the burner of the propane stove and survey the scene of our camp. The kitchen nestles in the shelter of some overgrown Tamarisk. A half-circle of chairs, now empty, sprawl and recline as if visiting with one another. Earlier, our group had settled comfortably there for dinner, facing the river and the view I had been trying to paint. We had sat, cradling our steaming plates in our laps, cold beers at our feet; a few acquaintances who have come together as family for this short time. The river is swelling in its banks because of the dam releases upstream, and the once tautly tethered rafts now tussle and nudge one another like large rubber puppies. I fill my cup with scalding water, stop to tighten the lines, and begin to gather my book, paints and chair. I notice that my book has fallen open to a new page.

Desolation Canyon - September 8, 1994. Another river trip, this time a friend and I had brought along two nine year old girls. The Cottonwoods were liquid yellow, and the four of us were like children in an abandoned playground. During lunch that afternoon the girls had cut flowering Tamarisk and fashioned grass skirts, tiaras, and necklaces for themselves. They had played imaginary games of being princesses on a deserted island, oblivious of their audience. I remember being amazed at this confidence of youth. This page of my book was drawn by Carly Heyrend, age nine. There is a picture of a tree, and in the branches is her list of all the animals we had seen so far:

Cotton tail rabbits, coity, two hawks
Great Blue Harrins, Jumping fish, Lizard
Big Mystery animal groling in night.

At the thought of mystery animals growling in the night, I pick up my sketchbook, fold my chair, and head for my sleeping bag. Once I've become something of a human larva, covered from head to toe in blue nylon and synthetic down, I flick on my headlamp and again reach for the sketchbook. It is showing its wear like a favorite toy. The binding is tearing loose and threads hang from it like moss. All of the corners are bashed in and there is a large stain, coffee I think, on the front cover. A third of the pages have a wavy topography from water damage. This book is usually crammed into a pocket of a backpack, passenger's seat of the truck, or the drybox of a raft, and has the scuffs to show for it. I let it fall open in my hands and this time the picture is not of a riverscape, but a snowscape.



8/19/95 - At the toe of Grasshopper Glacier, Wind RiverMountains, Wyoming." We had been traveling on glaciers for eight days. This silent and frigid landscape had the same stark beauty and loneliness of the desert, only more so. This was a place where one was constantly confronted with their smallness in the world. It seemed as if I was on the moon, or in a black and white movie. The sky was enormous, a cobalt shell over all of that ice and rock. I kept noticing these iridescent green beetles melted into the snow, blown up there by some crazy wind. I felt as out of my element as those insects. After eight days of being continually roped to my companions like a dog, eight days of that intense light and all of that ice and silence, I was ready to descend into a world made more for man. I wanted to smell a tree and walk on dirt. I was lonely for other living things.

I let the sketchbook fall closed and look up into the stars. I begin to slip off toward sleep thinking that there are as many pages to one's life as there are stars in a clear moonless sky of the Grand Canyon. It is all of those days of hope or boredom or loneliness, insecurity or confidence, or those days that we are like the sand, thrust along the wet line and abandoned; which shape us into who we are.

Colorado River Bed Case

Transcribed by John Weisheit

Two separate testimonies have been transcribed for this issue of The Confluence*. These oral histories, by Kenneth Sawyer and Harry T. Yokey, will help readers to understand pioneering river navigation in shallow water using engines, both steam- and gasoline-powered. Also the work assigned to the U.S. Reclamation Service for the proposed dam construction below the confluence of the Green and Colorado Rivers.*

The Testimony of Kenneth Sawyer
Salt Lake City in 1929, Volume 11

He resides at Yuma, Arizona; is forty-three years old, and his present occupation is that of city engineer for Yuma.

He has been engaged in surveying and engineering work ever since he has been grown. He was formerly connected with the United Sates Reclamation Service, and worked for them for a number of years.

In 1914 he was on the Green River, from Greenriver, Utah, down to the junction of the Green and the Grand [Colorado River] and up the Colorado to Moab. He was sent into this country by the Reclamation Service, with a party under the direction of Mr. John F. Richardson, to make a reconnaissance and survey for reservoir and dam sites, along that stretch of the river.

During the course of his work he investigated three different dam sites.

The first one surveyed, and where they also carried on some diamond drill borings at the site itself, was the junction of the Green and the Grand rivers.

The second was just below Flaming Gorge, on the Green River, in what is known as Horseshoe Canyon.

The third was on the Yampa River, a tributary of the Green River, at what is known as Juniper Canyon.

In connections with his operations at the dam site, at the junction of the Grand and the Green Rivers, it was necessary to have certain machinery and equipment. This material was shipped on the railroad to Greenriver, Utah, and consisted of a light, horizontal boiler and drill engine [Sullivan type H drill engine], necessary casings and drill tools, drill rods, and so forth.

He was not present at the Greenriver when this equipment was received, as he was down in the canyon on a survey at the time.

He got back from the survey down the river while the machinery was being loaded on the boats. This took place about twenty-five miles below Greenriver, near what is known as Wimmer's Ranch [also known as Wheeler Ranch and Ruby Ranch]. To carry the boiler and engine, casing and drill rods, Mr. Richardson had built two scows; approximately six by twenty-four feet. The two scows were operated about five feet apart, and were decked over, so they were practically one boat. The boiler and the engine were mounted on the two scows to give a little motor power.

He didn't see this machinery hauled down to Wimmer's Ranch. He states that the boat with the paddle wheel, is Mr. Wimmer's boat *The Marguerite*. He believes that the scows and *The Marguerite* both drew, loaded, about eight inches. In addition to the scows and *The Marguerite*, he had three small row boats, and two small motor boats; about fourteen or sixteen feet long. The whole expedition moved down together; the scows with the machinery, and *The Marguerite* leading the outfit.

BY THE SPECIAL MASTER: You ran two scows and a paddle wheel boat and three row boats and two motor boats?

A: Yes, sir.

Q: Who was the Admiral?

A: I was the Admiral, and Captain Yokey was the captain of the expedition, of this expedition—Mr. Wimmer was the admiral—I beg your pardon.

BY MR. BLACKMAR: Just describe the progress of the flotilla down the river.

A: The scows, being the most awkward of the bunch, we led those off, and our trip I think, took three or four days, somewhere in that neighborhood. We grounded many times on sandbars, the channels being a little difficult to pick out.

One instance, I remember, we were forced to pull scows off of sandbars with block and tackle that we had on board, but ordinarily by piling our freight and shoving and reversing the paddle wheel on the *Marguerite* we were able to get free and proceed.

We had more difficulty several times below; the wide shallow places in the river, the bars would usually choke the water off and shoot it over against the bank at a bend, and there were occasionally rock banks there from twenty to fifty feet high, and it took a little work to get around those and fend the outfit off from the rocks.

But we would gather all hands with all the poles and oars and things we would gather, and we would all place these things against the rocks and shove, and walk along the boat and got by these places.

I think there were two such places that I distinctly remember.

Exhibit No. 264 clearly represents one of the operations in getting off a sand bar; and was the boat *Betsy Ann*, which was a little barge, used on the survey. He believes it was the latter part of August, 1914.

He knows that all of the boats of the expedition grounded frequently.

Q: What method did they adopt to get off?

A: We had plenty of help, and we just dropped overboard in the shallow water and pushed the boat back into deeper water and proceeded.

When the expedition arrived at the mouth of the river they tied up and made camp on the right hand bank of the Green; approximately one-half to three-quarters of a mile above where he intended to drill; and the next day he moved the drill scows down to the position of the first hole, and anchored them. This was about five hundred beet below the confluence of the two rivers.

Q: What means did you adopt to anchor the drilling outfit there?

A: Mr. Richardson, while I was down on the survey trip, had had a local blacksmith in Greenriver make two iron anchors similar to the ship's anchors, and we used two of those for our front anchors.

We had this catamaran; we had an anchor consisting of an inch rope at each corner.

Q: What do you mean by a catamaran?

A: That is the drill barge, the two barges with the five-foot space between them, decked over with planking.

Q: As I understand, you passed two lines to the shore?

A: We had the location of the holes fairly well in mind, and these anchors, the two front anchors already to drop, and as we got the barge a few feet from where we wanted to stop, we shove these two iron anchors overboard and stopped the progress of the boat approximately within a few feet of where we wanted to start operations.

Then later on we anchored the lower anchors, consisting of rocks weighing four or five hundred pounds, tied with a bite of this cable rope.

The purpose of this drilling operation was to see if there was suitable foundation for a dam there at this point, but they were not able to locate bedrock, and their deepest hole was one hundred and twenty-five feet. These holes were down through sand and an occasional boulder.

Q: How long a period were you there?

A: We started drilling in the first part of September, and came out again in the first part of November.

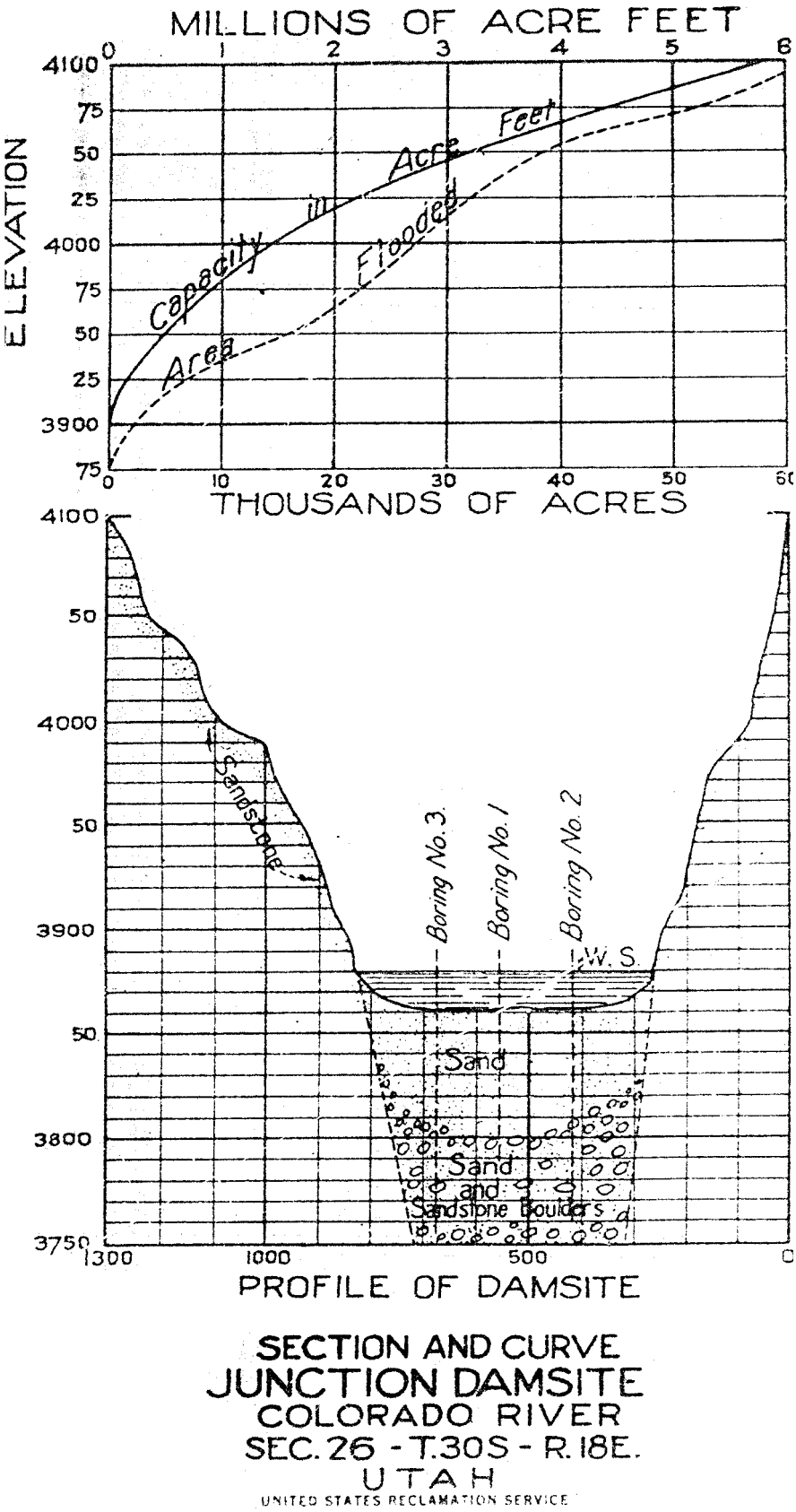
Q: What was the occasion of the ceasing drilling down there?

A: Why, one Sunday morning, while there were just a few of us in camp, we had about an eight foot rise, a sudden rise in the Grand, accompanied by immense quantities of driftwood; this driftwood came down so thick a chicken could nearly walk across the river dry shod.

We had difficulties in getting over to the barge, the drill barge, in a row boat, but by lots of action we got ahead of the driftwood a little and came in below it and got up to the barge.

This driftwood accumulated on the anchor ropes of the barge so rapidly we couldn't keep them clean, and it was about to sink the barge, so I got a shore line, an inch line ashore around a tree and cut the two front anchor lines with an axe, and as we swung around and hit the shore I had a second man with another line ready; it snapped the first shore line; the second one held long enough to swing us around to a projecting rock there which shunted the driftwood down, otherwise I imagine the outfit would have been carried over the rapids, which were about a mile or a mile and a half below us [3 miles], the first rapids of Cataract Canyon.

I made arrangements for Mr. Hiser, the drill foreman, to line the outfit back up over the hole; we had lost about ninety feet of drill rods and casing that we wanted to re-



cover if possible in order to resume operations, and I went up to Moab on the Grand River and wired the conditions to Mr. Richardson.

I got a wire back calling the outfit out; I think his wire said, "Take no more chances with life or limb," or something of that kind; so I brought the outfit out.

Acting on the telegram, which he received from Mr. Richardson, he took the outfit out.

As he recalls they started to take the outfit out about October 25.

After the flood subsided he went up the Grand River, in a motor boat.

He hired a Ford, and drove overland to Greenriver, where he bought an old paddle wheel that one was using.

He also got the gears and chains that he thought would be necessary to fix up the *Betsy Ann*, and Mr. Wimmer hauled this material down to the junction. They placed the small horizontal boiler and the engine on the *Betsy Ann*. The drill engine had a chuck that turns the drill rods, and they connected this to the paddle wheel and had a steam boat.

They loaded up with coal and left piles of it at intervals along the bank and stuck a pole at each pile with a flag on it, so they wouldn't run by it.

When they arrived at the junction he believes they had six hundred pounds of coal left. That was also loaded on the *Betsy Ann*, and the boat propelled itself up the stream.

They had taken the catamaran and lightened it in every way possible, *The Marguerite* pushed one of the scows, and the two motor boats pushed the other one. He loaded on what of the outfit he could, and cached the rest at the junction, and proceeded up stream.

BY THE SPECIAL MASTER: How did you get this stuff down with Mr. Wimmer from Greenriver to the junction that you brought down to fit up your *Betsy Ann*?

A: We brought it down in Mr. Wimmer's supply boat, *The Marguerite.*



John Richardson at the Junction Dam site, 1914

Q: *The Marguerite* had gone down originally—

A: Yes, and then come back.

They made a trip every two weeks back and forth from Greenriver and it was on the last trip up. He went down the river on his first trip with Mr. Wimmer.

Q: Tell me the progress of this expedition up stream.

A: Why, on account of the steam boat of ours being a sort of home-made affair, untried, and the difficulties we had encountered along the river, we took things very slowly and cautiously. We had some difficulty in getting around a place, a sharp bend where the river was throw against the cliffs, about two miles above the junction; the water was quite swift there; that was the only channel open, and we were hung up there for ten or fifteen minutes; we couldn't see whether we were moving or not; finally we would gain a foot or so; finally got the whole outfit past that point; and of course we had our daily round of grounding on sandbars; pick out the wrong channels amongst the sandbars and have to back up and push off and start again.

Q: Was Mr. Wimmer with you?

A: Yes.

Q: Was he in charge of the navigation?

A: I think he had the contract for the freighting of the outfit out of there.

It took the four of five days to come out with the outfit, to Wimmer's Ranch; which is located about twenty-five miles below Greenriver, Utah. They stopped there for the reason between that point and Greenriver, Utah, there are a series of gravel bars which are shallow, fast water, and wasn't possible to bring the outfit up over these bars.

The drill, and the other equipment was then unloaded at Wimmer's Ranch, and it was transported by wagon to Greenriver, Utah, and shipped by rail to Green River, Wyoming.

All the boats that went down the river came back up, with the exception of one row boat, which was lost at the junction. The row boats were fastened to the barge, and towed up; and were simply used for transportation back and forth across the river.

The two scows were pushed up the river, and the *Betsy Ann* came up under her own power.

Prior to the drilling operations he was in charge of the survey party, and this survey was started at Greenriver, Utah, and included the portion of the country above Greenriver for a few miles. As soon as the brought the survey down past Greenriver far enough, they had the *Betsy Ann*, two motor boats, and three row boats, and with this outfit he shoved on down to the junction.

This started in the middle of July, 1914; and was just prior to the drilling operations.

Exhibit No. 10 are the survey maps that were made at that time.

Above Greenriver he used oars and went on foot, and didn't use the river at all, and he didn't use the river for any of the surveys above Wimmer's Ranch, or just immediately below it.

After he started using the river it was necessary to get out of the boat frequently. Captain Yokey had charge of the operations of the motor boats, and the navigating. The motor boats were fourteen or sixteen feet long, and possibly for or five feet wide, and he doesn't believe they drew over seven of eight inches. [More discussion about getting stuck on sandbars.]

Between Greenriver, Utah, and the junction, he had made two trips with the survey party, one with the diamond-drilling outfit, and three or four trips while the drilling operation was going on. He believes he took two trips up the Grand River; and one with Mr. Eugene LaRue, on Mr. Wimmer's boat, up the Green River to the Wimmer's

Ranch. [More discussion about getting stuck on sandbars.]

The Mr. Wimmer he mentioned in his testimony, is Mr. T. G. Wimmer, who is sitting in the courtroom. He has had no conference with Mr. Wimmer; and he doesn't know whether or not Captain Yokey was in Denver [courtroom].

Testimony of Harry T. Yokey
Denver in 1929, Volume 15

Harry T. Yokey testified for complainant on direct examination as follows:

I have lived at Elgin, across the river from the town of Green River, since the fall of 1903. There are about a half dozen houses at Elgin. I have built and operated so many boats on the Green River that I have forgotten how many I have operated.

My first experience was in the fall of 1903 with a row boat, when I went down to the Cataracts, about one hundred and twenty-five miles below Green River bridge. This was a hunting trip in October in a boat about fifteen-feet long and a three and a half foot beam. With two men and our bedding and provisions for thirty days, the boat drew six or seven inches. We rowed and towed the boat back upstream. When we got tired of rowing we would tow. When we came to the riffles we would have to tow. For two or three years I made these hunting trips every fall.

I helped launch the *City of Moab*, installed the engines in that boat and was its chief engineer. We started down the river in July, having plenty of water, and the boat drawing three feet or more. It had two tunnels twelve-feet long and a twenty-eight inch wheel. We went down to the confluence of the Green and Colorado and then up to the Slide, a place where there has been a slide that has dammed two-thirds of the way across the river channel. The water was at flood stage and couldn't make it up through the Slide.

Then we turned around and started back for Green River and left the boat tied up at a point within ten miles of the town of Green River at Halverson's Ranch. We only had one hub left on the propeller on the port side and one blade on the stern, so it was time to quit.

On our upstream trip we hit a sand bar a few times but went on over them. We were gone on this trip approximately ten days from the time we started until we tied the boat up. We made side trips being bound for Moab and were unable to got through the Slide at that flood stage of water, whereas in ordinary low water the Slide did not amount to anything. At high water it takes a good craft to go up the Slide. We left the boat at Halverson's ranch for about three or four months.

The owner having concluded to take off the upper works, removed the tunnels, extended the boat ten feet longer so as to make it a sixty-one foot boat, and then put in the steam power. After these alterations were made the boat was named the *Cliff Dweller*, and I was again chief engineer.

When we made the trip in that boat at which time it was called the *City of Moab* it was equipped with two gasoline, four-cylinder engines, rated at twenty-five horsepower. After alteration two stern wheel engines rated at twenty-five horsepower each were installed. Going down the Green River with the *Cliff Dweller* after these alterations had been made, we had a very good voyage and went on down to Valentine's Bottom, located about one hundred miles below the town of Greenriver. This trip was made in the latter part of July.

Returning back upstream we did better than we did going down with the *Cliff Dweller*, Once in a while we would run on a sand bar. We tried to keep away from sand bars. I didn't keep any count of the number of sandbars we hit coming upstream, and I do not think the men who kept our log kept track of them. We came clear back up to the town of Green River in the *Cliff Dweller*. The boat was a little long for going over the riffles; the bow would jerk around and the stern came up and lift the wheel out of the water; then we would drop back, take a line ashore, and one man would get her off in twenty or thirty feet so we could get in the water and go on.

The boat was equipped with a six-spike capstan. On the upstream trip we used the capstan at Fort Bottom, where we ran on to a sand bar without putting off until evening; had to take the anchor out in deep water and take a few turns around the capstan and pull ourselves off into deep water.

At one place going down, called Hell's Hole, stuck about two o'clock in the afternoon. We there threw the anchor overboard and next morning the boat was floating free. That was at a point thirty or forty miles below the Denver and Rio Grande bridge and about fifteen miles below the San Rafael. We used a common old fluke anchor weighing one hundred and fifty pounds.

When the boat was as the *City of Moab* it did not carry a capstan. When operating the *City of Moab* we only ran lines to shore on one occasion, which was on the down trip at a point two miles above Horseshoe Canyon. We carried no freight on those trips, but the owner of the boat had two guests.

Our trouble at the Slide on the *City of Moab* trip was because of the flood stage of water. At low water and at minimum stage of water it was no trouble to go through the Slide; but at high stage I don't think a craft can go through there. Fort Bottom was figured to be about eighty miles below the town of Greenriver and Wimmer's ranch is twenty-five miles below Green River. A place called Brigham's Aleck is where we got stuck on the bar and got off with the capstan and anchor. On the upstream trip we stopped at Wimmer's ranch, which used to be Wolverton's camp, and raised our engines because the paddle struck a little below the bottom of the boat and we wanted to raise them so they would be in the clear. I think it took us two days to raise the engines.

The owner, Mr. Lunsden, sold a half interest in the *Cliff Dweller* to Mr. Seigmueller and they sawed the boat in two and shipped it overland to Salt Lake where it was used as an excursion boat. It only made the one long trip on the Green River. We made two little side excursions.

Exhibit 473, identified by the witness as a log, was offered in evidence, whereupon the witness was examined concerning the log by counsel for defendant and testified as follows:

We had no typewriter on the boat and the typewriting on Exhibit 473 must have been done in Cincinnati. I didn't know anything about any log being kept until about five years after the trip. Of course we hit a few sand bars, but the man who sent me this log was a chef with a rather lively sense of humor who liked to josh a great deal. I didn't count the sandbars and I don't think he kept a very accurate count of them. I can't identify the handwriting on Exhibit 473, but the exhibit was sent to me by Mr. Wise.

That portion of the so-called log down to the word "Notes" received in evidence and is set forth at length or pages 3409-3410 of the record and indicates that the *Cliff Dweller* left the town of Green River at 9 A.M. on August 6, 1906, arrived at Valentine's Bottom on August 9; arrived at Riverside on the morning of August 12 and engaged in the work of raising the engines and overhauling the boat until August 15, when the journey upstream to Green River was resumed and the boat arrived at Green River at 3 P.M. on August 16.

Resuming his direct examination Mr. Yokey testified:

After my trip in the *Cliff Dweller* I built a boat called the *Black Eagle* that was about forty feet long, with a six foot beam, and a draft of seven or eight inches. It had a semi-tunnel, half in the boat and half outside, and was equipped with a water tube boiler and a twenty horsepower compound vertical marine engine. It burned coal but we mostly depended on driftwood for fuel. I built this boat one, two or three years after the *Cliff Dweller* was sold and taken to Salt Lake, and launched it in the spring of the year. A month or two later I made a trip with the *Black Eagle* down to a point within ten miles of Valentine's Bottom, where the water tube got full of mud and blew up. I think the boat is still down there. I came back upstream with Mr. Wolverton on the *Wilmont*. He and a man named Woodruff had been prospecting around below there. I had been figuring on rowing back upstream and had a light boat along but I on back on the *Wilmont* with Wolverton and Woodruff. When I left the *Black Eagle* there I took out the boiler and engine and put them on shore with the cable. A year later I went back there and found the cable stretched out, one end of it on a tree, and I suppose the boat was on the other end, although I didn't see it. I later built another launch and went down the river and got my boiler and engines that had been in the *Black Eagle* and brought them back up to the town of Green River.

I do not remember a boat called the *Betsy Ann* [see Sawyer's testimony in this issue].

After asking examining counsel whether the *Wilmont* is the boat that was sunk up near the Denver and Rio Grande bridge and upon receiving a negative answer, the witness continued his testimony: I think the *Wilmont* was right below Wolverton's house. I saw what I judged to be the boat sticking up there.

I didn't give any name to my next boat but made it lighter so that it would run easier. That boat is now down at Tickaboo Rapid near Cass Hite's place. I sold it too Messrs. Fletcher and Butler and they took it overland via Hanksville and lost it at Hite. That boat was about twenty-eight feet long with a draft empty of about eight inches. It was powered with a double cylinder Northwestern engine of ten horsepower. After they launched the boat I went down to that section of the Colorado River and spent thirty days working on a gold bar. The boat was there when I left, tied up just below Tickaboo Rapids, which they couldn't make with the boat and it was tied up there. I never operated the boat down there.

I was engaged in the work of taking some machinery down the river for use an a government surveys being employed by John F. Richardson of the Reclamation Service. I had a fourteen by four foot boat, with a six horsepower engine, and took Mr. Richardson down to the head of the Cataracts in that boat.

Mr. Richardson told me he had a party of twelve men coming in with ten tons of supplies to be taken down and wanted to know how I would get it there. I told him to make a barge and take it down, and I built a barge thirty-two feet long by eight foot wide in ten days. I didn't name that barge.

We put five hundred or a thousand pounds of supplies in it at the Green River bridge and Richardson's field man, Mr. Sawyer, went down and also a man named Joe Ross. Meanwhile I got another launch that I had used at Halverson's ranch ten miles below. I used two sweeps on the end of the barge and tied it up at Halverson's ranch, where supplies had been hauled in from Green River, and we loaded the barge at that point. I didn't load all of the supplies on the barge at Green River because I was a little leery about a place called the Auger, where the river takes a short turn. I am afraid I couldn't make without landing on the ledge. I had no difficulty in going down to Wimmer's ranch.

After we completed loading the barge at Halverson's ranch located ten miles below Green River, took it on to the mouth of the Green River. In connection with my launch which was equipped with a six horsepower engine. We lashed the barge to this launch. One of the launches would take care of the upper contour of' the river and the other would take care of the lower level. The barge was finally sold at auction for or five dollars and is now down there on a sand bar. One of the launches belonged to me and the other to Mr. Anderson. My launch is not at the bottom of the river, I think, and I don't know what became of Anderson's launch, but it is not on the Green River now and there are no power boats except at Moab that I know of. I live within one hundred feet or the Green River.

Exhibit 474 is a picture of the *City of Moab* under construction at the Denver and Rio Grande pump house. Exhibit 475 is a picture of the Undine, which was brought into the country before I came there. Exhibit 476 is a picture of the *Cliff Dweller,* rebuilt from the *City of Moab*. That picture was taken within a day or two of the first date appearing in the log (August 6; 1906). (The three last mentioned exhibits were received in evidence.)

Harry T. Yokey testified on cross examination as follows:

After our one hundred mile trip down the river, we came back up to the town of Green River in the Cliff Dweller. Mr. Lumsdon told me and his foreman, Mr. Anderson, that we

could go ahead and operate the *Cliff Dweller* during the next season if we would stand all the expenses. Anderson and I started in good faith, but when Lumsdon made the sale of the boat we released him from his agreement.

Anderson and I merely had a verbal agreement with the owner of the boat, pursuant to which he gave us the privilege of fitting it up; we thought some changes should be made and we were going to be allowed to keep all we could make out of the boat during the coming season. When the owner received a cash offer for his boat we released him from the contract. The *Cliff Dweller* had a draft of sixteen or eighteen inches, and I am sure that when we started down the river with seven tons of coal on board and it had a draft of about twenty inches,

A boat with an eighteen inch draft would require two feet or more of water, and where the river splits up into two or more channels and at a real low stage of water, you wouldn't find that depth, although there is no time in the year except at really low water when there would not be such a channel in the Green River between the town of Green River down to the mouth of the stream.

I have lost count of the number of times I have been down be the mouth of the Green River. Some years I have made that trip three or four or five times; other years not more than once or twice. If a party came along I was always ready to take them down. Some years there are spots between the town of Green River and the mouth of the Green River where you couldn't find, at low water, a channel for a twenty to twenty-four foot boat a foot of water, on account of the river being up into two or more channels; if you had all the water in one channel, you would have sufficient water.

I don't know exactly how much water the *Wilmont* drew; it was a side-wheeler and would draw less water than a propeller boat. Mr. Wolverton did most of his running down the canyon with that boat. We met with our troubles up on these riffles. He would know more than I would as to whether there is any stage of water that boat could go up and down the Green River. I wouldn't care to express an opinion as to whether the *Wilmont* would experience trouble at any stage of water in going up and down that stretch of the Green River between the San Rafael and the mouth of the Green.

Three years ago I was unable to get my boat that didn't draw over a foot of water up the river at Little Valley. That is the only occasion in my experience when I could not get up and down the Green River with a boat having a draft of one foot, and theretofore I "always came back to the home port." Up until then I had always been able to find a channel sufficient to permit a boat drawing a foot of water to travel through.

At Barrier Creek, Valentine's Bottom and Fort Bottom the river spreads out; and when I was taking the barge down for the Reclamation Service, I ran through the same channel; we covered the river four or five times a trip, taking the bars out at that point and cutting a channel. I came back there with the launches and only hit one bar. If we had not been traveling back and forth I probab1y would have gotten stuck. As a general thing, even at these shallow places such as I have just described, there is no difficulty in finding a deeper channel, but sometimes it is pretty hard to find. If you keep turning you will finally get through. Even though you may be hung up for a little time by running on some bar, you are always able to reach your destination.

When I was carrying supplies for the Reclamation Service survey party, we didn't have occasion to go up and down the river with an interval of only a few days between trips; there ran a launch covering each end of the survey. During that time we did not have any occasion to leave the barge and come to Green River, although we took the launches to meet the barge at Wimmer's ranch and came to the town of Green River with both of the launches.

When the river rises if you go through and and agitate the sand, it cuts a channel. When you come over that same route a day or two or three days later, it is my experience that the channel is enlarged and the current will go into one channel instead of spreading out into two or more. From my experience on the river I would say that the effect of making frequent trips along the river would not be noticeable through that stretch lying thirty miles below Green River bridge; but from there on down the river frequent trips would cause a channel to and be of benefit in navigating the river and would keep the channel open. During the first thirty miles where frequent travel would have no of fact, you encounter gravel, and from there down you find sand. The shallow places that I spoke of below the mouth of the San Rafael are points at which there is sand but no gravel.

On the occasion when I left the *Black Eagle* downstream and came up with Mr. Wolverton on the *Wilmont* , we hit a sand bar a couple of times, but had no trouble and got off within a short time. During a year like this when there have been no boat run to stir up the sand below the mouth of the San Rafael and the mouth of the Green River, I wouldn't care to accept a contract to deliver freight and merchandise and passengers to paints up and down the river along that stretch after the middle of July. I would wish to start in when the river was going down and then agitate the sand and cut out the channel after it has settled. At this time of the year I wouldn't take a contract. I took my contract with the government about July 1 and have never had any contract later in the year. I have gone down where boats had not run during the year and I have been stuck a good many times where the river divides into three or four channels and there had been no boat there but me to make a channel. It is desirable to go on the river at a minimum stage when the river is dropping.

I recall coming up to your office, but I don't recall telling you that the Green River always had a channel if you know where to find it. I did tell you that there was no difficulty in going up and down the Green River after you made a channel. If I go downstream when the river is falling and make a channel, in making a trip after that I have no hesitation about coming back; I know where I am all the time and come right on through. I have done it and can do it again.

If you hit a sand bar at this time of the year going at good speed it will feel as if you had struck a rock. You may find two or three hundred feet where the river is spread out, with maybe three or four channels. There are a few

places where you would strike hard. Right today, if I knew that a boat had not been down the Green River this year, and if somebody wanted me to take two thousand pounds of supplies down the Green River, I would tackle the job if there was compensation enough and I would reach my destination in the course of time; and after that trip if some one else should come along and wanted me to repeat it, I wouldn't have nearly as much hesitation about taking on that job. I would feel that after the first trip had been taken the later trip would be easier.

[Comment: There are times in low water when travel across sandbars is impossible for boats that draft as much water as described by Yokey. Modern inflatable pontoon boats with outboard motors draft little water in comparison and can float over such sections as described by Yokey. Jet boats are able to navigate over these low points when on full plane. In a severe and sustaned drought, however, it is possible that all navigation could cease.]

H. T. Yokey testified on redirect examination as follows:

The channel cuts most when the water is falling. There is always a current where the most water is running and it will collect there and commence to cut. When the water is rising there will be crossing bars in different places on the inside of the bends; when the water falls it cuts and spreads out and deposits maybe a few hundred yards or a half mile further down. Then is when you should be running your boats to make a channel.

In the trips that I have made down the river I have general found the channel and the deepest water pretty near in the same location. You always find plenty of water on the outside of a bend. [Comment: This is absolutely not true and I am disappointed that Yokey even uses the word "always" in his vocabulary.] It is when you cross from one bend to the other that you have trouble in locating the channel. When you come into a bar you feel the pull of the rudders easing up and edge along and come to deep water; by the sense of touch you can wind on through and find the channel; otherwise, if you hold your rudder stiff you would run aground. I have no shallow draft boat at the present time; my boat draws, I should judge about twenty inches.

Harry T. Yokey testified on recross examination as follows:

The open season for hunting deer in this state is about October 10, and my hunting trips in 1903, 1904, and 1905 were always in October with a row boat. Row boats don't draw nearly as much water as a power boats. It is a great deal easier to find a channel coming upstream than going down, and because coming against the current you have plenty of time to pick out your course. Going downstream you have trouble because you come on to it suddenly.

H. T. Yokey, in response to questions propounded by the Special Master testified as follows:

The barge that we built to take down supplies to the government expedition carried a load estimated at ten tons down to the junction of the Green and Colorado Rivers; where it was cached for government party. That was after they had made their survey for the proposed dam.

H. T. Yokey testified on further recross examination as follows:

I have a twenty-two foot cruiser made fourteen-gauge iron and wire. It has a beam of five feet. I think it will be launched in the Green River some of these days. It has an eighteen inch propeller and the skag below is over ten inches. It draws too much water and I am figuring on putting on a stern wheel. It is my intention to put this boat in the Green River and to operate it there, and I expect to go down to the junction and around up to Moab in that boat if I am not prevented by Mr. Hoover and Mr. McDonald from building the boat.

End of testimony.



Close-up of Charlie Spencer taken in the spring of 1909 during his attempt to mine gold from the Wingate sandstone along the San Juan River.

Charlie Spencer's

Mining Operations, 1908-1909

San Juan River, Utah

by Robert Sorgenfrei, Librarian/Archivist
Colorado School Of Mines, Arthur Lakes Library
Russell L. & Lyn Wood Mining History Archive

In 1883, gold was discovered not far from the San Juan in Glen Canyon on the Colorado River and a minor gold rush began in the region. This paved the way for gold discoveries along the San Juan River in 1892, and by the end of the year the San Juan region was full of gold seekers. The Gabel Mining District along the San Juan River was organized on November 28, 1892. The district boundaries extended from the Utah-Arizona border to a point 50 miles north of the San Juan River between 110 degrees and 112 degrees west longitude. Lengthy rules and regulations for the mining district were drawn up and are on file at the Recorder's Office in Monticello, county seat of San Juan County, Utah. In 1892, *The Salt Lake Tribune* carried numerous articles about the San Juan Country that fueled the gold rush to the region. For a while in 1892, more than 200 men a day were coming into the region. However, this was a short-lived gold rush. The gold to be found was mainly flour gold, so fine that it defeated the efforts of most miners to recover it in sufficient quantity to justify the effort. By the end of January 1893, the boom was over and men started to head for more promising areas in Glen Canyon and in the Henry Mountains. After the 1892 gold rush, mining continued along the San Juan on a small scale. By the early 20th century, most mining activity was confined to a 20-mile stretch of the river below Clay Hill Crossing and as far as the great bend of the San Juan River. At this time, there were two prominent mining operations in the San Juan Canyon. The first was owned and operated by the Otto Zahn family of Los Angeles at a place called Zahn's Camp. They bought the placer claims at the camp in 1902 and off and on conducted mining operations there at least until 1915.

A few miles away from Zahn's Camp, there was a second mining operation run by a person that would be associated with ambitious mining schemes for over 50 years. Charles H. Spencer, known to all who knew him simply as Charlie, was born in Walsenburg, Colorado in 1872. Later he became teamster delivering freight by wagon in the Durango area. He was first drawn to the San Juan Country in 1892 when his freighting firm was engaged to haul supplies to miners during the short-lived gold rush. Later he claimed that he celebrated his twentieth birthday by driving a wagon and team of oxen over country in the San Juan Region that had never seen a wagon wheel. He was an expert bullwhacker, a special brand to teamster who could get a team of oxen to go places few other drivers could. Spencer started to pick up knowledge of mining by watching and conversing with miners along the San Juan River as he delivered freight. Although he had little formal schooling, he was a quick learner and was very personable. As he learned about mining, he became adept at using mining terms and jargon in ways that impressed would-be investors. Spencer soon got a sales pitch down that he used for years to entice money out of would be investors.

Albert Jones, who worked for Spencer wrote of him: *"His Western manners and the magnitude of his projects and their fabulous possibilities seemed to have an irresistible appeal to the small investor, and when one operation failed or was inconclusive, he always managed to raise more money and try again."*



Spencer freighting in supplies to his camp along the San Juan. Charlie Spencer was famous for getting an oxen drawn wagon over terrain that few other bullwhackers could.



Spencer Camp or Camp Ibex, as Spencer called in the winter of 1908-09. The camp was located at about mile 37 above the confluence of the San Juan with the Colorado River.

When he made what he thought was a discovery while prospecting, he spent little time with scientific testing. Since he truly believed everything he claimed, and was a born salesman, he was a real threat to the pocket book of any naïve investor. Yet Spencer was not a fraud. He believed everything he told investors. He was also a hard-worker, not afraid of doing his share of manual labor in camp.

After Spencer started prospecting along the San Juan, he developed a theory that the gold along the San Juan River came from the Wingate Sandstone located along the river. He had tested for gold in gravel bars along the river and found nothing, but he did find gold in eighteen-inch layers of red sand that ran through the gravel bars. This red sand came from the Wingate Sandstone. Spencer believed he had discovered the source of the gold in the San Juan. With this "discovery," he became convinced he had the answer to recovering the gold that had eluded other miners along the San Juan River. Why get it from placers where the river has ground it down to flour when you can get it from the source, he reasoned. There are vast amounts of Wingate Sandstone right along the river in great piles that did not have to mined, but simply crushed and chemically amalgamated in order to get the gold out. To Spencer the Wingate Formation was an unlimited source of "ore at hand." All Spencer had to do was convince others of his theory and vision for gold mining on the San Juan and get them to finance it.

By 1908 Spencer had amassed enough capital from investors in Chicago to set up an operation along the San Juan River at about mile 37 above its confluence with the Colorado. The place along the San Juan River where Spencer ran his mining operation, he called Camp Ibex, because as he put it, "only a mountain goat would attempt to reach the place." However, it was commonly referred to as Spencer Camp, and most maps that show its location use that name. In the camp itself, three rock walled structures covered with canvas tenting were erected. Two of the buildings served as bunkhouses and the other was a cookhouse. Camp Ibex or Spencer Camp operation launched Spencer's career of promoting ambitious but ill-advised mining projects that spanned more than fifty years.

In November 1908, Spencer was able to recruit the services of John H. Marks, a mining engineer and his assistant, Albert H. Jones, a civil engineer. Both worked out of Denver and came out to the San Juan Country to survey and mark Spencer's claims for him. They worked for about three months doing this survey work while Spencer was away purchasing machinery to bring into the camp. He returned in mid-February and told them a road would have to be constructed to get the machinery down to the camp along the river. With Marks and Jones marking out the route, Spencer employed a pick and shovel force of Navajos and Paiutes to construct the road. A 1000-foot rise from Nakai Creek to the rim at the top of the San Juan River Canyon had to be traversed before the road could be built down to the river. In places grades ran as high as 25% on the road. In March 1909, the road was completed. Spencer Camp was about as far away from a railhead, as one could be in the early twentieth century continental United States. Gallup, New Mexico and Mancos, Colorado were the nearest railheads, and both about 200 miles away. With the road built, Spencer was able to get heavy machinery such as crushers, boilers, amalgamating tables, and a large gasoline Otto engine to his camp by wagons drawn by as many as five teams of oxen at a time. Hauling this machinery 200 miles from Gallup was a major feat and a tribute to Charlie's bullwhacking skills.The only other place to get supplies was at Oljato Trading Post on the Arizona Utah border near Monument Valley, but supplies were expensive there and Spencer preferred to get them in Gallup and haul them in.

By the time Spencer got his road built and the machinery hauled in and put in place, he was almost out of money and operations had to be suspended. This was around the end of March 1909. In order to try to get more money out of his investors, Spencer hired Marks to write a mine report on his San Juan Mining Operation that he could use to attract investors. After this report was written, Spencer took it and his sales pitch back East and was able to squeeze more money out of his investors. He returned to his camp in June 1909 but this time a mining engineer from Chicago with assaying knowledge came along. After about a week of making tests and assays, the mining engineer from Chicago became convinced that the operation was of no commercial value and the operation was closed down.

Spencer then went to Chicago again and tried with all of his powers of persuasion to convince his investors to let him keep trying. But investors refused. However, just before he was ready to call it quits and come back west, he

met Dr. Herbert Parkyn, a psychologist and mine promoter in his own right who had written a pamphlet entitled *How to Get Back The Money You Lost in Mining.* Spencer found a kindred spirit in Parkyn who in turn found a new group of investors willing to back the operation.

The investors sent out from Chicago, W. H. Bradley, a mining engineer to observe the operation, take samples and make tests. Bradley soon became convinced from his test results that the operation had no commercial value and the camp was shut down. However while at Spencer's Camp, Bradley had tested the shale deposits from the Chinle Formation, known locally as "San Juan silts" and found some promising results from the tests. Just after this happened, two prospectors passing thru camp told Spencer and Bradley that the Chinle formation ran right along the river at Lee's Ferry, Arizona. The idea of recovering gold from Chinle shale appealed to Spencer since it did not have to crushed, and was sluicable with high pressure hoses. At a site like Lee's Ferry, shale could be hydraulically mined right along the river with pumps powered by coal found upriver, and supplies could be brought in easier. Therefore it was decided to shift the mining operation to Lee's Ferry. This operation too ended in failure when it was discovered that an unknown substance clogged the amalgamator, allowing gold to be passed out with the tailings. Years later it was learned that this substance was rhenium. Before the operation folded, the one event that Spencer is most known for occurred: the steamboat, *Charles H. Spencer* was built at Lee's Ferry and abandoned at the river's edge where it remains today.

Charlie Spencer was undaunted by every set back he encountered with his mining schemes and went on promoting bigger and better things that somehow in the end never seemed to quite pan out. In early 1960's while in his nineties, he tried to mine the rhenium at Lee's Ferry that had forced him to abandon his gold mining operation fifty years before.



A view of the San Juan looking downriver from Spencer Camp. This area is now silted in and unsuitable for rafting.

However in the end he mined far more money from investors than he ever made from the ground. Spencer died in 1968, living to see Glen Canyon Dam built, and his mining camp on the San Juan that launched his mine promoting career drown by the waters of Lake Powell. Before his death, he expressed doubt the sandstone and shale formations that Glen Canyon Dam is built on would ever support such a structure in the long term. Charlie knew a great deal about the rock formations along the river that denied him the gold he sought after; perhaps more than the civil engineers that designed the dam. In 1983, after a period of heavy rain and runoff from snowmelt the spillways of the dam came close to failure. Perhaps Spencer may yet have the last word about the sandstone and shale formations he knew so well: the dam has yet to experience a 100-year flood.



Charlie Spencer and crew at Oljato Trading Post in 1909.

AN EARLY TRIP DOWN THE GREEN AND COLORADO RIVERS?

by Jim Knipmeyer

In an article entitled "Henry Fraeb, Mountain Man" that appeared in the June 1985 issue of *Frontier Times* magazine, the author, Dale T. Schoenberger, made an intriguing statement. He said that, "In the fall of 1833 Fraeb and a score of trappers descended the Green River to its junction with the Colorado in Utah. Fraeb's party then descended the Colorado into northern Arizona."

The author is clearly implying that this trip was made by water, which if true would have been one of the earliest descents of the Green and Colorado rivers on record. Unfortunately, no footnotes or endnotes accompanied the article to indicate just where Mr. Schoenberger got his information. However, it proved easy enough to trace the story back to its original sources.

The only detailed biography of Henry Fraeb is that by western historian and author LeRoy R. Hafen, and which is included in his ten-volume series *The Mountain Men and the Fur Trade of the Far West*. In it Mr. Hafen states that, "For the fall 1833 trapping Fraeb took a party of twenty men down the Green River and the Colorado, with Bill Williams as guide. Early next spring, according to Joe Meek, they were visited on Bill Williams Fork of the Colorado in Arizona by some of Joe Walker's men returning from California."

Fortunately, Mr. Hafen's biography did give the primary sources for the statements contained in the above two sentences. The first came from a letter written by Thomas Fitzpatrick to Milton Sublette on November 13, 1833. The other was contained in the biography of Joe Meek, *The River of the West*, by Frances Fuller Victor.

Fitzpatrick's letter simply said, "Fraeb with about 20 men is gone down the Seedkeedee with Bill Williams for pilot and intends not to return before March 1st." The "Seedkeedee" was one variation of the trappers' spelling of the Indian name for the Green River. Meek, in relating his life story to Mrs. Victor many years later (the book was published in 1870), provided the additional information concerning Fraeb's trip. He said, "1834. In February the trappers (Walker's group)….ascended the Colorado once more, to Williams Fork, and up the latter stream to some distance, when they fell in with a company of sixty men under Frapp (*sic*) and Jervais…."

In neither account is the actual route of Fraeb's party given. Mr. Schoenberger knew Fraeb's starting point on Ham's Fork of the Green River in present-day southwestern Wyoming and his end point on Bill Williams Fork of the Colorado River in today's western Arizona. Therefore, in his *Frontier Times* article, he evidently assumed that Fraeb and his companions descended the two rivers and so stated it thus in his article.

What the author apparently did not take into account was the geography of the region between Ham's Fork and Bill Williams Fork. A river route between those two points traverses some of the deepest canyons and roughest whitewater rapids on the continent. These include Disaster Falls and Hell's Half-mile in the Canyon of Lodore, Mile-long Rapid and the Big Drops in Cataract Canyon, and numerous major rapids in Marble Gorge and the Grand Canyon. Even Fitzpatrick's "20 men," much less Meek's sixty, would have been a number that precluded a voyage by boats. A journey made by water, therefore, would have been most impractical and very unlikely.

However, one of the statements in Joe Meek's account does provide an alternative possibility. As given above, Meek says that he and his party met that of Fraeb "up the latter stream (Bill Williams Fork) to some distance…." A well-known trail used by fur trappers and traders since the decade of the 1820s connected the Green River basin of southwestern Wyoming with the Mexican settlements in New Mexico by way of western Colorado. A branch of this trail threaded the Uinta Mountains separating the Green River basin from the Uinta basin of northeastern Utah, traversed the Tavaputs Plateau, forded the Colorado River near present-day Moab, Utah, and continued on south into Arizona and the headwaters of Bill Williams Fork.

It is, therefore, much more likely that Fraeb and his twenty fellow trappers (or sixty) followed this overland route and *not* the Green and Colorado rivers themselves.

Sources Used

Fitzpatrick, Thomas to Milton Sublette, November 13, 1833 letter. Sublette Collection, Missouri Historical Society, St. Louis.

Hafen, LeRoy R. "Henry Fraeb." *The Mountain Men and the Fur Trade of the Far West*, Volume III. Glendale, California: Arthur H. Clark Company, 1966. 135.

Schoenberger, Dale T. "Henry Fraeb, Mountain Man." *Frontier Times*, June 1985. 55.

Victor, Frances Fuller. *The River of the West*. Hartford, Connecticut: N. p., 1870. 152.

Jim Knipmeyer, in association with University of Utah Press, have produced a new book called *Butch Cassidy Was Here: Historic Inscriptions of the Colorado Plateau*. ISBN 0-87480-736-0



LABYRINTH CANYON

A Case Study in State and FederalCooperation for Administration and Management of Recreation on a Navigable River

by David Dawson, Dennis Willis and Pam Swanson

Presented at "Incredible Rivers and Incredible Demands" Sixth Biennial Symposium on River Management and Planning. Boise, Idaho, May 1-4, 2002

There is an exquisite charm in our ride down this beautiful canyon. We are all in fine spirits. We whistle or shout or discharge a pistol to listen to the reverberations among the cliffs. We name this Labyrinth Canyon. John Wesley Powell, 1869

Introduction

The allure of this beautiful canyon, noted by John Wesley Powell in his diary entry of July 15, 1869, has, in the last decade, begun attracting fairly heavy recreational use. Along with the increased visitation have come increases in the usual impacts–popular campsites have seen a proliferation of fire rings, vegetation stripped for firewood, toilet paper flowers sprouting from behind any vestige of concealment and many sites taking on the pungent aroma of a frat house backyard the morning after a kegger. To say the least the allure has become slightly tarnished.

Labyrinth Canyon is a sixty-four mile long segment of the Green River in southeastern Utah (fig 1.) Powell named it for its many intricate twists and turns. It may just as well have been named for the maze of conflicting Federal and State jurisdictions that have since been overlaid on this canyon. The river has been adjudicated by the Federal Courts as navigable and thus managed by the State of Utah to serve the public trust. Two BLM field offices manage public lands above the high water mark. Recreation use on the river had been relatively unregulated. Both the State and Federal agencies had adopted special rules for the area. However, rules from the two sovereigns were not consistent and neither agency did enforcement due to concerns over jurisdiction. While the jurisdiction issues were being debated by the agencies, visitor use, impacts and incidents of noncompliance were increasing. Natural and cultural resources were being damaged or placed at risk. Visitor impact and conflicts reached such a level, the commercial guiding community demanded effective action be taken. The agencies have embarked on a cooperative effort to create a seamless permit system, adopt one set of regulations for the area and to improve enforcement efforts.

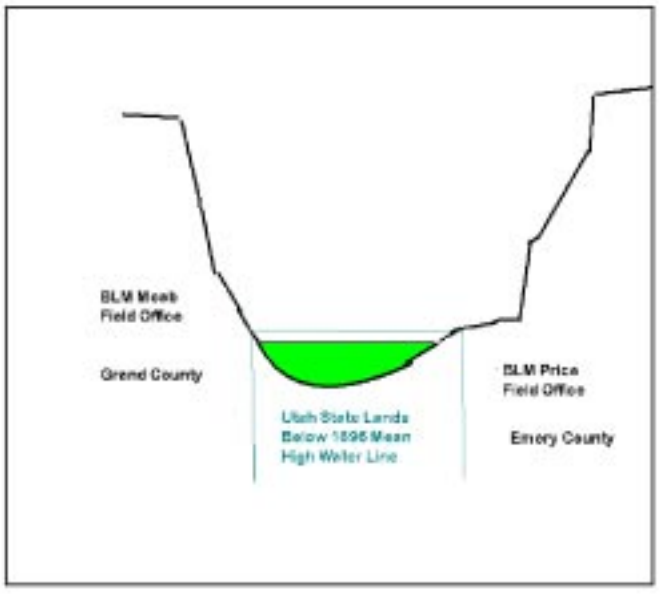


Figure 1. Labyrinth Canyon on the Green River

Jurisdictional Issues

Under the Equal Footing Doctrine submerged lands beneath navigable bodies of water belong to the state in which they are located unless the federal government explicitly reserved those submerged lands for some other purpose prior to statehood. Originally these lands were set aside to ensure unimpeded use of the river for transportation of commerce, much like modern-day highway easements. To date in Utah, only those river sections that could be used or were used for this original intent were adjudicated as navigable. The stretch of the Green River from the end of Swasey's rapid, just upstream of the town of Green River, to the confluence with the Colorado River through Labyrinth and Stillwater Canyons has been determined to be navigable (United States v. Utah, Civil No. C-201-62, Utah District Court, Central Division, January 9, 1965). Utah Division of Forestry, Fire and State Lands (FF&SL) is the managing agency for these lands.

In 1964 Congress created Canyonlands National Park of federal lands previously managed by BLM and in 1976 acquired all State lands within the Park boundaries including the riverbeds of both the Green and Colorado Rivers (State Exchange 96, filed Feb.24, 1972. Completed April 29, 1976). The northern Park boundary is roughly three miles downstream of Mineral Bottom on the Green River.

Lands upstream of the Park boundary and above the mean high water mark, with the exception of a handful of private inholdings, are federal lands managed by the Bureau of Land Management. The Green is also the boundary between two BLM office areas–lands to the East of the river are managed out of the Moab Field Office and lands to the West of the river are managed out of the Price Field Office.

The exact boundary between sovereign State and Federal lands is defined as the "ordinary high water mark" at the time of statehood, July 4, 1896. This is a difficult line to define. Since statehood, there have been numerous upstream dams and diversions and the invasion of tamarisk have caused narrowing of the channel. The river is also very active and carries a high sediment load. The channel moves about, cutting, depositing and generally rearrang-

ing the bottomland. Thus FF&SL and BLM have described this line with a very broad brush.

BLM's authority to regulate recreational and commercial use of the Green River is rooted in the 1976 Federal Lands Policy and Management Act (FLPMA). The statute requires the Secretary Of The Interior to "manage the public lands under principles of multiple use and sustained yield" 43 U.S.C. § 1732 (a). Managing public lands for multiple use is defined to "meet the present and future needs of the American people," and must avoid "permanent impairment of the productivity of the land and the quality of the environment" 43 U.S.C. § 1702 (c). Further, the Secretary is given the power, to "regulate through…permits…the use, occupancy, and development of the public lands" 43 U.S.C. § 1732 (b). Because the typical river trip length involves several nights camping, and extended off river hikes, there are impacts on BLM lands associated with river running, especially during annual spring high water flows when camping on sand bars is not possible. Additionally there is the Horseshoe Canyon North WSA (Wilderness Study Area) extending 22 miles down the west bank of the river from river mile 81 to mile 59 (mileage is measured upstream from the confluence of the Green and Colorado Rivers, with the confluence being mile 0).

In 1993, BLM adopted rules for Labyrinth consistent with rules developed for river recreation in the rest of Utah's BLM managed river corridors. Group size is limited to 25 persons, use of fire pans and portable toilets is required, only driftwood may be collected for firewood.

FF&SL however had no special rules related to river recreation. Prior to 1994 the Division managed all State lands including State Institutional Trust Lands which are those sections set aside at statehood (in Utah typically four sections per township) to help fund public education through the lease or sale of said lands. Most State recreation/resource protection ruling were developed for these lands and pertained primarily to OHV recreation. River recreation and impacts to the sovereign lands in Labyrinth were simply not on the Division's radar screen.

The BLM and the Division of Forestry Fire and State Lands have acknowledged each other's sovereignty since the navigability adjudication of 1965. However with no parity in rules for the Labyrinth corridor and in the absence of clear delineation of State and Federal lands, enforcement of BLM's rules would risk a jurisdictional battle.

What seems to have resulted from defining the sovereignty of the two agencies was a Mexican standoff. BLM while enacting rules did little to enforce them and FF&SL seemed unaware that impacts to sovereign land were mounting. Thus the requirements of fire-pans and removal of fire ash and the use of portable toilets and limits to group size found on most other Western rivers seemed overlooked in the dual-agency management of Labyrinth. To add to the complications, there are three commonly used launch points for entering Labyrinth Canyon. Green River State Park, is located in Green River and administered by State Parks and Recreation, a sister agency of FF&SL under the Department of Natural Resources. Ruby Ranch is privately owned with the landowner making contact with boaters and charging a fee for the launch. Crystal Geyser is owned by the City of Green River and is not staffed or supervised.

Management Challenges

During the 1992 season the Price BLM Field Office placed volunteer, Alan Jackson, at the Mineral Bottom ramp to monitor use. Mineral Bottom is an hour and a half from the nearest town of Moab. The ramp lies at the bottom of a remarkable set of switchbacks that descend roughly eight hundred feet through a natural break in the otherwise vertical Wingate sandstone. Jackson set up residence in a camp trailer at the remote ramp and kept tabs on folks launching from and taking out at the ramp. He also began to discreetly note the number of trips that were not using portable toilets. The Price office initiated a voluntary river trip registration. The registration included BLM regulations and general information and requested contact information for the group conducting the river trip. If a group failed to carry a portable toilet or fire pan a letter would be sent from the Price BLM office informing the people of the requirements. Alan has returned every season since and an interesting user profile of the typical Labyrinth trip has emerged.

Each year, 6,000 to 8,000 people float the river through Labyrinth Canyon. About 15% of the use is associated with commercially outfitted trips. Eighty-five percent of all users are on self-outfitted trips. Canoes are the vessel of choice for 65% of the visitors. The average trip length is 4.7 days. Slightly over one third of the trips do not comply with the human waste carry out requirements. Nearly all of the trips running without toilets launched from Green River State Park. Use seems to correlate with flows, high water years yield more river trips and more mosquitoes. High water campsites are limited in number and generally do not see flushing flows. The result is that in high water years, more people are concentrating on the limited number of camps, concentrating use on sites that are not very resistant to disturbance.

In 1999, Utah State University conducted a user survey on nine river segments managed by the BLM (Reiter and Blahna, 2001). This study shed further light on the management challenges and specifically the difficulty of communicating with users. Seventy-five percent of visitors reside outside of the State of Utah. This indicates our practice of issuing news releases though statewide outlets is not very effective. Eighty-four percent are on their first Labyrinth trip and 60% are on their first Utah river trip. Over a third rated their skill level as, "beginner." This lack of experience with the river segment and river running in general was more evident in Labyrinth than on any of the other study segments. When asked where they obtained their information about the river, 44% got it from friends as compared with 2% who obtained information from a government agency.

Against this backdrop of remarkable natural resources and serious management problems, the two sovereigns were engaged in a dispute over jurisdiction. The dispute resulted in both agencies abdicating their responsibilities to take care of the public trust. It took realization that re-

gardless of where the boundary line was drawn, both agencies had similar management responsibilities.

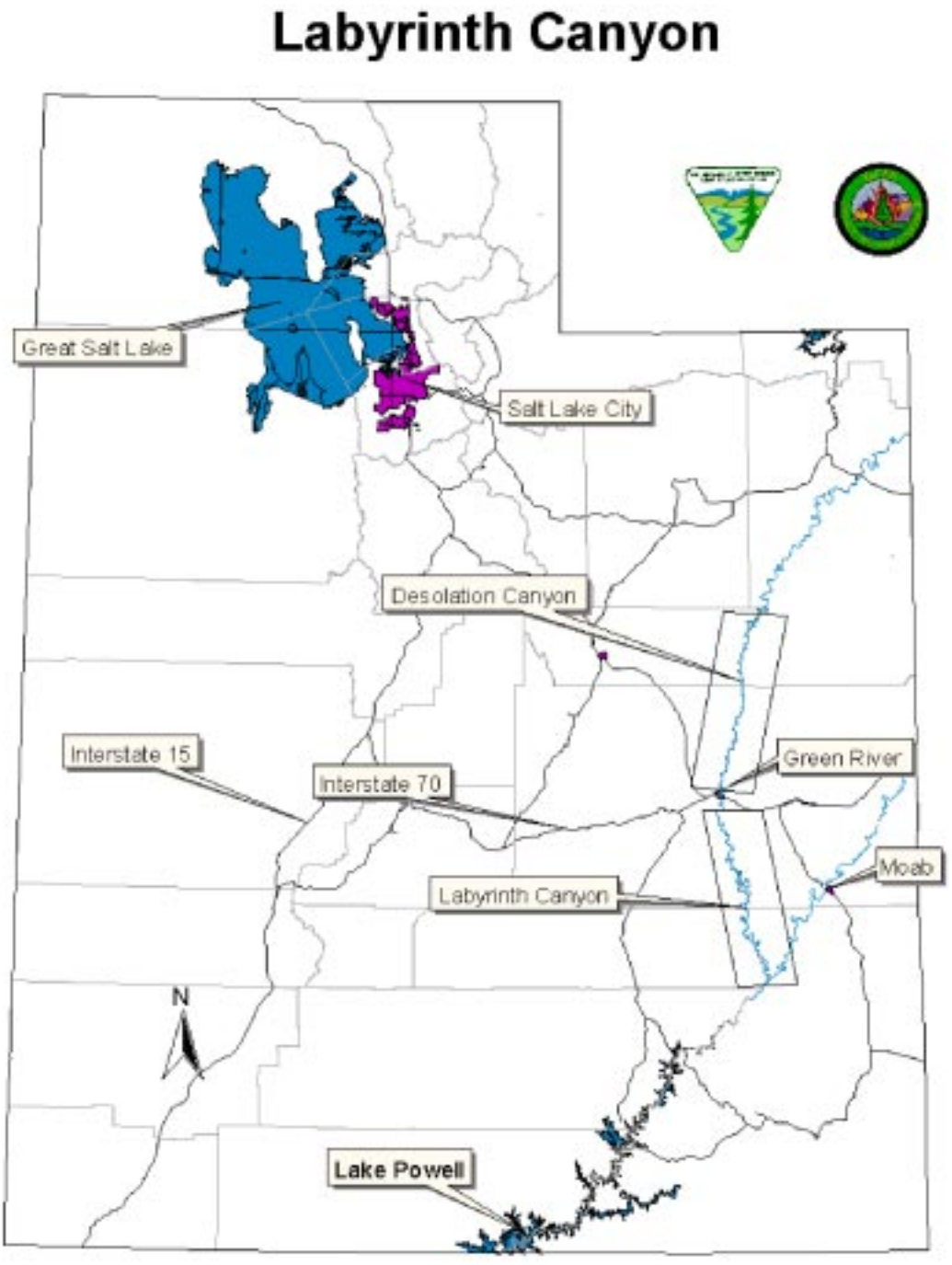
Resolution of the Problem

The impacts of the 1998 river season (a high-water year) were very observable and comment from both outfitters and private boaters finally reached the FF&SL folks. In response FF&SL erected signs at the Green River State Park put-in suggesting the use of portable toilets and fire pans. Rule making, requiring fire pans and human waste carry out was not pursued until the Spring of 2000 and it was not until the annual Agency/Outfitter meeting in the Fall of 2000 that FF&SL let it be known they had adopted rules on river recreation in parity with existing BLM regulations, i.e. carriage of fire pans and portable toilets is required. This unfortunately came to light in response to the outfitters' behest that some management action be taken to address the deterioration of the Labyrinth resource.

One of the major concerns was a series of fires caused by river runners allowing their campfires to escape. A fire at mouth of Horseshoe Canyon erupted under high winds from a boaters' camp and spread across the large bottom consuming mature cottonwoods, hackberry, and of course dense stands of tamarisk. Access to the common archeology stop at this bottom is now through the charred landscape. Fortunately the archeological site itself was unaffected. In another tragic case, 80 acres of river bottom were burned and the man responsible and his young daughter suffered serious burns. Since both sovereigns have a fire suppression mission, the fires were a good wake up call.

After the Fall Outfitter's meeting and the discovery that FF&SL had run resource protection rules through their rule making process, the dilemma became how to disseminate the new laws to the boating public.

On 12/14/2000 a facilitated meeting of outfitters and agency folks was held at the John Wesley Powell Museum in Green River, Utah. Sixteen folks participated, half agency people representing BLM, FF&SL, and State Parks and half outfitters. Rosann Fillmore, Director of Emery County Economic Development, facilitated the meeting. Problems with user's treatment of the resource were thrown out then solutions were proposed, the upshot being a permit sys-



tem was decided to be the most effective way of getting information directly into the hands of people using the resource.

In order for FF&SL to enter into a permit system, a rule making process was undertaken which required passage by their board of directors then a sixty-day public comment period. Essentially the new rule makes mandatory under state law the that any private party launching a multi-day Labyrinth Canyon trip must have in their possession a permit for that trip. This is the first time FF&SL has required a use permit on not-for-profit, public use/access to State sovereign lands. FF&SL determined that the permit must be free, for to charge a permitting fee would be a violation of their edict to hold the land in trust for the people of Utah.

Following the rule making process, a cooperative management agreement was drafted, reviewed by legal council, and adopted. The agreement defined the geographic boundaries of the cooperative river management area (CRMA) as the section of river from Green River State Park to the Mineral Bottom take-out. The agreement also acknowledged the legal authorities of the partners as pertaining to their roles in the management of the CRMA. Responsibilities of the partner agencies and the roles of each office involved are laid out. The BLM Price field office was designated the home office and repository for permits, a natural as commercial permits for Labyrinth are handled through this office. There is also a Labyrinth Canyon information web site and the Price office is the administrator with links from the other agencies. The BLM Moab Field Office has produced permitting information for the river user bulletin boards at Green River S.P., Crystal Geyser and Ruby Ranch put-ins and the Mineral bottom take-out, and is a permitting outlet. State Parks committed to increased presence on the Green River S.P. boat ramp and additional boating patrols and the park is also an outlet for permits. FF&SL committed to helping fund a three-month seasonal position contacting groups at the put-ins and their Moab office is also an outlet for the permit.

One of the beauties of a non-fee permit system is the lack of accounting concerns allows creative distribution. We have attempted to make the permit eminently available by having every point that a river trip might come into contact with in their planning or shuttle phase up to the point that they actually launch, be a permitting outlet. Thus permits are also available at the Moab Information Center (open 7 days a week 8:00 am – 10:00 pm, downtown Moab), Canyonlands National Park permitting office(permits trips entering the park, Moab), John Wesley Powel Museum (open 8:00 am – 6:00 pm 7 days a week, Green River), and Ruby Ranch (private ranch on the Green river and common launch site, 23 miles downstream of Green River S.P.). Permits are also available from canoe and raft livery services located in Moab and Green River

A press release regarding the new permit was issued late in February and between the two BLM offices, the FF&SL Moab office, and Green River State Park, a number of related calls have been fielded and roughly 30 permits issued.

Currently, administration of the permit is an economic burden born primarily by the Desolation Canyon permit system and it is unlikely to ever become a self-supporting fee system. FF&SL has a fairly clear directive to maintain free access to sovereign lands and as there is no tractable method of distinguishing lands in the river corridor managed by BLM from those managed by FF&SL, the lowest common denominator of a no fee system will hold sway for at least the foreseeable future.

We are confident that an increased presence on the river and on the ramps coupled with information provided directly to the user through the permit system will encourage an improved land use ethic. The staff at Green River State Park has been receptive and is making the effort to contact and educate as many parties as they can. FF&SL have come forward with funding for a three-month seasonal position. The position is based out of Green River State Park and is supervised by the Assistant Manager of the Park.

From an enforcement perspective the State and the Federal agencies involved are at long last singing from the same sheet of music. Additionally, the permit is a sort of contract with the implicit understanding that if some aspect is broken that penalties may be imposed. Both BLM and State Parks Rangers now have a clear and consistent directive to work from and the boating public will be receiving the same message from any official contact regardless of uniform.

We look forward to reporting on a successful season come October.

Literature Cited

Reiter, Doug, and, Dale Blanhna. 2001 Recreational Use, Value and Experience of Boaters on Rivers Managed by the BLM in Utah. Utah State University. BLM Task Order #25, Agreement #D910A30310.

Appendices (not included)

A. Cooperative Agreement
B. Labyrinth Canyon Permit
C. Permit Stipulations

About the Authors: David Dawson is a ranger for Utah State Parks based in Moab, Utah. He is specifically assigned duties as river ranger for the Southeast Region. Dennis Willis is an outdoor recreation planner for the Price Field Office of the BLM. He administers the river recreation program in Desolation, Gray and Labyrinth Canyons of the Green River. Pam Swanson is an outdoor recreation planner in the Salt Lake Field Office of the BLM. Prior to moving to Salt Lake, Pam was the recreation technician for the river programs in the Price Field Office.

Foot Care For Guides!

by Herm Hoops

Do your feet crack and dry during the river season? Most of us spend the summer wearing open footwear, like Chaco's or Tevas. Wearing open footgear in the wet and dry climate along Utah's rivers has some drawbacks. Although going barefoot in sand helps sluff off dead skin from the soles of your feet, the dry, hot sand sucks moisture from them.

Most common river footgear creates a zone of moisture between your foot and the surface of the sandal. They way we work on the rivers is condusive to formation of thick calluses. The constant change from being extremely wet, to becoming very dry causes calluses to crack, often in a very painful way. It is best to care for your feet on a regular basis. Here are some items to consider using if you develop foot problems:

• Antibacterial soap; make sure it contains "Triclosan" or some other bacterial agent.

• Pumice stones: fake ones available at mass-market stores work well

• Toe nail clipper: a straight edge is better for toenails, curved toenails have a tendency to become ingrown; curved fingernail clippers are fine for smaller toes.

• Foot lotion: containing an ingredient like *Dimethicone* which helps heal cracked calluses.

• Callous remover: a frightening looking tool with a curved razor blade on a handle, used to shave calluses.

• Socks to wear at night to help your feet absorb lotion. Cotton/lycra/spandex blends are best.

• Small nail brush

The process of foot care starts with washing. If you can, use warm water because it helps soften your skin. Scrub away dead skin, and while still lathered work at the dry or calloused areas with a pumice stone. Always work the stone in one direction, don't brush it back and forth like a scrub brush! After rinsing and drying you can lightly drag the callous remover over callouses. Don't cut into the callous; just lightly drag the cutter across the surface–like you were slicing off a delicate piece of cheese! Don't try to remove all of the calloused or dry skin at one sitting. Finish up by trimming nails while they are still moist.

Finally apply several generous portions of foot lotion. Repeat the lotion before bed and put on the socks. Your body heat and the lotion will create a small sauna of sorts for your feet.

CPRG Position Regarding Deerlodge Boat Ramp

by CPRG Vernal Director

The Colorado Plateau River Guides (CPRG), an orga nization of over 300 commercial river guides, supports National Park Service modification of the Deerlodge boat ramp on the Yampa River. The CPRG position is based on safety concerns, environmental protection and efficient launching of river craft. In support of modification to the Deerlodge site we strongly urge the consideration of the following:

1. CPRG support is contingent upon having a campground adjacent to the launch ramp. The availability of an adjacent campground for safety and efficiency reasons is critical to CPRG support of boat ramp improvement. The CPRG position on camping within sight distance of the launch ramp allows guides and private boaters to monitor their equipment while performing other duties. It also allows easy loading of camping and cooking equipment used at the launch site.

2. CPRG is concerned with over-development of the site. There is little conflict between river users and other campers, thus we do not feel that separation of these differing groups of users is necessary.

We do not support formalization of camping or campground design beyond the current situation at Deerlodge. The Deerlodge site is in use for river launches approximately three months a year. Campground use is light for the balance of the year and CPRG feels that the light "informal" camping at the site is appropriate, with an appropriate amount of infrastructure support from the NPS. We support the approach of a light hand upon the land, especially given the short season of use at the site. For example there is no need to add or develop electricity, running water, construct additional buildings, delineate sites, develop trails or pave roads. The importance of informal sites, and the related social values should not be overlooked by the managing agency. At the current site, groups intermingle and develop relationships that often prove helpful on the river in the following days. We urge the National Park Service to maintain a few sites, like Deerlodge, that retain that "less formal" style, with the associated values.

3. CPRG would support relocation of the boat ramp to the "old" boat ramp site at the end of the paved Deerlodge Road CONTINGENT UPON the availability of an adjacent campground and our other concerns.

4. CPRG prefers flexible development that is not costly to maintain, easy to replace, and helpful to river users. CPRG supports development of a ramp that has a less steep gradient, with a gravel surface. Our concerns are primarily the width of the ramp, adjacent temporary parking and access for packing river craft. Again we prefer not to see a huge, paved, overwhelming development--especially given the short nature of use at the Deerlodge site. Our suggestion is to go slow, with an initial development with the same size as the current launch site. If that site proves inadequate, future expansion would be relatively easy. The only additional infrastructure necessary at the site would be wooden posts to secure river craft.

5. The current restroom facilities are appropriate to the site, although the National Park Service should assure that they are maintained on a regular basis. This is a simple

process and should be able to be accomplished by the duty ranger stationed at Deerlodge. The bulletin board is appropriate to the site, but again could be maintained better. A few temporary extra parking spaces (about 5) for vehicles with trailers spaces could be added. There is a need for about 15 additional parking spaces at the Deerlodge Road parking area. Again this development should be simple. Consideration should be made of natural landscaping of the site to avoid the appearance of an area of pavement likened to a supermarket shopping center.

Colorado Plateau Climate Change

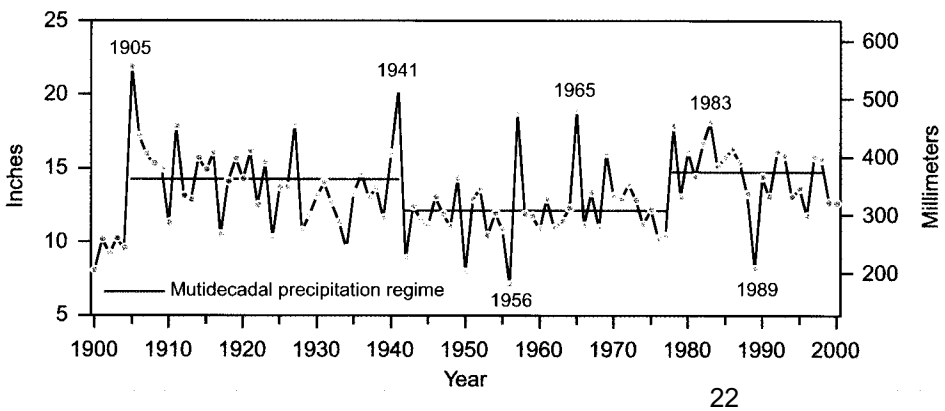
Excerpt from "Precipitation History of the Colorado Plateau Region, 1900 - 2000" by Richard Hereford, Robert H. Webb, and Scott Graham. <http://climchange.cr.usgs.gov/info/sw/>

Recent trends in Colorado Plateau precipitation and the Pacific Decadel Oscillation (PDO) suggest that the climate of the region may become drier for the next 2 to 3 decades in a pattern that could resemble the drought of 1942 - 1977 (see chart below). Although there are many uncertainties and assumptions, including using a single index (PDO) to predict multi-decadal climate varibility, it is important to consider the potential affects of climate variation on the human and natural resources of the region. Water resources were heavily affected during the early part of the 1942-1977 drought. The population of the region has increased fourfold since the mid-1950s, substantially increasing the demand for water in the region without abundant supplies and creating a possibility of severe or catastrophic consequences if such a drought were repeated.

The work of USGS and other scientists is leading to a better understanding of the past and probable future climate of the Colorado Plateau. This work is only part of USGS efforts to provide information crucial to sound planning policies for land use and energy and other resource management. These efforts are also helping to protect lives and property from drought, landslides, and other hazards.

FOR MORE INFORMATION ON WEATHER AND CLIMATE CHANGE check out this new book:

Floods, Droughts and Climate Change by Michael Collier and Robert H. Webb. University of Arizona Press. 2002. ISBN 0-8165-2250-2



Notes from the Fall Meeting

CPRG conducted their fall general membership meeting at Park City on November 2, 2002. We had a productive meeting and have new information to share with the membership.

New officers:

Mark Sundeen, Vice President
Mike Lewis, Green River Director
Vacant, Moab Director

Finances:

Assets - $3760
Liabilities - none

Interpretive river trips:

April 28 - May 1, 2003 in Cataract Canyon. Hosted by Sheri Griffith Expeditions/A&K, and organized by Mike Lewis. Presenters to be announced.

May 8 - 12, 2003 in Desolation Canyon. Hosted by Holiday Expeditions and organized by Annie Payne. Instructors are Rich Valdez (aquatic ecologist), Jack Schmidt (fluvial geomorphologist), Roy Webb (river historian) and John Weisheit (natural history).

October 11 - 13, 2003 in San Juan Canyon from Bluff to Mexican Hat. Hosted by Wild Rivers Expeditions and organized by Daniel Murphy. Presenters to be announced.

River Education Seminar:

May 16 - 18, 2003 on the Colorado River. A combination of the Moab and Uintah Basin Seminars, hosted by Redrock Adventures near Grand Junction, and organized by Daniel Murphy. Cirriculam will be geology, anthropology, botany, biological soils, wildlife and Leave No Trace.

An Issue:

A debate, at the level of the CPRG executive committee (ExCom), was brought to the attention of the general members at this meeting. A member of the ExCom desired that CPRG write a comment letter to the planners of the Colorado River Management Plan at Grand Canyon National Park. It was proposed that this letter show support for river wilderness that included the use of outboard motors. Another CPRG ExCom member opposed the position because it would compromise the intent of the Wilderness Act. In discussing the matter together as a body, it was decided to table the matter. It was also decided that the it would be beneficial, in the meantime, to educate the membership on the issue through the pages of *The Confluence*. CPRG did not send a comment letter to Grand Canyon National Park.

Two Opinions about Outboard Motors

River Management Plan Grand Canyon

The outboard motor controversy in the Grand Canyon river corridor has been successfully distilled down to a choice between maximizing protection for a ecosystem and maximizing outfitter profits and consumer access.

As far as human interests go, we have plenty of access for recreation, and many opportunities to acquire and spend the money that is available to us. But as far as the Colorado River in Grand Canyon goes, we have only the one and I think it is more important to place the ecosystem above the issues of human economics and access.

In the outfitter industry, we all have described our affinity for the Grand Canyon in our professional client relationships, confirming that this place is one of the most sublime and deserves our efforts to give it the best protection available by law . That degree of protection comes in the form of the Wilderness Act and tiered into the National Park's Organic Act. Some of us in the industry are unwilling to ask Congress for that kind of protection because the use of outboard motors in the Canyon would come to an end. Myself and others are happy to advocate for this protection because we want society to be responsive to the needs of the Grand Canyone.

Despite the grandeur of the Grand Canyon, the Colorado River entrenched within has been reduced to a pathhetic and sickly green thing that is devoid of any warmth, driftwood or sediment. I find absolutely nothing to be proud of here and everything to be ashamed of. In any case, standing still and thinking that protection and restoration for the Grand Canyon is for another time will achieve nothing more than continued extirpation and the possible loss of what natural and cultural heritage yet remains.

I think it is important to consider that there are a lot of people who will never see the Grand Canyon but want to be a part of the growing national movement to protect the Grand Canyon. This movement includes restoring the Grand Canyon ecosystem by decommissioning Glen Canyon Dam. In so doing we also provide incipient protection for our canyon ecosystems upstream.

In the meantime, the river community needs to be as credible as possible in the eyes of the spectator public. We need to prove to the world that even if they will never see the Grand Canyon, at least it will be there for those who will.

John Weisheit

In October the Waterkeeper Alliance designated John as the Colorado Riverkeeper. For more information please visit the folowing web page.

<www.livingrivers.net/media/article.cfm?NewsID=382>

To Motor or Not to Motor (that is the question)

For this writer it is exactly that, a choice. There has been a lot written and spoken about the use of motors within and outside of the guiding community. Throw in the concept of wilderness with its inherent language excluding mechanized intrusions, and the question starts to encompass livelihood, access, quality of experience, noise and water pollution, safety, and the list goes on. As does the spectrum of opinion on the use of motors. Here is one more opinion.

Usually we as individuals choose whether or not to utilize motors. I choose mechanized travel to haul myself and my boating gear to the river and back. However, in the case of where motors are not allowed (hard to think of those), we've decided as a group to prohibit their use. Generally this is in the pursuit of that elusive quality called "wilderness." One of the more contentious places being considered for wilderness is the Grand Canyon. Contentious because there is a relatively (in the post-industrial sense) long history of motor use in the Grand Canyon, with accompanying reasons of why it should remain.

So why use motors? For convenience, speed, power, access (assuming one's not able to self-ambulate). Why not use motors? Now that's a bit more ethereal. I contend that one of the best reasons is because we don't "have to" when running rivers. There are other options. Options that do not impact ones fellow wilderness traveler, or the environment, with your choice of locomotion. We as a society choose, often passively by not choosing, mechanization to make our lives easier, more comfortable, more expedient, more efficient. The outcome is not always what the intent was. However, on the whole this is the modern world we live in. As such, what has come to be viewed as a more precious commodity due to its increasing rarity, are wild places. Places that embody elements of the non-mechanized world. Places that are quiet, areas uninhabited and uncultivated (by man), places that are relative untouched by our hand, and our machines.

So what about areas that aren't quite wilderness, that have already been and continue to be impacted by man? Do we choose to continue these impacts, such as the use of motors, or not? Choosing to not use them may not alleviate the impacts already sustained. But nature has a way of reclaiming its own given time. Could places like the Grand Canyon become more of a true wilderness, with those qualities we so earnestly seek in escaping our mechanized lives? I believe it can, and it all lies in a choice. To motor or not to motor. I choose not.

Tim Thomas

Least we forget, Tim was the first CPRG VP.

Utah Guides and Outfitters Upper Plateau River Ethics

Your behavior in the outdoors should always be influenced by the realization that everyone has the same right as you to the most enjoyable outdoor experience possible. Everyone, whether on a private adventure or an outfitted one, should strive to tread lightly on the natural experience of others by providing the best possible example of proper backcountry etiquette. In addition to a backcountry etiquette, as beneficiaries of the natural resource, we should strive to practice Aldo Leopold's 'Land Ethic': "A thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it tends otherwise."

Respect other user's space, privacy, and solitude when encountering groups on the river, in camp, on hikes and at attraction sites.

- Groups should run together as one group. The more vessels in your group, the more critical this becomes. The tighter our group, the less impact it has on other people. Some areas require your group to stay together.
- We should all avoid pulling out into the middle of another passing party (another reason to not have your group spread out while floating down the river).
- We should all yield on the river where appropriate. Long contacts with other groups should be avoided while floating. If other groups are going faster, allow their boats to pass when they begin to crowd or push. If you are going faster than the group in front of you, be sure your boats are grouped together before passing.
- We should group our boats and equipment, leaving room for others at put-ins, take-outs, and attraction sites. Expect another group to arrive. If possible, avoid lunches at attraction sites or at least move off to the side of the trailhead or docking area. The more crowded the area is at the time, the more important this is.
- Motor-boaters should throttle down to reduce noise when passing groups that are on shore or in mid-stream. Planing boats can maintain a plane at half or two thirds throttle. Non-motorized boaters need to allow motor-boaters the deeper water and folks floating in life preservers should stay next to their mother boat for safety reasons.
- Abstain from water fights with other groups.
- Radios and tapes should be turned off within ear shot of another group. You might consider headsets.
- Noise and loud partying is inconsiderate when within ear shot of another group.
- Lewd conduct and obscene language can be objectionable to others.
- Explosives and fireworks ruin the natural quiet and solitude of the backcountry and are illegal in the national park sections of river.
- Firearms are not needed or appreciated outside the hunting season on the Colorado River system. They are illegal in our national parks and monuments.

Think of the environment and courtesy to other groups while camping.

- Unless you are in an area where camps are assigned, campsites are available on a first-come, first-served basis.
- When encountering other groups on the same schedule - communicate.
- If your group is small, consider smaller, more pristine camps, leaving larger, more impacted camps for large groups when the canyon is 'busy'.
- When choosing camps and lunch spots, consider those nearest the river. Human activity produces less long term impact below the high water line. In high water, try to choose pre-impacted sites or sites on durable surfaces. Avoid pioneering new campsites if possible.
- Layover camps should not be made at the most popular camps on the trip.
- When choosing a sleeping area, or place for a tent or toilet, try to choose pre-impacted sites or sites on durable surfaces (un-vegetated silt or sand, gravels, rock, etc.) Avoid making new trails in the vegetation as well as digging holes or trenches in soils. Any new disturbances in soils is an invitation for non-native plants to move in. Be aware that you and I can be carrying in the non-native seed from home or last nights camp by way of our tent, sleeping bag or clothes. Everything should be checked and/or cleaned before the next trip!
- Rocks should be left in their natural place. If we need to use a rock to hold our tent down, pick one that is not partially in the ground providing habitat for small wildlife.
- Let's build our fires away from vegetation, boulders and cliffs. Smoke and heat destroys the natural colors of the rocks. When practical build fires near the river.
- Fire blankets and elevated fire pans work well for not scorching sand or soils.
- Wood for fires should be driftwood or firewood brought in and should be small or well split in order to keep fires small, clean and hot. This makes for easy cleanup, conserves firewood, and creates less smoke and odors to impact the group camped downwind. Consider starting fires the 'old fashioned way' or by using your butane stove or blaster since liquid fire starter is toxic to lungs and air as well as is an obnoxious impact to others downwind.

Pack it in - Pack it out

- Separate and save recyclables.
- Haul all garbage out. Consider our impacts on the local "food economy". Carry out all food scraps to avoid bears, skunks, racoons, ringtails, flies, ants, mice, and other animals from congregating. Plan meals to avoid messy, smelly garbage and unnecessary leftovers.

- Leave no charcoal
- Watch out for micro-trash such as cigarette butts, twist ties, strings off fabrics, dental floss, gum and candy wrappers, etc. A tarp under garbage containers and/or tables can be helpful.
- Solids from dishwater, soups, coffee, etc. should be strained and hauled out.
- Liquid waste such as left over beer, pop, juices, coffee, etc. should be diluted in the river or into your grey-water container. Deposit gray-water into the river or broadcast across the land.
- Grease from cooking must be hauled out.

Naturalize your campsite before leaving.
- Help erase the evidence of less sensitive users.
- As already stated, avoid digging holes or trenches in soils. Holes dug in beach sands should be filled.
- If loose rocks have been carried onto sandy beaches, consider carrying them back to their natural place before leaving. If you break a rock, remember that it is a hazard on a sandy beach or in shallow water.
- When breaking camp, scatter firewood. Toss unnatural wood (milled, sawed, etc.) that has been brought into camp, into the river or haul it to your next camp. A tarp under your woodpile makes for easy cleanup of slivers, chips, and small pieces of wood.
- Don't leave unsightly anchor or deadman posts.
- Do a thorough sweep of the lunch or camp site before leaving.

Be sensitive to the resource's needs when exercising your needs.
- Try some soap-less baths or showers. If you do need soap, use biodegradable soap and be 200' from side streams. Try to find slow to moderate current while bathing in the river.
- Carry and use toilet systems during the day as well as at camp. Use public toilets if available.
- The NPS and BLM recommend urinating in the river current. Another place is on the land away from obvious kitchen, toilet, tent, lunch or attraction sites. When using the land, look away from camp for porous washes, gullies or dry river sand (if covered). Sandy organic soil is ok but, avoid cryptobiotic soil. Urinating on compacted soil, and in uncovered concentrated places can cause odors. Urinating in wet or damp sand or silt, or in shallow and stagnant water after the river has peaked and receded causes algae to flourish. If you containerize your group's urine at the toilet (when separating functions), you might consider carrying some of it out.

Tread lightly on the land by using low-impact hiking.
- Prevent multiple trailing by staying on the main trail. Avoid shortcutting switchbacks. Try to travel on durable surfaces.
- Be careful not to step in cryptobiotic soils. Sometimes it is hard to see young crypto beginning the slow restoration process. Avoid walking through dried out potholes.
- In areas without trails, walk in washes or on sterile silt, sand, gravel, rocks or slickrock.
- Consider using soft shoes as opposed to hiking boots with cleats.
- Consider not hiking when trails are muddy.

Respect plants, animals and nature
- Don't feed, harass or kill wildlife. Observe wildlife from a distance. Avoid following or approaching them. Use binoculars if you would like a closer look.
- To lessen our impact, from ants to bears, secure your food and garbage; clean up spills; and eliminate odors.
- Refrain from picking wild flowers. It is illegal in NPS areas.
- Be sensitive to trampling native plants and grasses especially during their high growth period and during hot, dry periods.
- Let's leave natural objects where they are found like fossils, petrified wood, bones, antlers, etc. Lets treat all backcountry like our national park where removal of natural objects are illegal.
- Don't allow pets or kids to chase or harass wildlife.
- Pets should be restrained around other groups and wildlife. Their feces can be disposed of with yours. (Pets are illegal in NPS units, on the San Juan River and during the high use season in Desolation Canyon)
- If you are one of the first groups in the area in the spring be extra conscious of the trails you take; the campsites you use; and the groover and kitchen sites chosen, as you are pioneering the impact areas for that season.

Help preserve the past for the future at archeological sites.
- Treat archeological sites with respect. They are sacred places to Native Americans.
- Avoid touching petroglyphs and pictographs. It abrades the inscriptions and the oil from your fingers helps destroy them and prevents any possible future dating of them.
- Be Careful not to touch, sit on, or walk near the walls of pre-historic structures or enter unstabilized structures. River House Ruin has been stabilized for careful veiwing.
- Leave potsherds, arrowheads, and other artifacts in place. Removal is against the law on all public lands.
- Be careful when entering stabilized historic sites. Leave tools and artifacts in place.
- Report any destructions or violations you observe to the managing agency and/or ask the person (s) to stop.

Remember
The river belongs to everyone ... and to no one.

The Sportyak II Expedition
Grand Canyon, August 5 - 31, 1963
The Journal of Otis "Dock" Marston

Transcribed by Rosalyn Jirge
Edited by John Weisheit

Note: This article will be beneficial to researchers who monitor Grand Canyon National Park. Brackets indicate editor's comment. The Colorado River measurement in cubic feet per second (cfs) originates from the gage above Bright Angel Creek near Phantom Ranch.

Sunday, August 4 [1,590 cfs]

Bill Belknap & I left Boulder City early & checked in at Grand Canyon [National Park] with [rangers Charles] Shevlin & Lynn Caffeir. Bill [received an] order from Park Service for pix [a goal of this expedition was to provide photo documentation of the low water conditions resulting from the initial filling of Lake Powell reservoir]. We got report of heavy flood down Pipe Creek that had drowned Merril Clubb's [or Chubb] son and grandson.

Away about 2 PM & stopt [stopped] to look over at Lipan [Point]. Hance was muddy but further down Canyon was not.

Arrived at CDL [Cliff Dwellers Lodge] about 5 PM & ran down to LF [Lee's Ferry] to look for crew, most of whom were at CDL.

Mack was with boats & reported them in good shape.

At CDL met Lynn Roberts who rented to me the chopper [helicopter] for the Anasazi trip. Forcier was with him - had been blocked out of return to camp at Mile 40 by heavy flood in Houserock [sic].

Many fishermen at Paria Riffle - half clear & half mud.

The boys slept with boats.

Met Chuck Richey at CDL.

Good dinner.

Monday - August 5 [1,530 cfs]

Early to River & cleared at 10:15 with 7 boats. Bill & Buzz Belknap - Clif, Tick, [and] Robin Segerblom, Mack [Miller].

Ran onto sand flats about Mile 1 and broke 3 oarlocks & 1 block which was more than our spares. We rigged a nylon cord lock for Bill which did the job. Coasted down to [Navajo] Bridge & asked Wriun Wreno [unclear what this means; see last sentence of the entry for August 7] to get equipment at Page [Arizona] & meet us at Jackass Canyon.

We moved down to Badger [Canyon] which was a mess of rx [rocks]. Bill & I walked out & then a mile to cars just as a storm hit.

We took equipment & waited for same of Wriun to return from a branch canyon.

Bill & I started down & were [stopped] by a flood in Jackass running about 30 cfs. We turned back & walked to [Navajo] Spring where the [Navajo] Police drove us to CDL. We took hamburgers with us & drove to rim over Badger [Rapid] & reported set-up to Mack. The boys had



Otis Marston and his Sportyak II. Photo by Bill Belknap.

walked up Jackass in dark to look for us.

We returned to CDL to sleep.

Sighted a small beaver at Mile 6.

Tuesday, August 6 [1,580 cfs]

Drove out to Jackass and walked down. Just enuf [enough] water running to wet center of course. We lined the drop & were 1 hr. getting down.

Wrimmers [family and friends on the rim communicating via two-way radio] watched from above.

Buzz & Tick had each a capsize in run of lower end of Badger - A dent in Tick's boat stayed in.

Away at about 8:30 and stopt to photo 10 mile rock [published in the Belknap River Guide] which was at left bank & moved to head of Soap [Creek Rapid]. Two good riffles between Badger & Soap.

Soap was a nest of rx & we portaged.

In middle of operation four lads from Albuquerque arrived enroute back to Jackass. They had reached Mile 18 with 1 mans & air mattresses.

Wrim crew left about 1 and we were hit by a thunder storm about 2 PM [referring to family and friends who are monitoring the trip via two-way radio from the rim country]. We moved down & found no water action worth a mention at Browns Riffle. At Mile 12 the rock was on right shore & the rapid demanded a portage.

We camped under overhangs at head of Shearwall [Sheer Wall Rapid] as rain hit hard.

Just as we finished supper Ryan dropt in with the chopper.

Warm night & no more rain.

Soap Creek was running less than 1 ft of red mud.

Wednesday, August 7 [1,890 cfs]

Up at 5:30 but we did not clear until 7:40 - ran Shearwall hitting a few rx lightly. Clif & Robin lined. At the side canyon from left about a 1/2 mile below foot of Shearwall, there was a good riffle. At the nsext from left, there was virtually none. Houserock [House Rock Rapid] was nothing but rx but there was a sporting course. We portaged. A discharge of a second foot of red water was in the creek.

Several good riffles between Houserock & North Canyon gave good runs & some looksee.

North Canyon was flowing less than a foot of red mud.

Virtually no course was open but a possible kayak run could be made. We lined.

21 Mile was impossible, the closest course we had seen. We lined.

22 Mile was lined.

23 Mile was the worst next to 21 Mile & we lined. It could be run. There was a riffle below which we ran.

24 Mile was a short lining & the same at 24.

We pulled in for camp at Hansbrough - Richards Ledge. There was a beach 40 [feet] wide. Current in the River here. Lynn Roberts dropt in just before dinner & had two passengers with him - one who was a friend of the Segerblom's. The Wriun party had been at this camp & left before dinner.

Thursday, August 8 [2,660 cfs]

[*Note: Post-expedition corrections were made by Marston for the entry of August 8.*

• It is probable the 26 Mile Rapid was 27 Mile Rapid at Mile 26.7.

• The rapid described at 27 Mile Rapid was actually 29 Mile Rapid at Mile 29.1.

• There has been some confusion in the location of points in the section from North Canyon Rapid at Mile 20.5 down to Vasey's Paradise. Tanner Wash which is 24.5 Mile Rapid has become defined in recent years and some clarification has developed in establishing Cave Spring and the trail to the River at Mile 30.4.

• Plate XXVI in Water Supply Paper (WSP) 556 establishes Mile 29 Dam Site while Plate 81B in Stone CANYON COUNTRY was taken from a point upstream from it. The Kolb photo in National Geographic Magazine of August 1914 on p.166 is close to the WSP photo. Plate 4 of WSP 556 shows the area of Mile 30.4]

Since a day of hard work yesterday had moved us only 11 miles & we were scheduled to be at Nancoweap [Nankoweap Canyon], a change of plans was discussed this morning. The consensus seems to point to going out at Whitmore but no decision was reached other than the need of more food.

We were away at 8:30 and ran the upper riffle of 25 Mile, then lined the lower part. We moved to Cave Springs. The spring was running about a half second foot of cool water but would be covered at 50,000.

The cave contained a number of the traps & tools found in 1923 which had been left there in 1888 . Auger - ax - coffee grinder - traps - plate - sauce pan.

The rapid was lined & would rate a 10 - possible to run but probable capsize.

26 Mile Rapid was lined but it was not as difficult.

27 Mile Rapid was lined and was as difficult as we had seen with a sharp drop of 8 [feet] in about 150 [feet]. A small stream was running in the canyon & a large plunge pool was at the head of the bar. Lunch in the shade near the pool with 2 miles gained for the morning.

There was a riffle near Mile 28 and a rapid at 29 Mile Canyon. The stream was flowing less than a foot but there had been a sizable flood.

The mouth of 30 Mile presented a rapid of about a 2 rating.

At right bank the spring was running into the River and three large springs gushed out near River level on left bank. We ran this rapid altho [although] there was lining by some near the head.

Springs in the next mile added about 10 feet to the River when added to those near 30 Mile.

One small rapid at about Mile 31 was run & we took a looksee before running Vasey's [Paradise]. No water was running from the main opening of the spring & probably would not have been flowing when [James] White claims to have been there.

We ran the rapids down to Mile 37 where we camped on LB [left bank]. There was a small rapid here & a stream with small flow - probably the trailing of a flood.

At the end of dinner Lynn dropt in with the chopper and Fran [Belknap] & Gene hopped out. Visits all around.

We arranged for food at Nancoweap for the morning of the 10th.

Friday, August 9 [2,220 cfs]

Up at 5:30 - Beautiful night just cool enough for sleep bag.

Yesterday Tick's boat foundered while lining & some gear was washed out including plastic jug which broke apart.

Bill was careless in closing an Aquasafe & got some water in it.

Some lined & some ran 37 Mile Rapid which was not too difficult but required close running.

At Mile 39 we met the survey party who were working on the LB so we stopt for a coffee break. Lynn dropped in with the chopper at the beach below.

At the rapid at Mile 39, I hung on a rk briefly but the others ran clear to make a good show for the survey crew. Buzz rode down to the dam site drilling where the chopper lands on a dock near the edge of the River.

We went in the tunnel & took many pix.

One tunnel runs back about 300 [feet] and then at approx. right angles both ways for several hundred feet. The problem is a possible power house location in the rock wall.

On each side of canyon are scaffolds up about 50 - 60 feet to entrances of short tunnels. There is also a tunnel near the River level. The bottom of the River has been drilled. The camp is on the River on RB [right bank] & all equipment was dropt in by chopper.

Lynn flew Buzz & me to look at a formation near Mile 45 - 46 RB but it does not seem to be a granery [sic].

We left about 11:30, stopt at the [Bert] Loper boat & I checked for water in the canyon just below. A small spring was running. We moved to the first of The Royal Arches for lunch.

A few riffles down to [President] Harding [Rapid] were featured by the chopper over our heads & two men taking pix.

Harding's left course was closed & the right side provided one short pitch.

Just below were two springs at RB flowing about a second foot total but the water was too salt [y] to drink.

A few riffles & some current pushed us along & we landed at the mouth of Little Nancoweap at about 6:15.

There was a float, a table & an alum. boat at LB about a 1/2 mile up River.

Saturday, August 10 [2,670 cfs]

A cool, quiet night. An early wind died down at dark.

We now estimate 4 days more for arrival at BA [Bright Angel Creek].

Clif talks some of his going out there & Robin with him.

Repairs to oar locks which are loose in the blocks.

Lynn Roberts put the supplies on the beach at 9:30 as his program had been changed. He hurried off.

Clif had the opportunity to make two sketches.

We were away about 10:30 and ran Nankoweap. The picture we thot [thought] was up to Nankoweap didn't fit [Belknap was interested in matching historic photos]. There were two riffles below to complete the rapid. All the signs at the back of the beach were gone.

The stream was flowing 1 - 2 cfs of clear water.

Riffles down to Kwagunt [Rapid] where we lunched & lined down the left. After a looksee we ran the lower rapid. At 58 Mile Canyon was a good mild rapid with a few runs. We spotted the missing pix in this area between Malgosa Canyon & 58 Mile.

60 Mile Canyon gave a rapid for lining down left & 2 riffles.

In one of these riffles between Kwagunt & Little Colo. [Colorado] I hung on a rk barrier at the foot. The Little Colo. was noisy and I found a 300 cfs mud flow out of it & up the Colorado's left bank to join it. A small flow went below the main island & a larger flow between the 2 islands. The flood was dropping & had been at least 3 ft. higher at the mouth of the canyon. I took a water sample.

We camped & by dark the flow was down to about 200 cfs.

Storm up River & shifting to the Cameron area made us check camp. A few sprinkles following a wind was all we got.

Sunday, August 11 [2,070 cfs]

Warm night & no further rain.

The Little Colo. had sustained the same flow of about 200 cfs insuring our running on mud as far as BA Ck [Creek]. It might be as much as 400 - 500.

I got word I was needed in [Salt Lake City] Sept. 13th which gives time to finish this cruise but the head of [Lake] Mead presents problems [reservoir sediment].

After much photography we dropt down stream at 10 and had some nice riffles to run. We stopt at the Hopi Salt [Mine]. One nail in the ladder was wire but the others were all square. The cliff barred passage further upstream. Downstream was a half mile of salt on the cliff but no cave was particularly marked. There were overhangs & two small caves which might qualify.

We stopt at the usual tree at Mile 65. There was water about 150 yards up the creek. No gas was left in the tunnel but the cans were left under the tree [gasoline stash from a previous motorized trip].

Radio communication with Desert View [Watchtower] was immediate & clear.

Clif & Robin have decided to leave at BA & the remainder will run to the end.

We were told some unknown woman authority had stated the River could not be run at this stage.

Chuar Rapid would not rate a 1 nor a 1 bucket rapid for the Sport-Yak, but a short drop at 65 [Mile] required lining altho it could be run. My boat was near to foundering in the process.

We ran everything down to 67 [Mile] where there was a boulder dam across the whole river except for a narrow chute right of center. We nosed this on the right & ran the remainder down to camp at the mouth of Cardenas Ck. where we arrived at 4:30. We talked with the Wrim Crew who were at Lipan [Point].

Just at dark a short storm took over but precipitation was not heavy. After that a fine night but there were mosquitos - the first I had seen in the Canyon.

We plan arrival at 4 PM of Tuesday.

Monday, August 12 [2,210 cfs]

Beautiful clear morning. Tick picked up two moderate sized toads.

Beaver were busy in the area.

Buzz reported a dead bass.

Mack moved down to the broad white wash a 1/2 mile below on RB & reported a wall of a ruin 5 [feet] high & running back in wash 40 [feet].

Bill & I climbed above Unkar to reproduce 2 pix. Unkar is now 4 rapids which accounts for Stanton's list. We stopt at the fort [Hilltop Ruin].

Clif made sketches from across the River.

We moved down about 11:30 & ran a riffle at Mile 71 near LB. Lunch stop at head of Unkar [Rapid].

We lined first 2 drops in Unkar. Both could be run but involved some hazard. The third drop was a boulder dam which seemed a lining job but Mack spotted a course which he & Buzz ran without serious difficulty.

The fourth drop gave fine running down center with no rk hazards.

At a small side canyon LB was a riffle which we ran after looksee.

Just below was 75 Mile which was a long run with much rk dodging.

A good chute below this ended the day's runs & we pulled in above Hance.

While we matched pix, the other lined the left side of Hance. Hance was a mass of boulders about as [Robert Brewster] Stanton pictured it and in line with the comments of [George] Bradley & [John] Sumner [regarding] White's travel on the River.

Radio connection came in from Shoshoni [Point] & the Wrim Crew shifted to Lipan.

Mack checked the RB half way down & found clear water with slight alkalinity so we all crossed for a fine camp.

Weather is hot.

Tuesday, August 13 [1,960 cfs]

Warm & clear. The Lower Hance Rapid will require lining 1/2 way & we will run a short 1/4 mile below that. Radio tied in again this morning.

The upper end of Lower Hance was a little too tough & we lined it before running out the lower half.

A half mile below we sighted the transom & motor of the boat wrecked in Hance last year. It was jammed in the rx in a small alcove just upstream from where the boat was pulled up on a talus. This shows obvious inadequate structure of hull.

We ran a couple of riffles and had a looksee of Sock [Sockdolager Rapid] from the right. It proved a fine rk dodging run with no accidents.

A separate lower end rapid made up for this record as its drive against the left wall capsized Robin & Bill. Robin lost her glasses.

A few good riffles and a looksee at Grape [Grapevine Rapid] from the right showed us a lining job. We lined the first 5th; ran about 1/3; lined another fifth; swam a short distance with the boats; a short portage & run out at the end. This was the toughest lining job to date.

A short distance below Robin dropt into a hole & capsized again which shook her a bit.

83 Mile Rapid required a short lining.

Clear Creek was running clear but there was no lagoon.

We reached Zoroaster [Rapid] at 5:30 & it looked somewhat rough so we decided to camp on RB at mouth of stream. Up 100 yards was a pool 10 [feet] across & the water was mildly alkaline.

Wednesday, August 14 [1,740 cfs]

Last night on radio Fran [wife of Bill Belknap] expressed shock we had not rushed into Phantom [Ranch] for our dinner date.

The night was very warm. The younguns are the cold ones of the party as they sleep under covers.

We lined the rapid below camp at Mile 85 and in running out the lower end, I didn't keep an eye out - hit a rock & rolled. Lost my cap & nothing else. Broke an oar.

We ran in to BA arriving a little after 10.

Radio communication with the Wrimmer was immediate. We unloaded & the Park man Jack Field came down & invited us to use his cabin.

Tick decided to pull out.

Brot [brought] load down from Phantom. Had lunch at Park house.

Worked out new schedule.

16 - Fri - Boucher -	96 Mile	-	9 miles
17 - Sat - Shinumo -	108	-	12
18 - Sun - Elves -	116	-	8
19 - Mon - Spectre -	125	-	9
20 - Tue - Tapeats -	134.5	-	9.5
21 - Wed - Kanab -	143.5	-	9
22 - Thu -	153.5	-	10
23 - Fri - 164 Mile -	164	-	10.5
24 - Sat - 174 -	174	-	10
25 - Sun - -	184	-	10
26 - Mon - -	194	-	10
27 - Tue - Spring -	204	-	10
28 - Wed - -	214	-	10
29 - Thu - Diamond-	225.5	-	11.5
30 - Fri - 234 Mile R-	234	-	8.5
31 - Sat - Gneiss -	237	-	3

which makes no allowances for delays.

Bill used diplomacy to establish good relations with Dottie Patrick & we had dinner there at Phantom. The place was full of dudes [tourists].

There were extensive plans under development for contacts down River.

Warm night. A little rain before dinner.

Thursday, August 15 [1,580 cfs]

Slept on the beach - fine cool sleeping. Breakfast at Phantom.

Oarlocks were worked over & gear sorted. L. Miller [wife of Mack Miller] flew over in sightseeing plane and Mack was able to talk to her.

We have lined up one of the Bonanza pilots to fly the lower end of the Canyon.

George Barnett, the gager [US Geological Survey gage], reported the flow at 1700 cfs [not consistant with the published report].

Dinner at Phantom. The dudes were coming in again.

The Segerblom trio were packed and ready for a hike out.

Friday August 16 [1,490 cfs]

Segerblom trio cleared at 5.

We had trouble getting up. Breakfast at Phantom. The blocks for oar locks arrived and the holes ran the wrong way. At the beach, the packing of much food delayed the start until 9:40.

The first lining was the lower Pipe Creek Rapid. There were two more before Horn [Creek Rapid] which was a heavy drop thru great boulders. Lining down the LB was difficult. Many pictures.

There were two riffles between Horn & Mon. Ck. [Monument Creek] which we ran with one giving a rock bumping.

Mon. Ck. was heavy lining. A small stream of clear water was running. We talked with Wrim. Clif reported a 5 hour walk out & one boat got a small puncture from a rk by the trail.

We moved down to Hermit [Rapid] & camped above at 6 PM. - one mile short.

During the night, rain came down hard for an hour and continued some rain until 6 AM.

Saturday, August 17 [1,470 cfs]

Overcast, warm & some sprinkles.

The River is up. Hermit Crk. is double in volume but clear.

Buzz got wet but others slept dry.

We were away at a slow start at 9:20 & lined Hermit & Boucher [Rapid]. There was about 2 cfs. running in Hermit & 1/2 cfs. in Boucher. Some burro sign at Hermit & much

at Boucher. There were Bighorn [sheep] tracks at both places.

Crystal [Rapid] was flowing about 3 cfs. of slightly red water. Buzz located 3 - 4 rooms on top the gravel bench below the creek. Size was about 10 [feet]. One was round & walls run to about 2.5 [feet] high. We lined half way down the right.

We also lined Tuna [Rapid]. This is the point where we camped with the crippled Esmeralda [*Esmeralda II*, a motor boat from a previous expedition in 1949 with Marston as a crew member]. We lined half of right side of a rough rapid just below Esmeralda Elbow & immediately above the pyramid rock near Mile 100.

We camped at 6:15 at RB at what appears to be Sapphire [Rapid]. The side canyon LB has a small beach & a drop a short distance back. The rapid is full of boulders. The Canyon makes a swing to the R. A rk which appears in one of Stanton's' pix is near RB.

Sunday, August 18 [1,430 cfs]

Fine night. All prepared for rain & there was none. Fog hangs on top of the plateau down River.

We started on the River at 8:30 and lined Sapphire and Turquoise [Rapid]. A very sharp drop which may have been Ruby [Rapid] was lined on the right but it is probably up River.

We stopt for lunch at the cross canyons suggesting it was Ruby. There was a small run of water. We ran this rapid thru a tricky course.

Bass Rapid was run on the left.

Shinumo [Rapid] was run down center and tending left. We lined a short distance along LB at about 108.5 & then ran riffles to camp just below the [Bass] cable. There is a moderate rapid just below.

Weather has been somewhat threatening but is clearing at 7 PM.

Shinumo is running about 20 cfs.

We have seen ducks along the River.

There was burro sign at Serpentine [Rapid] which we ran.

Monday, August 19 [1,760 cfs]

Fine night & all slept well except for my worries over Hakatai [Rapid].

All side canyons have shown signs of recent flood & some small flow was running in Hakatai Creek. We checked Hakatai Rapid & were it not for Bucket-head's [Leslie Jones, a river map maker and boater] warning, it would get no mention in the log. For safety, we lined a short distance on the boulder bar on RB.

"Of course we are all deeply concerned about Hakatai as I am sure you are also" were the words of Shevlin to Bill. This concern is now over. There was no cause for concern.

We lined the RB of Waltenberg [Rapid] & ran a series of riffles below. Mac[k] capsized in one of them but losses were limited to some wetting of food.

We pushed along on slack water & landed at Elves [Chasm] at 11:55 for a lunch stop. A good flow in the creek with mild cloudiness showing little sign of flood. There was a pool 3.5 feet deep at the foot of the rocky slope. A small rapid was run. We ran everything down to Forster [Rapid] which meant many riffles, one or two would rate a 1.

Forster was rough. We lined my Yak from the shelves of the RB & the other three boats were dragged up & along the platform.

A storm hit but gave us litte rain but it did give a help by supplying a down River wind.

We landed at the head of the major drop of Fossil [Rapid] at 5:55 after running two riffles above. We camped RB just below the outlet of the canyon & used the ledges of Tapeats [Creek] for shelter.

Checking showed I had erred & we were now on schedule with a run of 14 miles for the day. My error was in placing Spectre [Specter Rapid] at Mile 125.

It had been overcast and comfortably cool. We slept under ledges but the sky cleared at midnight.

The rains have washed the slime from the rx.

A burro has just left this bar.

Tuesday, August 20 [1,680 cfs]

Warm, clear morning. Warm. Buzz spotted a small scorpion in the ledges.

Buzz set the letters LL on the beach as ALL WELL signal & had just started a fire on the bar when the Hudgin plane flew quietly over at 7:45. About 10 minutes later he came down Canyon & about 5 minutes more & up Canyon again. This time he indicated he had seen us. He later circled at a higher altitude.

We cleared at 8:30 & nosed the upper end of the bar. The rapid could be run with some risk. We lined part way of 127 Mile Canyon Rapid & same at 128 Mile Canyon.

Spectre was a fast, rough drop & we lined & pulled in RB at 130 Mile Canyon for lunch in the shade.

All these canyons showed recent flood signs but 130 Mile was not large. All had small flow of water. We cleared from lunch at 1:15. Buzz sighted a Desert Bighorn buck & 2 ewes on the LB.

Bedrock's bed rock offered a boulder bar approach except for 10 - 15 feet & Bill & Buzz went out to it. The rapid was mild & we ran it going to the left. The channel was 25 - 30 wide & quiet.

About 1/4 mile below was a rough, boulder rapid which could not be run & we lined the whole way.

Dubie [Deubendorff Rapid] was open only in the left channel but a small flow was going thru the boulder island. We lined half way to two thirds & ran out the end.

Stone Creek showed signs of a recent major flood with greenery & trunks of small trees scattered down the beach.

133 Mile was run without a looksee. The creek at Tapeats was cloudy & flowed into the River at the rock point. There must have been a recent flood & large tree trunks are on the boulders near the River. Half the old camping beach was cut away.

We pulled the boats up the creek & out onto its left bank for camp.

The night was warm & storm clouds disappeared so sleeping was good.

Wednesday, August 21 [1,580 cfs]

Up at the usual 5:30.

All thru this section the building of dams by the side canyons is starting. The beaches which the River put at higher levels are being cut away & some are completely gone.

Buzz measured depth of River near Mile 119 & found in excess of 90 [feet].

Bill climbed to the shovel which wasn't there & photographed the beach. Photography kept us at camp until 10:20. The rapid was a mass of boulders & required lining. We also lined of the three drops in 135 Mile Rapid.

There was no current in Granite Narrows.

We stopt at Deer Creek Falls for pix & lunch.

There was a small rapid just below the spring.

We lined Fishtail Rapid & another short one, both requiring lining half the distance.

The pull down to Kanab Ck was first hindered by a head wind & then helped by a tail wind. The head wind put water into the two Belknap boats.

Kanab Ck was running about 10 cfs of slick mud & we pulled boats up 50 yards for camp on the beach.

Just at dusk, a storm hit & poured down rain. Getting beds set & into them became complicated. The electrical activity & some rain continued until midnight.

Thursday, August 22 [2,200 cfs]

In lining Dubie, Mack fell among the rx, lost control of lines and his boat capsized. Yesterday, I broke an oarlock when beaching the boat.

Some mild breeze continues this morning. While we were at breakfast Kanab Ck. rose about 2 - 3 inches. It then dropt & was down about 2 inches when we pushed the boats in and ran down to the mouth at 9:30. We lined 100 yards at the head of the rapid altho it provided a sporting run. The rapid was a full half mile long & gave us some fancy rk dodging. We ran a series of riffles below & lined a short stretch of Matkatamiba Rapid.

Upset was heavy & full of exposed boulders. We had lunched just above & watched a brief thunder storm, then stood under an overhang at the head of Upset during a heavy downpour. One small fall went to work on the left bank. While we lined Upset a red flood of about 5 cfs came out of 150 Mile Canyon.

We photographed the spring at 152 - 3 RB but decided to go ahead as we had a 1.5 mile current & a down River wind.

We ran a half dozen riffles & small rapids down to Sinyala Rapid. A fresh rk fall had added much broken rk to the talus at RB and the rapid was as rough as we had seen. The big boulders called for extra lines.

Current & wind helped us down to Supai [Havasu Canyon] plus a few good riffles.

Supai was running red & we rowed inside the lagoon. [Estimate] of flow was about 150 - 200 cfs. Many pix in the fading light.

When lining Sinyala the River had risen about a foot & drift increased.

The River was rising at 6 - 7 PM at Supai.

Buzz found clear rain water in pools on the ledges.

Friday, August 23 [1,660 cfs]

Warm night with no storms threatening.

The River was down 1.5 - 2 [inches]. The color had changed to red but not quite as red as Supai Ck. Flow in Supai was about half of the previous night. Many pix & we cleared at 9:30. We ran the first half, then pulled in at the lower end of the bar & dragged boats 25 [feet] & ran out the lower half.

We had a good current. A lining job was demanded at about 157 and another at 158. Current & a light tail wind gave us a speed of about 4 mph. We ran 164 Mile & stopt for lunch, a half day ahead of schedule.

We ran Stairway [Rapid], but Gateway [Rapid] had a rk nest at the foot which meant an easy lining. There was a small flow of water in Gateway.

Current kept us rolling & between Gateway & Red [S]lide we were doing 7 mph. A number of good riffles helped speed & gave good runs. One boulder barrier was at about 176.

At 5:50 we pulled in at the [Vulcan's] Anvil a day ahead of schedule plus 4 miles.

We have seen many ducks, 2 grey heron & some beaver sign.

Saturday, August 24 [1,940 cfs]

Perfect night & good sleeping. The River was down a foot which probably means slower speed. Color continues red & it settles quickly.

At 6:15 a plane passed over which looked like Riffey's [John Riffey].

We traveled 22 miles yesterday.

The plane returned at 7:40 but was north of the rim & probably did not sight us.

We had fired some drift. We wrote on the beach 1 - AHEAD and increased the size of the fire.

We were away at 9:40 and pixed the Anvil, then floated down for a look at Vulcan.

Mack had sighted an orange parachute which was found to be a red rock.

Vulcan was a short three drops. We pixed it from both sides of the River & from mid-stream below. We lined down the left & pulled under the travertine caves for lunch. The coloring in the caves is worth the price of admission.

We cleared at 3 PM and, after a looksee, had a sporting run of lower Vulcan.

We had good running with riffles, down-River wind & current to push us along.

At Mile 181 LB were two clear springs at about 2 [feet] above River level & running about 2 cfs. At Mile 183 were several springs along LB adding about a cfs. We sighted a APA BM [bench mark] at [Mile] 183.65.

We arrived just above the trail beach at 5:45 at about 187.5. Briefly we had a head wind & for about 3/4 mile there was no current.

Sunday, August 25 [2,190 cfs]

Warm clear night with a constant down River wind blowing. Camp was in sound of a small riffle. The camp at the Anvil had no sound of the River. Most other camps have

had rapids music. A third cheese bomb [canned cheese?] has exploded suggesting they should be avoided.

The River had dropt about 8 [inches] night before last & seems to be down more this AM. The color is Colorado.

Mile point of our camp is 187.25.

We cleared the beach at 9 AM and found Whitmore [Wash] a riffle easy to run. We ran the three drops without a looksee & continued with a series of riffles that kept us moving. At Mile 194.5 - 195 we found three springs RB running about 1/2 cfs. from about 1 [inch] above River level so we filled buckets & ate lunch in the shade LB. We moved on at 12:55 & passed Parashont [Parashant Wash] about 1:50.

There were four or five places where the River was divided by islands.

At 3:45 we stopt for camp at Spring Canyon - about 204.25 RB for a 17 mile run in about 6 hours. This was the first day we had not lined or portaged nor made a looksee. We are now 2 days ahead.

Beaver signs are along this section.

Burros are recent on the bar.

Flows of the spring & creek give plenty of water.

There are small rainbow in the creek.

We waved to a plane before leaving camp this AM but got no recognition.

Buzz reports 6 burros at the lower end of the bar.

Mack went up the creek and found about three springs coming out of the base of the wall at the left bank about a half mile from the River. Above that, the creek was dry and the bottom of the Canyon a boulder field.

The M & M chocolate maintains a melted state. The chicken hash is OK but could stand fortifying with chicken.

Monday, August 26 [1,730 cfs]

Warm night. The wind blew up River & there were a few sprinkles of rain about 1 AM. Some overcast this morning.

The River is up over a foot and is Colorado. We probably have over 3000 cfs which means more of the favorable current. We should be in at Gneiss Canyon by Thursday with allowance for many pix.

Mack counted 27 riffles yesterday.

We were away at 8:20 and the run of Spring Canyon Rapid was mild.

205 Mile had a possible course, but we lined half way then ran lower end for pix. There was a very narrow chute at the bottom which supplied some good pix. I filled full & Mack sat on top of a wave for 3 seconds.

Below the beach on LB good water was flowing from a cave at less than a half second foot.

Run down to Granite Park was thru a number of shallow riffles. We stopt for lunch under a willow. Beaver had been active.

Granite Park Rapid was all water hazard & Buzz ran two highly pictorial courses after Mac & I lined. Buzz water load was small.

We found a heavy rapid at Fall Canyon at Mile 211 1/2. There was a possible course at extreme RB but we portaged.

There were a half dozen bass showing fins in a pool half way of the rapid.



Marston at Diamond Creek

Stopt at the great bowl of travertine at LB near Mile 212 for many pix. The cave under was open & the water salty. The pool was warm & about 15 [feet] in diameter.

Continued down to Three Springs Canyon where we camped RB above the riffles. There is an arch on skyline RB visible from River.

Mack counted 23 - 24 riffles & rapids for the day.

Buzz crossed for water in Three Springs Canyon & found mescal pits & artifacts.

Light storm hit when we were at Fall Canyon.

Tuesday, August 27 [1,600 cfs]

Warm, quiet camp & good sleeping. Clouds are scattered this AM.

We figure a run to either Diamond or Travertine [Canyons].

Recent burro sign is extensive on this bar.

River is down about 8" overnight.

Many jets overhead.

We crossed for a look into Three Springs Canyon & found springs within 200 [yards] of the mouth making a flow of less than a half second foot.

We cleared at 9:30 & 2 jets celebrated our departure by breaking the sound barrier. Several riffles were run down to 217 which required a looksee. Many pix were taken in some good runs. The rapid would rate 4 - 5 at this stage.

The rapid at 217.5 was almost as big but offered a fine sneak left. Bill ran the sneak for pix & the other boats took the tongue on the far right for more pix. We landed at 218 for lunch. Harry's [Harry Aleson] sign seems to be gone. The rapid here would rate a 2 - 3.

Many riffles down to 224 where we stopt to looksee. The course was rocky but there was a good sneak left.

Head wind slowed us to Diamond Ck. where we camped at 4:20 PM - 2 days & 2 miles ahead.

Mack tallied 19 rapids for the day.

Diamond Creek Rapid is just a rocky riffle.

Wednesday, August 28 [1,690 cfs]

Fine night but the wind blew some.

We have lost 200 - 300 cfs & the color is Colorado.

At 8 AM we heard a plane south of us & at 8:35 an orange tipped plane flew slowly & low over us. We waved red tarps & Mack was on the radio but we got no recognition.

At 10:15 the same plane [notation by Marston written above and encircled: NO] flew up the Canyon over the RB but showed no sign of having seen us. We waited until ~~11:30~~ 11:45 to watch for a return & embarked.

The Diamond Creek Rapid was a series of three riffles. At 228 Mile Canyon we ran four lively riffles. We pulled in at Travertine Canyon for lunch & made many pix. We were

just above the riffle at 12:45 & left Travertine C at 2 P.M.

Buzz saw a rattler about 30 [inches] long.

We moved down to Travertine Falls & spent an hour at pix.

A half mile below a long riffle started at a canyon at RB & ended with a heavy short pitch at a small canyon LB - probably 231 Mile Canyon. We lined the top of the riffle, crossed & portaged the short drop.

We pulled in LB a half mile below at the great travertine spring. There is a steep gulley [sic] LB and a steeper one filled with talus RB.

A crease in the bottom of Buzz' boat has opened about 1.5" due to the portage at 131.

Warm & clear.

There was a 4" bass in Travertine Ck.

We appear to be camped at 231.2.

Flow in Diamond Ck. was normal and about 1 - 2 cfs. Flow in Travertine Creek was about the same. Travertine Falls had more water than usual & might run 1/2 cfs. At the travertine spring where we are camped the total flow might run a 1/2 cfs.

Mack has an ear ache.

Thursday, August 29 [2,050 cfs]

Warm nights & the hot rx added some temp. A slight up River breeze.

The springs increased their flow because of the reduction in evaporation.

An old tire casing & an old tread have been sea-gulled from the Canyon to use as a smoke signal.

At 7 AM we saw the plane down canyon & waved the ponchos. The plane circled & Jim Jordan came in on the radio. They had missed us yesterday & had run as far as Supai. Jim reports Pierces [sic] Ferry bars boat travel above. He will try a small boat above there. We may be able to get there by Saturday night or Sunday if the current runs on the upper Lake.

It seems we are at Mile 232 as we are more than a quarter mile below 231 Mile Rapid. There is a riffle here and it appears there is a side canyon RB about 1/2 mile down. We cleared at 8:30 and landed right at the head of 232 Mile Rapid at 232.4. The side canyons on each side created boulder bars & the rapid was too hazardous for running. The jut of current drove into the water-carved alcoves at RB. Many pix. We crossed to LB & lined an easy course. There was a minor riffle at Mile 233 & we landed LB at 233.7 at head of 234 Mile Rapid. We lined the left side. We landed 234.2 at the head of the rapid without name. After many pix we ran it & got wet.

Bridge Canyon Rapid was 2 riffles at Mile 235 & at Mile 235.1 was a rather rough rapid. Three of us lined but Buzz took on a fine sporting course in the heavy water. It was close to the limit for the Sport Yak & Buzz was at 45° at one point.

We moved down to Gneiss Canyon at 235.8 & it was quickly recognized as the rapid used for tests. It had some good water & provided a good running course. Water was lower than the 2,700 when tests were on.

We stopt for lunch & pix.

Bill grabbed front stage by capsizing in the last wave in this last rapid.

Bill pointed out the dam site at 236.3 & also the site which was drilled near Mile 237.

Current stayed with us and we were slowed by only a little up River wind so pulled in opp. Spencer Creek at 4:50 for camp.

Friday, August 30 [2,420 cfs]

Warm night with Lightning all around but we did not get sprinkled except a slight touch at dinner time.

Slow rising this AM with no rapid to tune us in to the day.

Bill & I took in the site on top of the lava cap.

We cleared at 8:50 & picked up current right away. We had current with us most of the time but twice we ran in slack water. Current & wind at one time gave us an estimated speed of 7 mph.

We noted the Reference Fault which the River follows about 3 miles to Salt Creek.

Stopt for lunch about Mile 258 LB - O'Bannon Bays - at about 12:15. A storm moved in and worked the area over thoroly [sic]. All streams, gullies & crevices were running & we spotted one fine fall off the rim. Cameras wait to work & the storm continued.

Triumphal Arch is open at the back with a window which appears to be open about 25 [feet].

We ran three very mild riffles between Quartermaster [Canyon] & the Bat Cave & three more before Scorpion Cove where we camped high on the shale. Buzz got some good water from the creek.

Mack had been losing a day & thot it was Saturday so was pushing for the flood lights of Pierces Ferry. Debate whether to continue Pierces before or after dinner was resolved by decision to camp at Scorpion ["Island"]. The wind blew hard & a storm moved in right after chicken hash dinner. It quit about 8 PM & the wind moderated so sleeping was good & some what cool.

Saturday, August 31 [1,990 cfs]

Fine morning with some breeze.

We cleared by 8:20 and had a good current to move us along at 4 to 6 mph.

Below Emory [Emery] Falls we were passed by by an outboard with a 75 HP [horsepower] & another with [two] 35 HP motors.

As we approached end of Canyon an outboard stopt at Mack's Yak about 1/2 mile ahead of us & then came up to us. Jim Jordan was ordering his crew into position so he could get pix - Young Jim & Spence.

After coffee & yakking he took us in tow & we picked up Mack. The running into the lagoon at Pierces was tricky due to a sand bar & many channels. We landed on the beach at about 11:30 - had lunch - loaded boats on Mack's truck & gear in Bill's Volkswagen & were in Boulder City at 4 PM.

Some concern had been felt over our safety & we have had some reporting to do to clear the record.

End of journal

Colorado Plateau Rivers Guides
PO Box 344
Moab, UT 84532
435-3598
riverguides@lycos.com

Forwarding and return postage guaranteed. Address correction requested

Canyonlands

Oceans did ebb and oceans did flow,
Immersing then draining the land.
Continents did sink and continents did grow,
Earth's molten core seeking to expand.

Sometimes there was jungle, desert or dunes,
Or rivers cutting deeply toward the sea.
Mountain chains rose; eroded, spread wide,
Over eons elements toiled relentlessly.

Such is the nature of Canyonlands,
It's wondrous, immense beauty to grasp.
Billions of years in the making,
Its great gifts at each turn make me gasp!

Life! A greater wonder than the others.
Single celled beings, then fish came to be.
Some grew legs and went to the land,
Seeking air, not water in the sea.

Dinosaurs came and dinosaurs went,
Becoming birds, reptiles or just gone.
Mammals evolved with fur and warm blood,
Some stood up to see better what's goin' on.

Such is the nature of Canyonlands,
I can't explain how these things came to be.
Maybe coincidence as some friends have said,
But there's gotta be more, seems to me.

How to explain the portentous human mind!
Finding caves, drawing pictures, keeping warm.
And fashioning tools and fire and the wheel,
Atlatl and spear, arrow and bow they did form.

We've come a long way, were we alone?
Now gunpowder and bombs are the norm.
And farms and cities and automobiles,
Planes and satellites a recent brainstorm.

Now in the night time in Canyonlands,
These new lights in the sky I can see.
Out in this vastness, He has to know,
What great wonder the next step will be.

Paul R. "Pops" Smith - 2002

The Confluence

The Journal of Colorado Plateau River Guides | Number 27, December 2003

Comments on Motors

Poetry

Inscriptions:
Howland & Wheeler
The Place No One Knew
Dinosaur National Monument

Coal Creek Dam Site

Sediment Happens

Persistent Drought

Colorado River Hydrology

Glen Canyon Dam Failure

Southwest Rock Art

Canyonlands Flash Flood!

Reservoir Waterfalls



Activists from Friends of the Earth, Sierra Club, River Runners for Wilderness, Living Rivers and Colorado Plateau River Guides during the Bureau of Reclamation's centennial celebration in June, 2002.

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides. CPRG has a fiscal sponsor, Living Rivers, a 501(c)(3) river advocacy organization that promotes river restoration.

CPRG is dedicated to:

- Protecting and restoring the rivers of the Colorado Plateau
- Setting the highest standards for the river guiding profession
- Providing the best possible river experience
- Celebrating the unique spirit of the river community

Guide Membership is open to anyone who works, or has worked, in the river industry of the Colorado Plateau

General Membership is open to those who love the Colorado Plateau

Membership dues
$20 per year
$100 for six years
$295 for life
$495 as a benefactor

General meetings and board meetings will be announced

Officers

President	Daniel Phillips
Vice-President	Mark Sundeen
Secretary/Treasurer	John Weisheit
Past President	Annie Payne

Directors

Bluff	Vacant
Grand Juntion	Marty Shelp
Green River	Vacant
Moab	Michael Smith
Vernal	Herm Hoops
UGO Rep	Lars Haarr

Colorado Plateau River Guides
PO Box 344
Moab, Utah 84532
435.259.3598
Fax: 435.259.7612
www.riverguides.org
john@riverguides.org

We need opinions, articles, poetry, artwork, and photos. Please include graphics with your text submission.

Editor this isue John Weisheit
Printing Times-Independent

ISSN: #1078-425X

Note: due to a temporary shortage of kenaf paper, this issue is printed on recycled paper

Disclaimer: The opinions and statements made within the pages of *The Confluence* are those of the author and do not necessairly represent the position of the guide membership, the board of the Colorado Plateau River Guides, nor our fiscal sponsor. If you have an opposing or supportive viewpoint, please send your comments for publication.

CPRG River Education for 2004: Call CPRG for information and register with your employer.

Cataract Canyon, April 26-29
Westwater Canyon, April 26-27
River Education Seminar, April 23-25
Uinta Basin Training Seminar, May 27

A Special Thanks to 2003 Donors: CPRG would like to give thanks to those who provided generous financial support for our River Education Seminar (RES), which includes the National Park Service, Southeast Utah Group; Utah Guides and Outfitters; Utah State Parks and Recreation; and the Headwaters Institute.

A Special Thanks to 2003 Instructors, Volunteers and Logistical Providers: Rimrock Adventures, Holiday River Expeditions, Sheri Griffith Expeditions, Utah State Parks and Recreation, BLM Price Field Office, BLM Moab Field Office, BLM Grand Junction Office, Canyonlands National Park, US Geological Survey, Jack Schmidt, Roy Webb, Sue Phillips, Steve Young, George Simmons, Ian Torrance, Brad Dimock, Donald Baars, Mike Berry, Sera Janson, Dave Dawson, Steve Anderson, Michael Smith, Herm Hoops, John Weisheit and Annie Payne.

CPRG Web Page: CPRG now has a web page. Very soon our past issues will be archived on the web. Visit our web page at: www.riverguides.org.

IMPORTANT ANNOUNCEMENT! All general memberships to CPRG have been freely extended for one year because no issue of *The Confluence* was produced for 2003. In the past, volunteer members of CPRG have stepped in to help produce *The Confluence*, but these volunteers have since become quite busy with worthwhile endeavors. These volunteers were Michele Hill, Dave Focardi and John Weisheit. CPRG would like to thank Michele, Dave and John for stepping in to fulfill CPRG's journal responsibilities to its members. CPRG urgently needs a volunteer to assemble this journal. Please seriously consider this excellent opportunity to serve the guiding community. Contact information is provided in the column to the left. In the meantime, *The Confluence* will continue forward as best as it can. Thank you for your patience and understanding!

CPRG 2004 General Membership Meeting: please read "The Prez Sezs" in the following column for details.



The Prez Sezs

by Dano Phillips

Happy New Year! I greet you all as the new president of CPRG. I'm excited about this position because I have wanted to be more involved. Involvement is the foundation for our small-but-active organization, and I've decided that this is my "platform". So I invite the 300+ membership to get more involved with article writing, meeting attendance, volunteer time, and all else. We can have a much stronger and more effective voice than we now do.

On a personal note, I was in the Northwest from September 2002 until this past June, studying the process of building wooden boats by traditional methods. It was a fun and interesting course, and out of it I achieved an Associates Degree. We built several boats from the backbone up, and did some repair and restoration. I would like to talk to any and all of you out there who have had experience building boats, for in the near future I want to build myself a dory. And it would be just great to chat about boats in their many forms, with their many challenges.

The board has some new and existing issues to tell you about, and since you haven't heard from us in a while, it is time to get you updated. First of all, **CPRG will be having a general membership meeting during the annual UGO Trade Show, which will happen from the 10th to the 12th of February in Bluff, UT.** We'll have a preliminary get-together on the 10th at 4:30pm, to let everyone know the topics up for discussion, and then a full meeting on the 11th during Red Olerich's talk.

During that meeting, we will be asking the membership to list some priorities they'd like to see CPRG address. If anyone has a pressing issue to discuss, I urge you to attend the meeting. We'll also be attempting to come up with area directors for Green River, Grand Junction, and the Bluff area, and discussing the possibility of a Salt Lake City director.

Another exciting topic is the possibility of a real, weekend-long river festival in 2004. We would try to get all or many of the annual events to happen that weekend in Moab, including demo days to gear reps and the ever popular Boatman's Bash.

The Confluence needs submissions; essays, photos, poetry, stories, and whatever else. One reason why it is overdue is because we lack material. We need more participation to make it a true quarterly.

That goes for all of CPRG, in fact. If you love *The Confluence*, the annual interpretive trips, and the River Education Seminars, please assist me with them. Trip leaders are needed for the existing Westwater (April 26-27) and Cataract (April 26-29) trips, and interpreters for these and the land-based R.E.S. If anyone is interested in a San Juan interp trip, I need help getting that together, too. It's up to all of us to make this stuff happen.

Thanks to everyone who attended and helped with July's Boatman Bash. We collected many new memberships, got several renewals, and the raffle was successful because of the resplendent generosity of businesses. I'd say that we all had a helluva good time! Next year we need to find a place where we won't have to worry about the noise ordinance. Any good ideas? Thanks especially to DJ Bob Fries for keeping us groovin'. And thanks also to Red Bull for supplying us mixers, and to Sally Satterfield who poured. Everyone's help was really appreciated. I thought it was special that Kent Frost hung out for so long, and spoke a little. Thanks are also due to Annie Payne, John Weisheit, Ariana Lowe the organizer, Roy Webb for his Glen Canyon slide show, and Brian "Monkey" Stepek for letting us party at the OARS warehouse.

Hope the holidays were great for all of you. Contact me at <blueinaboat@yahoo.com> or P.O. Box 895; Moab, UT 84532, and we will get things rolling.

CPRG Director Responsibilities

courtesy of Herm Hoops

- Attend CPRG board and member meetings.
- Coordinate or support river education programs.
- Represent CPRG with area river management agencies.
- Keep guides aware of area opportunities, issues and concerns.
- Appraise CPRG of area guide, outfitter, business and agency concerns.
- Keep aware of area river issues and concerns; propose responses to those concerns and secure CPRG approval to take actions.
- Maintain records of the above activities.
- Write articles for *The Confluence.*
- Participate in UGO, America Outdoors and other river-related professional organizational activities.

Who Are Those Guys?

President: Dano Phillips was elected as the new president of CPRG in March of 2003, and assumed the duties in July after returning from school in Washington. He attended the Northwest School of Wooden Boatbuilding in Port Townsend, WA, and came away with an associates degree in Traditional Wooden Boatbuilding after a nine-month course. He hopes to build a dory for himself employing traditional methods, and then avoid rocks with it for years to come. Dano has been guiding in Moab for the past 10 years, and has also guided Dinosaur and in Texas' Big Bend country, where he became a member of the Texas Pack Animal Association the hard way. He's attempting to get his little cow dog as accustomed to the water as he is.

Past President: Annie Tueller-Payne has been guiding rivers for 13 years throughout Colorado, Idaho, Arizona and Utah and she calls Cataract Canyon her "home river". She claims that she will run any type of boat anytime, but she must confess her favorite boat is a motor rig. After serving two terms as the President of CPRG, she is currently serving on the board as the Past President. Annie is committed to the preservation and restoration of the Colo-

rado River. While guiding river trips she not only focuses her efforts toward educating her guests about the flora and fauna of the area, she also try's to show the ramifications of Glen Canyon dam on the river. While not on the river, Annie works on a commercial fishing boat in the Prince William Sound of Alaska. She also works as the administrative coordinator for the Utah Guides and Outfitters. She enjoys sailing, boating and skiing. Annie lives in Salt Lake City, Utah with her husband Tim.

Vice-President: Mark Sundeen is temporarily working in Vermont at the campaign headquarters of presidential candidate Howard Dean. Mark comes from California and is the author of *Car Camping, The Making of Toro: Bullfights, Broken Hearts and One Author's Quest for the Acclaim He Deserves.* He is also the co-founder of a magazine called *Great God Pan*. When he is not writing, Mark pops up on the river scene as an instructor for Colorado Outward Bound School.

Secretary/Treasurer: John Weisheit was conceived on the Colorado River during a drought, which may explain his love for really low water. A former Colorado River weekend warrior from Los Angeles, and later Phoenix, he soon became bored with reservoir-related activities and started running the rivers above Glen Canyon Dam in 1980. Following the advice of professional boaters, usually while scouting major rapids and later flipping his boat back over, he decided to become a commercial river guide. A career in the Grand Canyon did not appeal to John because he considers any trip below Glen Canyon Dam to be a funeral procession, so he moved to Moab in 1987.



A book about Canyonlands, the one he has been talking about for 12 years, will actually debut in April, 2004. Many of us were beginning to wonder if it would ever show up in a bookstore. While doing his 250th trip across the stagnant, stinky, mud-choked and weed-infested Reservoir Foul, he decided to become a full-time river activist. Some people find it very odd that John would willingly take on such abuse to earn even less money. On the other hand, John is wondering why it took so long to make the change. People from other parts of the country took notice of his dedication to river restoration and designated him as the official Colorado Riverkeeper in October of 2002.

Tired of repairs, grease, gasoline, smoke, alienation, noise, and frequent sightings of middle fingers, John decided that having motors in qualifying wilderness areas is really silly. It is also rumored that he periodically wears animal and boat costumes at public meetings and demonstrations to promote the restoration of our river's natural heritage. John says he will sleep when he is dead, or when the river flows freely to the Gulf of California, which ever comes first.



Vernal Director: Herm Hoops is not a man you can overlook easily. With concentrating, deep-set eyes framed by one long eyebrow and a rangy beard, he is a man of intensity. His gaze can be as soft as a warm summer breeze or as steely as cold wire. At age 58 one look will tell you there are still a lot of volts going through those wires.

Herm was born into a world dominated by covalent, non-polar, non-linear bond molecules. His life has been surrounded, and at times obsessed by the influence of water. It has brought him unimaginable joy and indescribable sorrow. The Rivers have been good to him, and he only hopes that he is repaying the favor.

Moab Director: Michael Smith has been a CPRG board member for both Bluff and Moab for the last two years. He is a lifetime member of Grand Canyon River Guides and was one of CPRG's first lifetime members. He has been boating on the rivers of the Colorado Plateau both privately and professionally since 1976. He has earned an Associate Degree in Outdoor Education from Colorado Mountain College and a Bachelors Degree from Prescott College in Outdoor Recreation/Resource Management. Michael is currently the Program Manager for the Sand Flats Recreation Area and is the President and Founder of Plateau Restoration/ Conservation Adventures.



CPRG/UGO Laison: Lars Haarr fills this position that was created by CPRG to ensure communication between CPRG and Utah Guides and Outfitters. Lars was born and raised in northwest Montana. He took his first raft trip on the lower Salmon River when he was six years old, and in subsequent summers a profound love of flowing water developed. At age 20, after a poorly spent year and a half trying to figure out what he wanted to be when he grew up, a position opened up at a raft company in West Glacier, Montana, and the rest is history. He spent two seasons on the middle fork of the Flathead River, then moved to Big Sky, Montana and spent two seasons on the Madison and Gallatin rivers before moving to Moab. He has been a guide for OARS there for the last five years, running the canyons of Cataract, San Juan, Yampa and Lodore.

Comments on the Issue of Motors

by Paul R. "Pops" Smith

I guess my conclusion based on what I have read in *The Confluence* and elsewhere is that the potential position of the CPRG is to advocate for a ban on motor use on our river craft. I also understand there is some dissent to that position within the organization. I should hope so! [See *The Confluence*, Issue 26]

What are the key impacts of a motor on a river craft from my point of view?

It will pollute the water. This is true! The recreational boat and jet ski usage on Lake Powell, however, is equivalent to an Exxon oil spill every two and a half years. Compared to that, the contribution by our few motors is less than a drop in the bucket, by a long shot!

It has the potential to aggravate others and affect the "wilderness experience" if the right is abused. Also true! Thus it is imperative we use proper etiquette when running a motor such as wakeless speed around other craft, minimize noise, etc. Some of the newer motors are very quiet and relatively clean.

A motor provides a way to get to help fast if there is a health or injury problem. Yes it does! Thankfully in my experience, I have not had to rush downriver with any of my customers, but I have provided that service to others who were in a bad fix. In one case I think a life was saved.

A motor provides a way to continue to progress downstream in adverse weather conditions or in low current conditions, thus shortening trips. It also allows us to motor out at the end of trips, as is necessary on Lake Powell and in certain circumstances on Lake Mead. Typical five to six day trips by conventional means can be done in three and in some cases two days with motor power. Perhaps this is merely convenience but I believe it may also be our survival.

Given my druthers, I very much prefer a six or seven day trip down Desolation Canyon or down Cataract from either Mineral Bottom or from Potash. Also my preference is to take 18 or 20 days or even more through the Grand Canyon. Slow and easy with a couple of relaxing layovers is the best way to go by far. Whenever I can, that is what I do on a private basis. After all I am retired, aren't I? I do however bring a motor along and use it in when necessary to overcome some of my "ambulatory" issues due to being older than dirt. My motor allows me to continue to ply these rivers independently as a private boater even though I have physical restrictions that prohibit the more strenuous activity of commercial guiding. When private boating, I do have the option to use or not to use a motor and I exercise it. Realistically, do we as an organization have that option? It depends on how we view and define the statement, whereby we profess to be dedicated toward "Protecting and restoring the rivers of the Colorado Plateau."

One aspect of protection is to try to return to the past. I would love to experience the wild river like Fremont et. al. Will I ever? No way! The damage has been done! Now the effort, rightfully so, must be to undo and repair the damage (Damn Dams!). How do we do that? One way is to make sure the companies that employ us are and remain viable, so they will keep employing us. Elimination of motors where they are currently allowed would be a blow to some of those companies. Through hands on experience I know for a fact, that five, six and seven day Cat's do not sell as well as the shorter motor supported runs of three and sometimes two days. The same goes for shorter rather than longer Desolation Canyon trips. Even one day makes a difference in the salability of a trip. Three day and four day Lodore Canyon trips, presented side by side in the same brochure, always sell out first toward the three-day trip. It is often a scramble to get to financial break-even on the longer trips and often we have to operate at a loss just to preserve credibility. As a guide I try to find out from the customers why these facts are true. Inevitably I get the same feedback. People can get away for a few days, but for most more isn't possible. I would conclude the same goes for the Grand Canyon experience. Have you ever tried to fill a sixteen or eighteen day private trip up to the allowed maximum? Why do you think the usage percentage compared to what is allowed is so low on these private trips? It isn't lack of money nor is it lack of desire. It is lack of time! If the only commercial option in the Grand Canyon was two weeks or more, most of us would be unemployed on the river and working in some damned city to make ends meet! If the only options on the Upper Plateau were five or six days on Deso or Cat, I propose the same would happen. What would CPRG look like then? Would it be around at all? How much influence would it have? Who would be around to fight for the removal of the Damn Dams?

When we suggest as an organization that we are dedicated toward "Providing the best possible river experience" the question that comes to my mind is from whose point of view? To a busload of "seventy-some-things" is a six day trip or even a three day trip down through the Big Drops in August at 105 degrees the best experience, or rather a quick half-day trip in a breezy jet boat? To a really busy executive or broker or politician, is only three days away from the sharks better than five? It damn well was when I was in that realm. To me it sometimes looked like the difference between success and survival in my chosen career.

Getting back to protecting and restoring the river, lets talk about influence for a while. In our free society, how do you influence those that can do something about the things we advocate as an organization? How do we eliminate the evil blockages to our free-running rivers, the really big problem? We must do it by educating the public to what is happening. Droughts are not fun but they are a fact of life. We right now and for the foreseeable future have a great opportunity to maximize the effect of our position related to decommissioning dams by showing the maximum number of participants what we have been talking about since the late fifties when this war began. Rather than sounding like a bunch of tree-hugging "doomsdayers", we can show people the early signs of doomsday at the outlet of the San Juan and the outlet of the Colorado into Lake Powell. There is nothing like giving a "mover and shaker" from the big city a quick but informative look at still reasonably pristine river, within his or her time frame, then

having that person help you drag your boat across a sea of mud where a lake is supposed to be, or wade across a mud flat to get to a place to camp or hike. If you have done your job of pointing out the glory of the river as well as logically and reasonably presenting our position while upstream, then you show them the mess downstream you will have an impact. Let them wade through it, and smell it and see the trash then in your farewell talk, ask them to do something about it. That's how our system works. Only when the power brokers in Washington hear about something from a lot of constituents do they pay any attention. If we eliminate the busy people from the river experience, those who tend to get things done once persuaded; as well as the elderly, who have the time and money to be proactive we should be considered pretty stupid. These are the two most politically active sectors of our public and in my opinion; to hinder their participation destines us to lose the war. Prohibiting motors and lengthening future trips is a step backwards and will guarantee us losing our already precarious position of influence.

How about the politically active aspect? I don't care if you are Democrat or Republican or Independent or Libertarian or whatever; political party isn't an issue. Political activism is! How many of you have written to your Representatives or to your Senators and pitched our position on decommissioning those dams that affect our situation? Have you done it repeatedly and enlisted friends and family and acquaintances to do it too, repeatedly? How many of you have promoted to your employer to allow you to invite one of these power brokers on a trip, and then made the offer? This is another way our system works. Only if they hear from people, or even better if they are offered a freebie and told it'll only take three days, will the message be heard? Remember back in the 60's, when the plan for several dams flooding the Grand Canyon was revived? Regardless of all of the efforts to the contrary by the Sierra Club and other organizations trying to protect the Canyon it looked like a done deal. Only after one of the strongest proponents of more dams, Stewart Udall then Secretary of Interior, took a trip through the Grand Canyon and was influenced by the professionalism and the logic of what he saw and heard did the threat go away again. He went back to Washington and killed all of the then current legislation. That's the way it works folks! We can spend our energy helping these people to become informed, or we can spend it providing ways to prohibit them from finding out what is needed. I propose that motors on our rivers play a part in that. We may stand around and wring our hands and bemoan the state of the Grand Canyon and other sections of rivers we are more familiar with, but it is far better as it is than if it were under several hundred feet of water. Let me assure you, motors on our river craft are the lesser of several evils. To eliminate them would in my view reduce our ability to win the war. Let us put everything into winning that war first, even if the use of these disagreeable motors is one of the weapons in our arsenal. Then after the war is won we can do something about the several lesser evils we have had to maintain to get the job done. Let's not try to eat the whole apple in one bite! We can shoot ourselves in the foot later when we have the luxury, rather than now when the battle is fully engaged.

Once Flaming Gorge Dam and Navajo and Glen Canyon and Hoover are being decommissioned, then I'll toss my little motor on the funeral pyre, wherever you build it, and join all of you in a nice summer float for a month or three throughout the whole deal.

Quite a dream isn't it! Will anybody help me row? For now anyway, that's my story an' ah'm stickin' to it. Don't let the b@$^@rds git ya!

Me and That Lake

by Paul R. "Pops" Smith

I never did see the Canyon called Glen,
T'was there 'fore Lake Powell was made.
There are books and slides of how it was then,
Sheer walls, cool glens, and afternoon shade.

A bold youth was I in a shiny new boat,
Exploring and skiing this great new lake.
And beneath a bright moon I'd stop and float,
All these glories were mine to partake.

I reveled in exotic names and places,
Escalante, San Juan, Music Temple, Slickrock.
Skiing on glass, I put my boat through its paces,
Awed by Mormon guts at "Hole in the Rock".

I first saw the lake very early in the filling,
Cliffs and sheer walls, desert varnish, far and near.
Rainbow Bridge an hour hike for the few willing,
"Fern Grotto" on the way, respite from desert sear.

Next year "Fern Grotto" was engulfed for good,
A quick pause for mourning deemed to be enough.
Way up Rainbow Canyon a Marina now stood,
I shrugged with indifference, "Gee, that's tough."

Then I found the Ancient's Pictograph Cave,
Past Lagorce Arch in the Gulch called Davis.
A friend named Jack did humorously rave,
At the comic message he felt they'd left us.

It seemed to me the site should be sacred,
It's stayed on my mind for many years.
Next time I visited the cave was inundated,
It was wrong and awakened repressed fears.

How come now I can boat up under Rainbow?
I thought they'd promised no water this far back!
Whoa, too much! Who messed up, do you know?
Is my apathy the culprit? Who can I attack?

But back in my reality, premonitions flew away.
Good intentions gone in the pressure cooker race,
Up the corporate ladder, compete to win my way,
Survival is the mode, as I seek my rightful place.

Years later a man returned, perhaps a little wiser,
'Twas full to the brim when I'd left before.
Now the water marks beautiful walls,
A hideous white ring that cuts to my core.

Oil slicks and trash; greasy, muddy beaches,
Sights and sounds and smells to abhor.
Thousands of people, boats up serene reaches,
Magnificence and splendor, gone forevermore.

I'd heard dire predictions, tailings, toxins galore,
Seepage and evaporation a major shortfall.
Endangered fish too few to replenish anymore,
San Juan branch a mud flat from wall to wall.

These, plus everywhere, defiled and stained walls,
And human waste on beaches the lake around,
It became a "no brainer", one of those easy calls,
Drain the lake, do it now, so it'll rebound!

I know it's a "pipe dream", too much money there,
And too few believers to win this "Holy War".
Prophecies are coming true, now I'm aware,
And at Gypsum Canyon the lake's a mud bar.

It took me decades to leave the users,
And join the few vying to see it drained.
If I let it fill with silt, I'll join the abusers.
That's an evil specter! I'm deeply pained!

Last week I ran the river, Mineral Bottom to Hite,
Way below the "Big Drops", mud stuck our boat.
Through Narrow Canyon a very sorrowful sight,
Only a third of the lake left, a skinny slimy moat.

The stained walls are still there, but also I see,
Silt bars, poison ivy, tamarisk and tumbleweeds.
At Mille Crag Bend where Sheep Canyon was,
Is an ugly mud plain as the lake still recedes.

The center buoy there is nearly on the beach,
Both Dark and Rock Canyons are high and dry.
Deep mud along the water, dry sand out of reach,
The sights in this Canyon leave the urge to cry.

We motored till dusk looking for a usable spot,
To no avail till we reached Hite Marina.
But even here bare rock is silted a lot,
Full of trash and other paraphernalia.

I took this all in and it made my heart sore,
I know others down the lake don't ever see this.
But even if, they'd be indifferent, I was before!
Now I'll advocate drainage, I won't be remiss.

A friend named Tim takes the long view,
Natural plugs backed lakes thrice this size.
And nature is relentless, that is nothing new,
All filled and breached, destruction their demise.

Today's tiny blockage will follow the same trend,
True, I won't see it fail while I am still alive.
But if predictions are true, it will see its end,
In just a few generations, as few as five.

No, not in my lifetime, nor that of my boys,
But my hope and prayer will always be.
Our grandchild's grandchild on his grown up toys,
Will float a Glen Canyon once more set free.

The Howland & Wheeler 1894 Inscription(s)

by Jim Knipmeyer

If a boater down the Green River lands at the upstream side of the mouth of Spring Canyon and follows the old uranium road down to the now-fallen log cabin moldering under the canopy of cottonwood trees, he (or she) will pass by a number of large talus boulders. In the vicinity of an old cable and other bits of rusting mining equipment, an interesting inscription can be seen cut into one of the rocks. On the side is "H. HOWLAND 10-94," and "Arthur Wheeler 1894," along with an incised picture-glyph entitled "My Gal and I."

Harry T. Howland was a longtime resident of Green River, Utah, first coming to that community from the mining town of Crested Butte, Colorado, in 1893. It was his stated intention to travel on to Hite, on the Colorado River in Glen Canyon, on a prospecting trip, but evidently changed his mind while in Green River. Instead, Howland and another man, named Spry, took a boat, described as being about 16 or 18 feet long, three and a half feet wide at the bottom and four at the top, and went down the Green River to near The Confluence.

The pair's intent was to both prospect and trap, though the latter turned out to be the most profitable. They reportedly got some fox, bobcat, beaver, and coyotes during the nearly two-month trip. At the conclusion the duo brought their skins back up the river in the boat.

In 1894, Howland made another river trip, this time from Green River all of the way to Moab. His father accompanied him, and once again the voyage was made in one boat, about the same size as the earlier one. The father returned home to Denver from Moab and Harry retraced his "steps" back to Green River, descending the Colorado (in 1894 the Grand) and making his way up the Green. Like the previous year, he again got some furs, shipping them out to market from Green River.

This 1894 trip, however, was not the one on which the Spring Canyon inscription was made. Howland said that the voyage with his father was done in August, while the "10" in the inscription undoubtedly refers to October.

Arthur Wheeler was one of a trio of brothers from the state of New York who, in 1884, had settled on the right bank of the Green River, across from and just south of the mouth of the San Rafael. They installed water wheels for irrigation and planted alfalfa and fruit trees. The three also raised cattle.

In April of 1892, Wheeler was hired by B.S. Ross of Rawlins, Wyoming, to pilot his steamboat, the *Major Powell* (see the Winter, 1997 issue of *The Confluence*), down the Green River and on to the head of the first cataract on the Colorado. The trip was a success, and Ross eagerly began to promote regularly scheduled steamboat excursions down the river to Spanish Bottom. However, nothing ever came of his promises.

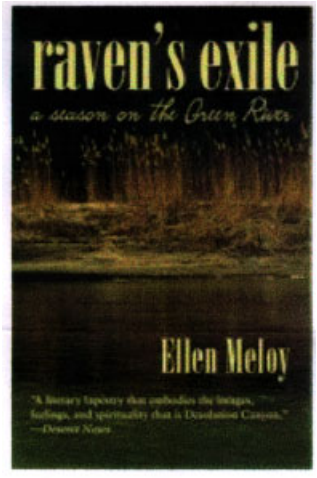
According to Hazel Ekker, of Hanksville, Utah, Wheeler's 1894 inscription near the mouth of Spring

Canyon was made on a trip in company with Harry Howland. The two were said to be close friends, and in later years Harry told Mrs. Ekker that he was with Arthur "when he carved the picture." Since Howland was a married man, while Wheeler was a bachelor, "My Gal and I" probably refers to Arthur. Based on both prior and later trips, the pair was probably trapping for furs during their 1894 voyage.

In the years to come, Howland made many more river trips, mostly on the Green and Grand, but at least once on the Colorado in lower Glen Canyon. Wheeler, on the other hand, left the area in 1898 for the Klondike region of western Canada, where he engaged in the Yukon gold rush. He never returned to Utah.



Looking out from the Hole-in-the-Rock, June 1963.
Photo by Jim Knipmeyer



Back in Print!

Winner of the Western Writers of America Spur Award

$17.95
University of Arizona Press
355 S. Euclid Ave., Suite 103; Tucson, AZ 85719
Phone: 520.621.1441
Fax: 520.621.8899
<info@uapress.arizona.edu>

<http://www.uapress.arizona.edu/books/bid1477.htm>

The Place No One Knew: Glen Canyon on the Colorado

by Jim Knipmeyer

Soon after the 1963 Sierra Club publication of the above titled book was issued, the name became symbolic of the entire Glen Canyon wilderness-Lake Powell reservoir question. No one knew about the soon-to-be-lost Colorado River paradise to be able to save it from the government dam builders. In the last decade or so, however, there has been somewhat of a backlash against this epitaph. It is now maintained that many people knew about the splendors and beauties of Glen Canyon; just not the high-placed or influential ones.

Be that as it may, in the first few years of the 1960s I myself certainly knew very little about what essayist and novelist Edward Abbey described as "the living heart of the canyonlands." I first saw Glen Canyon in June of 1963. Just earlier that spring the gates of the diversion tunnels around the dam had been closed, but reservoir water already backed a little over eighty miles upstream behind the earthen coffer dam built above the worksite. But it was comparatively shallow, was primarily confined to the narrow "inner" gorge, and did not spread out over the flanking benchlands and up the many tributary canyons as it later would do. So what I got to see was still much more "canyon" rather than "lake."

After crossing the steel-arch bridge just below the still not-quite finished concrete plug of Glen Canyon Dam, my family and I proceeded past the Wahweap area. At that time I did know enough about the history of the region to be aware of the Crossing of the Fathers that lay a few miles to the northeast. We followed a narrow graded and dirt track to the crossing area and what had been, for the past several years, the take-out point for river parties near Kane Creek. The road wound across the sage-covered benchland past the towering pile of Castle Rock and the jutting prow of Romana Mesa, and around the point of Gunsight Butte. Most of the way the inner gorge of Glen Canyon was not visible, but neither was the reservoir water. Only at a place above the Crossing site itself, looking southeast toward the uneven upthrusts of Tse Tonte and Tower Butte, was the spread of the still-infant lake readily apparent.

Our next contact with Glen Canyon was some forty-five miles upstream, but it took a day-and-a-half of driving time to make our way to that point at the Hole-in-the-Rock. Once again, I knew enough about the general history of the region for us to bounce and jolt our way over the newly bladed road to this natural cleft in the rimrock of the canyon. Even to here the reservoir water had crept, but except for its unnatural azure color and the fact that it did partially fill the narrow inner gorge some fifty or so feet above the old river level, an undiscerning eye would have simply identified it as a very blue, very unruffled stream. Green vegetation at the base of the "Hole" bordered the lake water just as it would have the old Colorado, the gash of Cottonwood Creek still wound its way eastward on the opposite bank,

and the flat-sided slabs of Register Rocks rose above what was still dry, almost barren benchland.

But my lack of real, intimate knowledge about Glen Canyon manifested itself at our third and last encounter. After another long and circuitous drive westwards, we came back into the depths of the canyon down the winding course of North Wash. Coming out into the main canyon itself, we drove slowly downstream on a shelf above the right bank of the still flowing, still living Colorado. We soon arrived at the Hite ferry, which would transport our vehicle and us across the river to the continuation of Route 95 on the opposite side. I did not even "know" enough to take a picture of the historic ferry. I did not "know" enough to photograph Hite's old log cabin near the western bank. And I was certainly not aware of the incised "CASS HITE 1883" inscription which we drove right past as we made our way from North Wash down to the ferry crossing.

My ignorance continued on the eastern side as well. As we drove along the west bank up towards the mouth of White Canyon, I was not cognizant of the fact that perched on the rim of the cliffs, not far above our heads, were the hand-laid stone walls of the prehistoric pueblo ruin known as Fort Moqui. Last, but certainly not least in view of my present interest in the old, historic inscriptions of the Colorado Plateau region, I did not "know" that these walls and the surrounding rocks were literally covered with scores of names and dates carved and scratched by early travelers and visitors from as far back as the second Powell river expedition in 1872.

These "historic" remains of Glen Canyon are now gone forever. Even if the Lake Powell reservoir is someday drained, these man-made traces will have been long erased. But the "natural" Glen Canyon can be reclaimed, and Abbey's living heart of the canyonlands can be KNOWN once again!

Green

We are green
big and swirly
and perfectly clear

the dip of our paddles
pushing
the silver river miles along

we are green
and stone
and sky

a dance of Ponderosa Pines
a summer rain
a bubble line

we are smiling
big and perfectly clear
and Salmon River green.

Doug Oblak

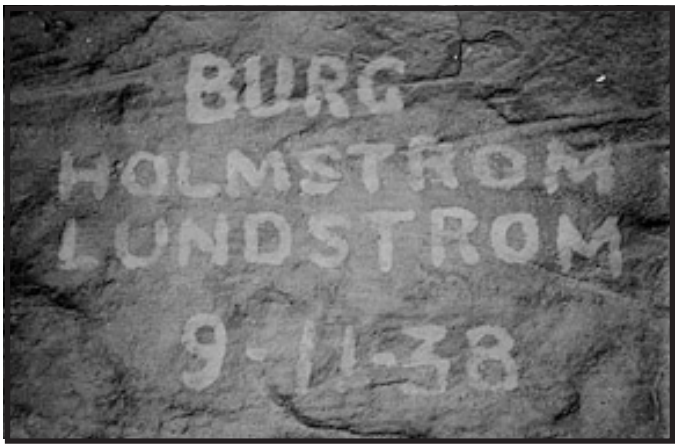
Inscriptions Along The Rivers Of Dinosaur

by Herm Hoops

Those early runners of rivers often left inscriptions to mark their passing or to record significant events on their trip. Their markings are a way for modern river runners to connect with that earlier time, when things on the river were simple and yet still unknown. Rivers flowed as the season dictated, undamned and unharnessed by mankind. The early wavedancers lacked our modern equipment, and without GIS or cell phones took off downstream with their rudimentary maps and supplies.

This is a list of early river runner markings in Dinosaur National Monument, followed by some interesting errata. Many of the inscriptions have significantly deteriorated over the past 30 years, from when I first saw them. You have to imagine your actions multiplied by the hundreds of other folks who have visited these sites. When you visit one of these sites do not touch the inscriptions. Touching inscriptions abrades them and leaves a small oily substance, which is also harmful to them.

The locations are keyed to the Belknap Guide.



Green River: Mile 234, river left

The above inscription is located at river level in a small alcove about 200 yards above Harp Falls, it can be observed from a boat. The inscription was done in yellow paint, which has faded slightly. It is still clearly readable.

Haldane "Buzz" Holmstrom was the first person to run the Green and Colorado rivers solo (1937). In 1938 Amos Burg, an adventurer and National Geographic photographer made a film recreating Holmstrom's solo trip. Buzz ran his homemade boat, the "Julius F." and Burg ran "Charlie" the first inflatable raft to run the canyons. Phil Lundstrom, a friend of Burg's, joined the trip from Green River, Wyoming, to Jensen, Utah.

Green River: Mile 232.3, river left

REYNOLDS HALLACY
1950
A K REYNOLDS
- - - - -
REYNOLDS
G J GREEN

The inscription is located on a rock outcrop just above

the high water line at the upper end of the eddy below Triplet Falls. It was done in white paint, but most of the paint has peeled off.

A.K. Reynolds operated river tours through Dinosaur National Monument in the early 1950's using wooden cataract boats. Dinosaur N.M. has an excellent film of some of these trips.



Green River: Mile 232.3, river left

9 Lee Kay
25 Earl Clyde
38 D.L. Rasmussen
Wes Eddington
39 Roy DeSpain

These men worked for the Utah Department of Fish & Wildlife, and were doing a wildlife survey in 1938. Kay and Clyde had previously run the river with Bus Hatch in 1934. DeSpain joined Hatch on his 1939 trip down the Yampa River and later ran many commercial trips for Hatch. (Note: DeSpain's Rock on the lower left of Moonshine Rapid was named for Roy DeSpain).

Green River: Mile 221.8, river right

D J 1838

The inscription is located on a 20 feet rock wall about 50 yards above the second rapid in Whirlpool Canyon. It is about 4 feet above the high water line and is partially hidden by vegetation. The inscription is chipped lightly into the rock. Glade Ross (Utah river guide license #001 and NPS river ranger) located this inscription in August 1975. Though readable, this inscription has deteriorated over the past 30 years. It is not unlike the deteriorating condition of the Julien inscription at the mouth of Chandler Creek.

Denis Julien trapped and traded in the Midwest from 1805 to 1817. By 1827 he had move to the Taos area and apparently in the 1830's was trapping and exploring along the Green and Colorado River drainage. Julien left seven known inscriptions on or near the river: Whirlpool Canyon, Desolation Canyon, Labyrinth Canyon (two), Cataract Canyon, Arches N.P. and Inscription Rock on the Uintah River, near Vernal, Utah.

Yampa River: Mile 20, river right

Mr. + Mrs. Bus Hatch June 15
Mr. + Mrs. W.N.Eddington 1938
Mr. + Mrs. Roy DeSpain

The inscription is located in Signature Cave about 200 yards across from Harding Hole. The inscription was done in black paint. Part of the Hatch name has been vandalized, but it is readable. There are many other names in the



cave, both historic and modern. In the late 1980's a Sierra Club trip left many inappropriate inscriptions in the cave.

Bus Hatch began his boating career on the Green River in 1931 and continued to expand his river running around the World. Bus' wife's name was Bay. DeSpain and Eddington had previously run the Green River in 1938.

As an aside, the chimney and equipment on the gravel fan below the cave are from Jens Jensen's mining explorations. Jensen made many trips down the Yampa, and may have been the first white person to have descended sections of the Yampa River.

Miscellaneous Inscriptions

Green River: Mile 242.6

A series of white and red survey benchmarks on both sides of the river just above the high water line. They may be from a dam proposed at this site or the Echo Park Dam.



Green River: Mile 232.3, river left

Hung up 4 hrs. at low Tide
May 16 '59
Georgie White + 14 Crew
Ring Done it

This inscription was carved into a driftwood plank that was originally attached to a post. By the mid-1980's it was gone.

Georgie White began her "river running experience" in the Grand Canyon in 1945. On May 16, 1959, one of her 27 feet pontoon rafts became stuck on the rocks at lower Triplet Falls. Ring was one of her boatmen.

Green River: Miile 230.5, river right

John Steward, of Powell's second expedition, recorded in his journal that he, Fredrick Dellenbaugh, and Walter Powell left their names along Rippling Brook (which they called "Leaping Brook") on June 25, 1871. In the mid-1980's I searched the area for several days. This inscription, if it exists has never been located.

Green River: Mile 225, river right

Jack Sumner, of Powell's first expedition recorded in his journal that some of the party carved their names on Echo (Steamboat) Rock opposite their camp at the confluence with the Yampa on June 20, 1869. I have never located this inscription, although there are many petroglyphs along the base of Steamboat Rock.

Green River: Mile 224.4

A two mile walk up Pool Creek ends at the Chew Ranch which is now owned by the National Park Service. On the stone walk leading to the main ranch house notice the diamond shaped stone. The "diamond" is the Chew Family brand, and in a variety of forms is still used by them today.

Green River - mile 222-221

On a bench about 40 feet above river level on the right are survey marks and stakes from the survey of the Moffat Railroad. On the left at about the same level are ladders, cables, painted benchmarks and other debris related to the Echo Park Dam survey.

Unfortunately in 1989 I observed a seasonal river ranger at the Split Mountain boat ramp with much of these historic items. He was "cleaning up the canyon!"

Green River - mile 212.6, river left

"The White Buffalo" a petroglyph-like figure on the wall to the left of a small island. The figure is above a talus slope and partially hidden by vegetation. The figure has characteristics of "cowboy art" although some say that it is Ute.

Green River: Mile 199.5, river left

Note a large talus slope that appears to contact the overhanging cliff just upstream from the boat ramp. There is a 50 feet gap between the talus and the "wall" which is actually a very large alcove or cave. On the boulders facing the cave are several painted inscriptions believed to be from men conducting the Bureau of Reclamation survey for the Split Mountain Dam.

Green River: Mile 199.2, river left

A several hundred yard walk up the bottom of the Split Mountain Escarpment to the second box canyon leads to inscriptions left by Chick and Frank McKnight. Chick and Frank were nephews of Josie Basset Morris whose cabin is at the end of the Cub Creek Road. The McKnight boys left the inscriptions in the late 1950's when they were visiting Josie and their father had let them drive his new (used) Buick. The boys cut across the fields and hiked up the canyon to explore. After leaving the inscriptions they got the car stuck much to the dismay of their father! Frank worked for Hatch River Expeditions for many years.

But an observant naturalist will gaze at the rocks below Triplet Falls across from the inscriptions and imagine a 27 foot pontoon boat high above today's river level. A savvy naturalist will make a connection between the inscriptions, today's lower water levels and the changes we have wrought upon our rivers: involving their customers in a thought provoking activity that highlights what we should do about those changes.

To put these inscriptions into perspective you can read books like *Echo Park* by Jon Cosco; *The Doing of the Thing*, by Welch, Conley and Dimock; *If We Had A Boat* by Webb, and such classics as *The Chew Bunch*.

Coal Creek Dam Site

by Roy Webb

In the Belknap *Desolation River Guide*, on the same page [p. 37] as the photo of the "Thunderous Hole in Coal Creek Rapid" is another one of a man standing in the doorway of an old house, with the caption "Ruin housed Coal Creek damsite workers in 1911." If you look fast, in the tailwaves of Coal Creek—once you're safely past the "Thunderous Hole," of course—you can still see major excavations into the slope on the right side of the river, and the house and associated buildings and corrals are still standing on river left. On the last CPRG interpretative training trip, we stopped and bushwhacked over there to get a look at the excavations, and later camped by the old house across the river. Quite a bit of work went into the keyway, or foundation, of the dam, and the house and corrals have likewise stood the tests of time.

Despite the obvious effort put into the dam site, however, historical sources on the dam are as scarce as shade in Gray Canyon, found mostly in aging newspapers and the voluminous files of the Otis R. Marston collection at the Huntington Library in San Marino, California. It was known as the Buell Dam, after the promoter of the project. Little is known about Buell, not even a first name or an exact date when he started on the project. The most detailed description of the dam comes from the diary of Ed Harmston, a railroad engineer, who surveyed Desolation and Gray canyons by land and boat for the Denver and Rio Grande Railway in September 1913. Harmston's party went by boat from mouth of the Duchesne River to the Seamount Ranch, today known as the Rock Creek Ranch; there they met members of the Buell Dam crew who were surveying the high water line of the proposed dam. From them Harmston learned that the dam "is to be 200 ft high...it is planned to use it for both irrigation and power purposes, the land to be irrigated amounting to 165,000 acres has been segregated under the Carey Act, and lies on both sides of Green River; the estimated cost of the project we are told is $9,000,000. [...] The high water line of this dam will reach within a couple of miles of Seamount's ranch."

Apparently a man named Hyrum Johnson of Provo, Utah, was also involved in the dam in some way. In a 1966 interview between Otis Marston and Bill Seamount, Seamount says that Johnson "had 8 or 10 men drilling 2 or 3

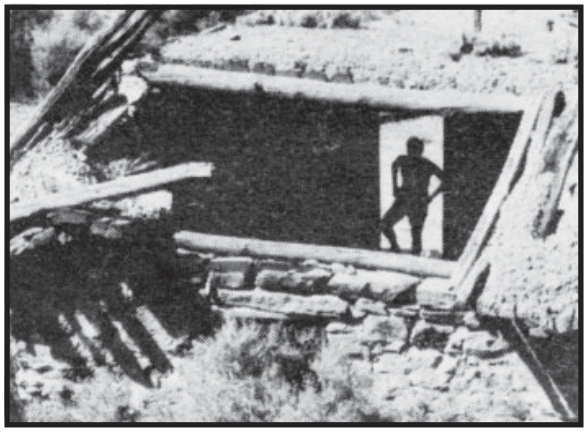


Photo from Belknap's Desolation River Guide

years near Coal Creek for UP&L"; later he wrote to Marston that Johnson was the "foreman." I found a Hyrum E. Johnson in the *Jonas Johnson Family, 1600 - 1970*, who seemed to fit the bill; he studied drafting and construction at Utah State Agricultural College (now Utah State University), and later owned his own contracting firm. But unfortunately his brief biography makes no mention of working on the Buell Dam, and his involvement must for now remain a mystery.

About the only river runners to mention the dam are the Kolb brothers, Ellsworth and Emery, who passed by on their river voyage in 1911. *In Through the Grand Canyon from Wyoming to Mexico*, Ellsworth mentions how they ran into five men in a boat rowing upstream "in a long, still stretch" above Coal Creek rapid [p 104-105]. The men told the Kolbs that they were working on dam a few miles below, and followed them back down river to watch them run Coal Creek Rapid. After their successful run, the brothers tied up at the camp across the river to visit. Most of the dam site workers were gone to Green River, Utah, since it was a Sunday, but there was a small crowd there. In *The Brave Ones*, the edited diaries of Ellsworth and Emery, Emery notes "They kindly invited us to stop for dinner at their head quarters which was a mile or so below. We accepted as usual. The dinner was prepared by Mrs. Steel and the pie not being passed the 2nd time gave no chance to reflect on our manners." [p. 71]

The late 1800s and early 1900s were a time of great boosterism in the West. Anything was possible to "men of energy, enterprise, and capital"; no project was too grandiose, no mine too inaccessible, no river too wild to be tamed. The Buell Dam fits nicely into this pattern. A 1911 article in the *Grand Valley Times* of Moab about the Buell Dam noted that the dam was supposed to irrigate 240,000 acres of land, would cost $10million, and would include "337 miles of canals and provide good agricultural land for from 20 to 50 thousand families." Despite the claims of newspaper editors, however, plans for the Buell Dam ultimately fell through. Ed Harmston noted in 1913 that Buell had been trying for eight years to raise enough money to complete his project, but was unsuccessful. In 1922, when the USGS/UP&L survey went through Desolation and Gray Canyons, engineer Ralf Woolley didn't even note the Buell Dam site. By the 1930s, the damsite and Buell's schemes were abandoned and largely forgotten. In the heady years of the Colorado River Storage Project, after World War II, the Bureau of Reclamation again turned its gaze toward the remote canyons of the Green River, with plans for a series of dams up and down the river. Included in these plans was one to be called the Rattlesnake Dam, near the rapid of the same name in Gray Canyon. Again, however, the site was deemed too remote and the benefits not enough to justify the costs, so the Rattlesnake Dam was likewise cancelled. Today's river runners in Desolation Canyon, whether stopping at Rock Creek, or enjoying the stunning vistas as Desolation Canyon ends, or running the "thunderous hole" in Coal Creek, can be glad that the grand schemes of all the dam promoters came to naught.

Special thanks to Jim Aton for research assistance.

"Set My Spirit Free" A History of SOCOTWA

by Roy Webb

In the past twenty years of researching, writing about, and speaking about river history, I've given many talks to many different groups. Whenever the topic is Glen Canyon, it seems like invariably someone would come up to me afterwards and says, "I went down Glen Canyon with SOCOTWA!" After a while I started getting curious; what was this group with the odd name? I knew about Nevills, and Harry Aleson, and Moki-Mac and the Quist family, all of whom took many people through Glen Canyon over the years before it was flooded by Lake Powell. But SOCOTWA? I ran across their logo, an inverted triangle with a mountain man in the middle, in the Music Temple register books. Obviously SOCOTWA had a lot of impact on Glen Canyon. One of these days, I vowed to myself, I'm going to do some more research and write an article about them.

But it never happened until the 2003 Desolation Canyon CPRG training trip. On that rainy, wonderful trip I was talking around the campfire with Dee Holladay and Annie Payne, president of CPRG; I said something about SOCOTWA and Dee mentioned that in the 1950s, there were only a couple of ways to get down Glen Canyon: either with Moki-Mac or with SOCOTWA. Annie immediately perked up; it turned out that her river mentor, Richard Jones—former owner of World Wide Expeditions—had told her many stories about SOCOTWA trips, and had incorporated many of the traditions and practices of SOCOTWA into his own company. Then and there Annie and I decided to work together on an article for *The Confluence* about SOCOTWA. Once we got back to Salt Lake City, we started setting up interviews with former guides and members of the group, starting with Richard Jones. Richard had started going on SOCOTWA trips when he was only 14 years old, just out of junior high. But at that first interview, also present were Oscar Olson, who had gone on his first trip with the group while he was in the army in 1962, and Dale Labrum, who, as it turned out, was one of the founders of SOCOTWA in the years just after World War II.

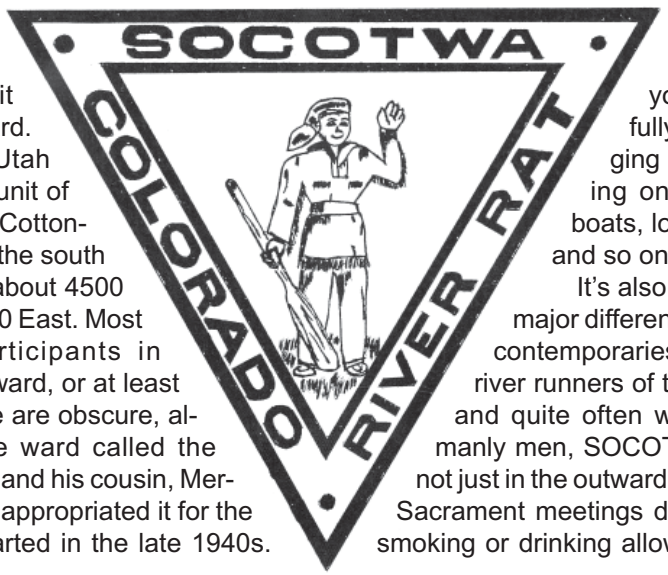
Even though Annie and I did a number of other oral histories with SOCOTWA trip participants, from whom we heard a lot of great stories, that first one with Richard, Oscar, and Dale was the most important. From them we learned a number of startling things: first, that SOCOTWA was still in existence, although it had become, as Oscar put it, a "knife and fork" club, a group that met occasionally for dinner, and to listen to a speaker. Next was the extent of their operation: we were both surprised to hear that in the 1950s, SOCOTWA had over a thousand members, owned as many as 30 surplus inflatable rafts and a couple of busses, and could have half a dozen trips on the water at the same time. Finally, from each of them we received an invaluable gift: Oscar had brought with him a book titled

Socotwa Expeditions: 50 Years, 1948 to 1998. Dale, as mentioned above, was one of the founders of the group, so we got the story of the beginnings and early years right from the proverbial horses mouth. Richard was one of the very few members to have continued his involvement with the river industry, so from him we got a long-term perspective on what impact SOCOTWA had not only on the lives of those who joined, but on the river running world as well.

SOCOTWA started and spent most of its active existence from the end of World War II to the completion of Glen Canyon dam in 1963. This was a time of great change and turmoil in the river running world. There were no rules; if you wanted to run the Grand Canyon, you just showed up at Lees Ferry and talked to the ranger (or more likely, the USGS water gauger), and there you went. If you wanted to float through Dinosaur National Monument on the Green or Yampa, same thing: all you needed was a 10-man raft and a few days off. There were still some of the old timers from the 1940s around, but others were gone: Norm Nevills and Bert Loper had both died in 1949, Buzz Holmstrom in 1946. Other river rats had started their own companies and "gone commercial," like Bus Hatch, Harry Aleson, and Malcom "Moki-Mac" Ellingson. Hatch stayed up on the Green and Yampa, for the most part; Aleson was too crotchety to ever get much of a following; Moki didn't really have his own company, he went along on trips run by Al Quist and his sons Richard, Clair and Bob. In the Colorado drainage, the San Juan was about the only river to have an active river company running regular commercial trips: Mexican Hat Expeditions, formed by former Nevills boatmen Frank Wright and Jim Rigg, had taken over Nevills boats and customers after Norm and Doris' tragic deaths in a plane crash in September 1949. Glen Canyon was especially wide open, given the fact that you didn't really need whitewater skills to get down it safely. Running Glen Canyon was only restricted by the terrible road (or what passed for a road) from Hanksville through North Wash down to Hite. If you could get there without breaking an axle or leaving your oil pan on a ledge, you were home free, no rangers, no rules, no regulations, almost nothing save for scenery, the river, and the night sky until you got to Lees Ferry, some 180 miles downstream.

Into this void stepped SOCOTWA. Okay, I know you're asking, what is with that name? It's actually an acronym of sorts: it stands for South Cottonwood Ward. A ward, as all who've lived in Utah know, is the basic administrative unit of the Mormon church. The South Cottonwood Ward comprised an area of the south Salt Lake valley, in Murray, from about 4500 South to 5600 South and about 900 East. Most of the early leaders and participants in SOCOTWA trips came from that ward, or at least that area. The origins of the name are obscure, although there was a choir in the ward called the SOCOTWA Singers. Dale Labrum and his cousin, Merlin Shaw, liked the sound of it and appropriated it for the outdoor adventure group they started in the late 1940s. Dale and Merlin had grown up together and were always looking for things to do in the great Utah outdoors. After a stint in the Navy during the war, Dale heard about an auction of surplus war materials to be held at the old army air base in Kearns, Utah. He was the highest and only bidder on a brand new surplus 10-man raft at this particular auction, paying $15 for a raft, complete with paddles and other gear, including grooved wooden plugs used for stopping air leaks caused by bullet holes. Dale named the raft "Sweet Lips," to honor his "lost love and misspent youth," called up his cousin Merlin and said, well, I've got a raft, want to give it a try?

After a couple of misadventures, including a trip down the Jordan River in the Salt Lake valley that involved "diversion dams, barbed wire fences, and a multitude of irate farmers,", and an exhausting excursion to Utah Lake that ended up with them slogging through mush ice dragging the boat, they resolved to try other venues for their raft. Their first trip through Glen Canyon was in 1948, although details of that trip are sketchy. Boy Scout groups, which in Utah are all sponsored by the Mormon church, had gone down Glen Canyon with Bert Loper as their guide, and it's likely they heard about how much fun the Scouts had had. But at any rate it was such a success that Dale and Merlin decided to form a non-profit corporation "for the purpose of guiding the youth and providing a meaningful relationship with nature." Interest in the group quickly skyrocketed, inspired by the stories of Glen Canyon that spread through the Mormon grapevine. Within a couple of years their needs had outgrown the original "Sweet Lips," and more rafts and equipment were quickly obtained. By the middle of the 1950s, when plans for the Glen Canyon Dam were made public, SOCOTWA was a going concern, with over 30 rafts and associated equipment, busses and trucks to haul passengers and gear, and half a dozen trips going at the same time. But it's important to point out that SOCOTWA was not a commercial outfitter in the sense we think of today, where guests pay a fee to go on a trip that is catered, and on which all they basically do is get on and off the boats every day. Rather, it was more like a cooperative in which members joined the organization for a nominal yearly fee of $15, and then paid for each trip that they wanted to go on. Once you signed up for a trip, usually about $50 for a week long trip, you were expected to participate fully in the running of the trip, rigging and de-rigging the boats, serving on a kitchen crew, paddling the boats, loading and unloading every day, and so on.



It's also important to point out two other major differences between SOCOTWA and its contemporaries on the river: unlike the other river runners of the day, who were portrayed as, and quite often were, hard-drinking, hard-bitten manly men, SOCOTWA was thoroughly Mormon—not just in the outward trappings of Sunday School and Sacrament meetings during the trip, daily prayers, no smoking or drinking allowed (but plenty of opportunities

for romance, which was winked at by the leaders)—but in the detailed organization, the pioneer spirit, and the shared heritage of ancestors who made a home out of a wilderness. Indeed many of the SOCOTWA leaders were leaders in their local wards; Merlin Shaw was a Bishop, for example, and others held similar positions in the church. Next—and in this they differed not only from other river outfitters but from the standard practices of the Mormon church then and now—women were active participants in all aspects of the trips. Women such as Deween Durrant, Mary Plowgian, and Nancy Anderson served as chefs (who actually managed the kitchen crews instead of doing the actual cooking), as planners, guides, boat captains, and even expedition leaders, as the trip leaders were called. Finally, another Mormon tradition was keeping a journal, and a surprising number of passengers did so, sending copies back to the SOCOTWA offices in Salt Lake City. These ranged from simple type-written accounts a few pages long, to elaborate bound publications with photos, maps, and drawings.

By the middle 1950s, the Glen Canyon trips were down to a routine. The group would meet in Salt Lake City, usually in the vacant lot by Merly Shaw's house in Murray, and then travel in a bus down to an intermediate stop like Green River, Utah, or Arches National Park. There they would be met by a stake bed truck which already had all the boats and river gear. All the personal bags would be loaded into the truck and all the passengers would pile in on top for the bone-jarring, dusty ride down through North Wash to Hite. Once there, the group would be divided into boat crews, which would also be the kitchen crew for one day's duty, the boats were inflated, all gear loaded, and they were off. Each day started at 4 A.M. with Merly Shaw playing a tune on his harmonica, save for Sundays, when they got to sleep in until 5:30. Water fights, a feature of SOCOTWA trips, usually started right away and didn't stop until they were off the river at the end of the trip. Another activity was wallowing in mud bogs; everyone would coat themselves with mud and roll around; some groups would create tableaux of mud-coated figures.

Favorite stops included Bert Loper's cabin at Ticaboo; the petroglyph panel at Smith Fork; SOCOTWA beach at Bullfrog Rapids; Shaw's Spring Canyon, a small side canyon that SOCOTWA claimed to have explored for the first time and where there was a fixed rope for swinging out into the river; and of course Hole-in-the-Rock. Given the Mormon background of virtually all the passengers, the hike up Hole-in-the-Rock was more in the nature of a pilgrimage than just a hike, and even reluctant passengers were inspired by the prospect of a Dairy Queen at the top of the trail. (The mythical Dairy Queen was peripatetic; sometimes it was at Hole-in-the-Rock, sometimes on top of Rainbow Bridge, sometimes up the Escalante a ways; it was a standard trick to play on first-timers). Music Temple was also a favorite, and Sacrament services were often held there, with hymns and people playing instruments, and all would sign the register books found in a can under an overhang. Camps were at places like Lake Canyon, Hole-in-the-Rock, and Forbidding Canyon, where the meals were simple but filling fare such as hamburgers, spaghetti,



SOCOTWA stew, Merly's famous breakfast of bacon, potatoes and eggs mixed together, and so on. Lunches were equally simple, and usually eaten on the boats as they floated along.

The highlight of the trip, though, was the hike to Rainbow Bridge. It was a long slog, 14 miles round-trip, but there were few who didn't go. The camp at the mouth of Forbidding Canyon (sometimes called Aztec Canyon, after the name of the creek that flowed through it) was often crowded, and it was one of the few places where the SOCOTWA trips would run into other parties; government surveyors, private trips, even other outfitters such as Mexican Hat Expeditions or Ken Sleight's Wonderland Expeditions. While the hike was a long one, the goal at the end, and the beautiful slickrock pools along the way made it worthwhile. Once at Rainbow Bridge the more adventurous would use the fixed ropes to climb a buttress on one side of the bridge, from which they could climb down onto the top of the span. Others would look through the registers and sign their names, and lounge in the dammed-up pools at the bottom. Once everyone was back down, it was time for lunch at the Contest Pool. The contest involved running or edging up a steep slickrock slope as far as you could, then make a mark on the wall with a rock. The next contestant would try to reach a little higher or farther. Despite their sore feet and sunburned skin, that night was there was often a grand fiesta, for it was the last night of the trip. Concerts with ukuleles, a violin, and of course Merly's harmonica were held, and one 1958 journal describes a square dance held by firelight.

There are two things that seem to characterize SOCOTWA trips, and that appeared in every journal we read, and in every interview: the emphasis on having fun and romance. Water fights and mud wallowing have already been mentioned; boat crews held competitions and often brought along specially made flags, or color hats for their boat mates. Shaving by the men was frowned on, and while the women would wash their hair, no one was supposed to wash their clothes. Sacre Dulce, an LDS choir group that went on many SOCOTWA trips, was famous for practical jokes. On one trip they somehow smuggled an iced watermelon along, and ate it on the boat in front of the other crews; on another trip, boat leader Glen Fagg secretly brought along ice cream packed in dry ice, with Dairy Queen cups, chocolate topping, and even maraschino cherries. The effect of seeing the Sacre Dulce crews

eating these treats on the boat, while the others washed down smashed peanut butter or Vienna sausage sandwiches with heavily chlorinated water, is easy to imagine. The alleged Dairy Queen at the top of Rainbow Bridge has already been mentioned, and other practical jokes were common in camp. However, it was all done in a spirit of fun. The other aspect of SOCOTWA that seems to crop up in every account is the romance. More than one person we interviewed said that they had met their future spouse on the river, had proposed, or had at least had a brief river romance. Dale Labrum, one of the founders of SOCOTWA and participant on many trips, wrote of meeting his future wife on a trip where everything had gone wrong; flat tires, bugs, wind, poison ivy, a boat flip: "I had already set the wedding date with a bimbo, and she was engaged to a turkey, when we experienced this magical SOCOTWA trip together. Nonetheless, when ... I saw a smile on her blistered lips and she said 'Wasn't that a beautiful moment when we were surrounded by rainbows?' I knew she was the one." They were married three years later and have been married almost fifty years now.

The earliest SOCOTWA trips took out at Lees Ferry, but after construction on Glen Canyon Dam started in 1956, they could only go as far as the landing at Kane Creek, near Crossing of the Fathers. There the boats would be unloaded and washed out; the gear piled up in the back of the old faithful yellow and red stake bed truck, and the weary, sunburned group would climb in on top of it and rattle their way back to civilization, the town of Kanab in the early 1950s and later, the Wahweap Motel. It was time to wash up, comb some of the sand out of their hair, and don their new SOCOTWA t-shirts, given to them at the end of the trip. There the trip began to split up; some left right away, while others would often stop at the site of the Glen Canyon Dam, or visit Bryce Canyon National Park. Once back in Salt Lake City, there was usually a final dinner at someone's house, and their SOCOTWA Glen Canyon trip was over.

Even though Glen Canyon was the main attraction for SOCOTWA, it wasn't the only river trip they offered. Some groups ran the San Juan or the "daily" stretch of the Colorado, from the Dewey Bridge to Moab, Desolation Canyon on the Green, and exploratory trips were done on the Snake River and the Middle Fork of the Salmon in Idaho. The leadership discussed trying Cataract Canyon or the Grand Canyon, but they never ran either of those stretches of river because the former was deemed too dangerous, and the latter too long. One whitewater river they did run on a fairly regular basis, however, was the Green through the Canyon of Lodore in Dinosaur National Monument. Before the Flaming Gorge Dam tamed it, Lodore was a wild stretch of river; spring floods could run as high as 25,000 cfs. At high water it was one continuous rapid, with such famed Class III and IV falls as Disaster Falls, Triplet Falls, and Hell's Half Mile. Even experienced river runners like Bus Hatch and Frank Swain often got themselves into trouble in Lodore. The SOCOTWA crews, made up of equally inexperienced guides and paddlers, often found themselves over their heads. On a high-water 1961 trip, one of the boats wrapped around Winnie's Rock in the first rapid and was lost, despite an all-day effort to free it. Other problems in Dinosaur were caused by weather; in the spring they were often beset by rain and wind. They never carried tents, so they went to bed wet and cold and rose the same way. On the Yampa, the trips were sometimes plagued by mosquitoes. So Dinosaur never held the same attractions that Glen Canyon did for SOCOTWA groups.

In some ways, SOCOTWA was ahead of the curve in river running; they ran more trips and had more boats on the water than any of the early outfitters, and all with volunteer crews. Being ahead of the curve in anything can be risky, and in the wrong situation or setting downright dangerous. It was a function of too many boats on the water with too many inexperienced people-both passengers and staff-and the odds finally caught up with them. SOCOTWA had its share and more of on-river and campsite accidents, and even some tragedies. Of course sunburns, bug bites, cuts and bruises were common and expected, just like they are today; but there were also several cases where horseplay got out of hand, or someone tried to climb a wall that was a little too steep, and bones were broken. SOCOTWA had good first aid, as good as you could get at the time, and many times there were doctors along as passengers. But if you broke an arm or an ankle, or dislocated a shoulder, there were no evacuations. The injured limb was splinted or stabilized, and the other passengers pitched in to help the injured member of the group until they got back to civilization; it was just looked on as part of the risk of going into a wilderness. In the early 1960s, though, SOCOTWA suffered a series of tragedies that staggered the SOCOTWA membership. Even though two of these tragic events didn't even happen on the river, they seemed to spell the end of SOCOTWA's active river program.

The first occurred in May of 1961, on a trip through Split Mountain Canyon on the Green. It was a large group, 55 people, and very high water. At the last small rapid before the Split Mountain boat ramp, where the river pushes up against the cliff on the right, one of the boats got too close and was momentarily pinned by the current. Everyone was thrown clear except for Don Jasperson of Provo and a woman named Peggy Robinson. Ms Robinson was pinned against the wall by the boat, while Jasperson was knocked unconscious when his head hit the cliff and thrown into the bottom of the boat. The next boat behind them was able to free the trapped boat; Ms Robinson floated clear, face down, but was brought around. Mr. Jasperson, however, was dead when they pulled him from the overturned boat. SOCOTWA members had barely had time to digest this awful event when in September of that same year, Walt Scott, a long-time SOCOTWA leader and the person in charge of maintenance of their vehicles, led a large group of Scouts into the Zion Canyon Narrows. On a Sunday, as they were hiking along the bottom of the canyon, a sudden flash flood hit the party and Scott and four of the boy scouts were washed away. Their bodies were all found later, as much as ten miles downriver. The small, close-knit group of SOCOTWA staff was deeply shocked by this sudden loss of someone they all knew so well.

But worse was to come. In June, 1963, a large group of Boy Scouts from the Pleasant View Ward in Utah Valley

were in the back of the SOCOTWA truck on the 50-Mile Mountain road south of Escalante, Utah, on their way to meet a SOCOTWA river trip at the bottom of the Hole-in-the-Rock trail. There they would trade passengers, the river crews hiking out, while the Scouts hiked in to run the last stretch of Glen Canyon. It was one of the most isolated spots in the entire state. As the truck labored up a steep grade out of Carcass Wash, the engine stalled, and as it began to roll backwards the driver could not stop it. The truck rolled off the road and overturned, spilling all passengers and gear and then rolling over some of them. Four adults and eight scouts were killed instantly, while twenty-six more were injured, some critically. Among the dead was Merly Shaw, the most well-loved member of the entire SOCOTWA family. With his loss, and the flooding of Glen Canyon when the gates closed on the dam that same year, the heart went out of the SOCOTWA river program. Even though in later years the group still did occasional river trips, it just wasn't the same. Dale Labrum, one of the founders of the group, shaken by the loss of his friend and cousin, walked away and resigned from the board. One member, John Josephson, took over the river gear and changed the name to Travel Institute, and continued to run some trips through Dinosaur and Desolation Canyon, but SOCOTWA's years on the river were finished.

Even before these terrible occurrences, SOCOTWA had branched out into land trips by bus. Groups went to the Seattle and New York World's Fairs, to the Hill Cumorah Pageant in New York, even to Mexico. These were run the same way as the river trips; they camped out in parks and campgrounds, and brought along their own kitchens and food. Many accounts were written about these trips, but they are outside the scope of *The Confluence*. Suffice to say that they continued into the 1980s and beyond, and as mentioned above, SOCOTWA is still in existence.

Despite these tragedies, many people in Utah and elsewhere have nothing but fond memories of their experiences with SOCOTWA. In the commemorative book SOCOTWA published on its fiftieth anniversary in 1998, members related not tragedy, but how SOCOTWA helped them establish patterns in their lives that they still held to. They remembered the fun times, the camaraderie, the shared joy of the river and the experiences of traveling to far and wild places with a group of friends. Many wrote about the lifelong friends they had made while on a SOCOTWA trips; others remembered the moon over the cliffs in Glen Canyon or the practical jokes by Sacre Dulce. Deween Durrant summed it up for everyone when she wrote:

Very simply, SOCOTWA fulfilled my needs. It provided me with the opportunity to expand my horizons; to experience adventure and daring; to travel to places and see things I never could have afforded. SOCOTWA helped me to establish a circle of friends, a sense of belonging, feelings of acceptance, self confidence, and security. In short, it set my SPIRIT free. [...] What a brilliant landscape of memories these SOCOTWA trips and experiences have provided for us! What a rich heritage of friendships and contacts we've enjoyed from teen age through the "golden" years! What a great legacy of laughter, love, and learning, has lighted our lives!

From the Marriott Library

FILM EVENT

The Special Collections Department of the University of Utah's J. Willard Marriott Library has been collecting historical films that depict Glen Canyon for quite a few years now, and we want to show them off! On Tuesday, April 13, the University will host an all day showing of a number of films from our collections. Both professional and home color movies will be shown that will give you a chance to see what it was like to leave from the Hite Ferry; to float past Tapestry Wall; to sit in Music Temple; and to hike to Rainbow Bridge. An added feature will be films of the canyons of the upper Green that are now flooded by Flaming Gorge Dam. The festival will start at 12:00 PM on Tuesday, April 13, and run until 8:00 PM. The films will be shown in the Marriott Library's Gould Auditorium. For more information, call Roy Webb, Multimedia Archivist, at (801) 585-3073, or email at <roy.webb@library.utah.edu>.

RIVER HISTORY AVAILABLE ONLINE AT MARRIOTT LIBRARY WEBSITE

Ever seen a one of the registers that used to be in Music Temple? How about a page from an original diary kept by pioneer river runner Nathaniel Galloway in 1909? What about photos from Harold Leich's solo run from the source of the Colorado through Westwater in 1933? Or how about photos from Glen Canyon and Flaming Gorge before the dams? You can find all of these and more at the University of Utah's J. Willard Marriott Library website. The URL is http://www.lib.utah.edu/spc/photo. Once there, use the various indexes to look for photos. You can search for photos by using the Alphabetical Index, for instance, or use the Subject Index and look under Rivers and Lakes. You can also use the search engine by putting in a term such as "Glen" or "river". The search engine searches across collections, however, so you might get a picture of the Green in Desolation Canyon and next find one of a dog sled on the Wood River in Idaho. So when you're not able to surf your favorite wave, get on the internet and surf over to some cool historical sources on river running.

Free Replacement if Lost or Stolen

It takes
a certain amount of blue
to be a sky
and a unique collection
of upwardly motivated stars

It takes
an abundance of green
to be a forest
and a little bit of whimsy
to paint enough
wildflowers

It takes
a winter of snow
to be a river
and an order of stones
to punctuate life's
sentimental journeys

It takes
a certain amount of love
woven red with courage
to trust
another human being
with your heart

Doub Oblak

A Colorado River Sediment Inventory

Compiled by John Weisheit

The table below is a compilation of scientific data from reports written by hydrologists. For the US Geological Survey (USGS) Eugene LaRue documented the sediment loads of the Colorado River in early *Water Supply Papers*. A very comprehensive study on sediment in Lake Mead reservoir was conducted by the USGS in 1948-49 and published in 1960 as *Professional Paper #295*. This paper set the standard for the study of sedimentation in large reservoirs that has yet to be repeated. Subsequent studies, but limited in scope, have been accomplished such as the *1986 Lake Powell Survey* by the Bureau of Reclamation, and an excellent report was written by Edmund D. Andrews of the USGS, *Sediment Transport in the Colorado River Basin,* which was published in 1991 by the National Academy of Sciences. Unfortunately, the collection of data for sediment was discontinued by the USGS in 1989.

The chart below is basically accurate in all columns and rows. Two points of climate history must be considered when reviewing this data: 1) sediment loads vary considerably due to changes in climate regimes; 2) since the construction of Hoover Dam, additional reservoirs have been added to the plumbing system, which are collecting sediment independently throughout the entire basin. Incidentally, all river sections between dams have had their sediment loads reduced.

The government scientists who studied the sedimentation of Lake Mead in 1948 were actually alarmed at the rapid accumulation of sediment in that reservoir. To mitigate the problem, and to their chagrin, they recommended the building of upper basin dams. Though this provided more longevity for Lake Mead, it essentially spread the sediment problem to more than one place and effectively increased future mitigation costs substanitally. This demonstrates the mismanagement of water resources in the Colorado River basin, which can be summarized best as stealing the future to gain the present.

What the studies show is that sediment transport in the Colorado River itself has been greatly reduced since 1942 and by as much as 400%. This does not necessarily mean that natural erosion on the Colorado Plateau is at rest. More likely, sediment is being stored in the arroyos of the basin and waiting for threshold events to transport their loads into the Colorado River, and subsequently into mainstream reservoirs such as Mead and Powell.

For example, a flood with a peak discharge of 140,000 cfs roared through San Juan Canyon below Mexican Hat, Utah in October 1911. It is just a matter of time before similar flood events mobilize many decades worth of sediment from arroyos and send huge plugs of sediment into Lake Powell.

A sediment management plan must be conducted in the very near future by the Bureau of Reclamation. This study must not only evaluate the sediment of all the mainstem reservoirs of the Colorado River and its tributaries, but it must also evaluate the storage of sediment in all the ephemeral arroyos, especially where soft Mesozoic rocks dominate the landscape such as the basins of the San Juan and Little Colorado rivers. It must also determine the effects that sediment will have on dam safety, power generation, water storage, recreation, and the management of endangered species.

How Much Sediment Are We Talking About?

According to E. D. Andrews' very reasonable estimate, which was published in 1990, there are 44,400,000 tons of sediment arriving into Lake Powell reservoir on a yearly basis under the current climate regime. A truck pulling a street legal load has a carrying capacity of 22 tons. In one year, it would require 2.018 million truck loads to remove the annual sediment load of Lake Powell. That is 5,529 truck loads per day; 230 loads per hour; 4 loads per minute.

This scenario demonstrates very well the costs and impacts involved in solving the sediment problem of reservoirs. It also destroys the myth that federal dams are cost-effective and that hydropower is a renewable resource.

Author and year	Location	Years of analysis	Total annual average in tons	Total annual average in acre feet
E.C. LaRue 1916	Yuma, AZ	1892-1912 (inclusive)	162,500,000	
E. C. LaRue 1925	Yuma, AZ	1909-1922	196,673,400	
W.O.Smith 1960	Hoover Dam	1935-48	143,000,000	
E. D. Andrews 1990	Grand Canyon @ Bright Angel	1925-1940	195,000,000	
E. D. Andrews 1990	Grand Canyon @ Bright Angel	1941-1957	86,000,000	
E. D. Andrews 1990	Grand Canyon @ Bright Angel	1963-1990	11,000,000	
E. D. Andrews 1990	Lee's Ferry	1941-1957	66,100,000	
BuRec 1962	Glen Canyon Dam	?		85,400
W. Condit; 1978	Glen Canyon Dam	1963-1977		27,000
R. Ferrari 1988	Glen Canyon Dam	1963-1986		36,946
E. D. Andrews 1990	Glen Canyon Dam	1963-1986	44,400,000	

THE SEDIMENT PROBLEM IN RESERVOIRS

by Thomas L. Maddock, Jr
U.S. Bureau of Reclamation

A chapter from: Comprehensive Survey of Sedimentation in Lake Mead, 1948-1949, USGS Professional Paper 295; W. O. Smith, C. P. Vetter, G. B. Cummings, et. al.

The accumulation of sediment in reservoirs has long been recognized as one of the principal problems involved in the Western United States in providing for regulation of rivers by storage. Even the rivers in humid regions carry some sediment, and in several reservoirs in the eastern half of the country the accumulation of sediment is a significant engineering problem. More than 50 years ago F. H. Newell of the Geological Survey, later to become the first Director of the Reclamation Service [now called Bureau of Reclamation] wrote: "Thus, the upper ends of all reservoirs are rapidly filled with silt and it becomes an important question to the projectors of storage works as to how many years will elapse before the value of the reservoir is practically destroyed and whether its use can be restored in part by subsequent removal of some of this material."

To answer part of the question posed by Newell, the Geological Survey undertook, from 1904 to about 1910, what today would be called a miscellaneous sediment sampling program on many streams in the West, particularly those whose load of sediment was obviously great. For a long time records collected during this period formed the basis for estimates of the sediment load of western streams, and such estimates in turn provided the basis for decisions as to the amount of reservoir capacity to allocate to sediment storage and for estimates of the useful life of proposed reservoirs.

The greatest interest centered in the rate of sediment movement in the Rio Grande and Colorado River basins, perhaps the two streams most heavily laden with sediment in the country. Reports by Stabler (1911), Follett (1913), and Fortier and Blaney (1928) are the best known studies of sediment load in these two streams. The early estimates of sediment movement appear to be surprisingly good and reflect the ability and good judgment of those engaged in the early development of the water resources of the West.

In the light of more recent data, the estimates of average sediment load were generally somewhat high, and the predictions of reservoir life thus appear to be conservative. In 1899, the sediment load of the Gila River at San Carlos, Ariz., was estimated to average 8,440 acre-feet per year, but the observed rate of deposition in San Carlos Reservoir on the Gila River in the period 1928-47 was 3,200 acre-feet per year. In 1913, the average annual sediment load of the Rio Grande at Elephant Butte Reservoir, N. Mex., was estimated to be 19,700 acre-feet; the observed rate of accumulation in Elephant Butte Reservoir in 1915-47 was 14,400 acre-feet per year. Prior to the construction of Hoover Dam the sediment load of the Colorado River was estimated to be 137,000 acre-feet per year, but the 1948-49 survey has shown the average annual rate of accumulation to have been about 102,000 acre-feet. In nearly all cases present estimates promise a greater length of life for major western reservoirs than those made prior to 1930.

This encouraging news does not allay the problem of sedimentation in reservoirs, but merely puts off the day of reckoning. Commonly sedimentation is a minor problem during the first years of operation of a reservoir, but as the water-storage facility is used by succeeding generations the problem becomes of progressively greater significance and concern. Sooner or later the water users ask the questions: How long will the reservoir continue to be of use to

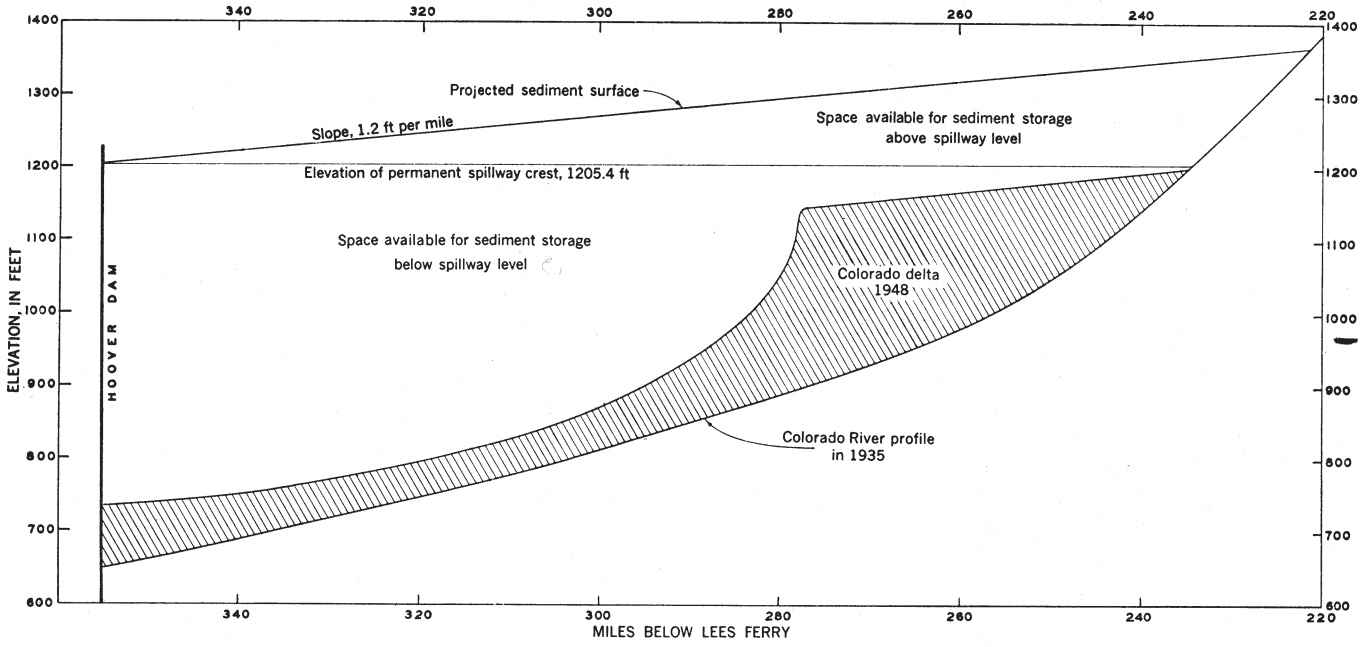


FIGURE 57.—Diagrammatic representation of the surface of the sediment that would be accumulated in Lake Mead when the lake is filled to permanent spillway level.

them; what can be done to increase that economic life; will there be diminution or deterioration of their water supplies (and, if so, when and how much); and what alternatives are available for meeting their continuing requirements?

These questions cannot be answered merely from an analysis of records of the rate of movement of sediment into reservoirs, even if those records were complete and accurate, which they are not. Also, detailed information is essential as to the mechanics of transportation and deposition of sediments in reservoirs, which is obtained by comprehensive surveys such as the one undertaken in Lake Mead during 1948-49. In part, the answers would depend upon an understanding of the dynamics of sedimentation, including erosion and transportation in the tributary watershed, as well as deposition in the reservoir.

It is difficult to predict the useful life of a reservoir even if the rate of sediment movement into the reservoir is known. This difficulty comes about partly because the rate of sediment movement in streams is measured by weight, and the weight of the sediment must be converted into space occupied. The conversion factor as found by reservoir surveys is not constant because the sediment becomes more compact as it dries and as deposits deepen. The space occupied by a given weight of sediment, therefore, will vary with the type of reservoir operation and the age of the reservoir. This is one of the reasons why successive volumetric surveys of a reservoir tend to show decreasing rates of sediment accumulation.

> *"Thus, the upper ends of all reservoirs are rapidly filled with silt and it becomes an important question to the projectors of storage works as to how many years will elapse before the value of the reservoir is practically destroyed and whether its use can be restored in part by subsequent removal of some of this material."*
>
> Frederick Newell, first commissioner of Reclamation.

In the United States there is no experience to guide any estimate of how rapidly a large reservoir will fill to the last stages of its life. It is known that, as the capacity of a reservoir diminishes, more of the sediment load passes through without being deposited. It is known also that, as deposition in a reservoir proceeds, a considerable quantity of sediment is deposited upstream from the flow line of the reservoir. Here again experience is not yet a sufficient guide to a determination of the amount of sediment that will be deposited in such locations. Critical problems can result from upstream deposition, and some have been observed. However, what happens above a reservoir seems to be dependent on many factors, such as reservoir operating levels, the amount of the sediment load, the amount of water carried by the stream, and the potential for vegetal growth.

If the problem of determining the life of a reservoir is not a simple one, the value of preventing sediment accumulation in a reservoir is not easily determined either. The difficulty is complicated by the fact that reservoir storage may have different values from place to place, or from time to time. Streamflow generally must be regulated to be useful, and the degree of regulation desired is a measure of the reservoir storage required. Filling a reservoir with sediment does not destroy the value created by the falling water in power production and may even increase power production by holding a given amount of water at a higher elevation, although if regulatory space is lost the firm power production may be decreased. Loss of reservoir capacity is not of tremendous importance when ample supplies of water are available, nor is it of importance in the dry years when storage space will not be filled. But maintenance of reservoir storage is of tremendous importance in the transition from wet to dry years, and most western irrigation projects now under way contemplate holding over the surplus flows of wet years to make up the expected deficiency in dry years. Thus, irrigated acreage is directly related to reservoir capacity and must be decreased as the reservoir capacity is reduced.

If, then, irrigated acreage is dependent on reservoir capacity, what should be the criteria for project life? This is a question that has never been answered satisfactorily. With few exceptions, large reservoirs so far constructed in the West have economic lives well in excess of 100 years. The economic value of a reservoir during its useful life should be based, not only on the strictly economic benefits that are obtained from its construction as measured by comparison with costs, but on the intangible returns that come from a sustained irrigation economy in an area with little or no other development.

> *"You hear that it is filling with sediment, and it's just not true," he said. "It was built with a 100-year sediment pool, and it isn't collecting as fast as we thought it would."*
>
> John Keys III, current commissioner of Reclamation. See *Deseret News*, June 18, 2002.

The possibility of prolonging the life of a reservoir hinges upon our success in developing economical techniques for either moving some of the sediment out of the reservoir or reducing the rate of sediment contribution to the reservoir. From our present state of knowledge it is apparent that by far the greater part of the incoming sediment load must be trapped in a reservoir in the early stages of its life, and that the movement of sediment out of the reservoir will be uneconomical, because of cost of removal as compared with cost of storage or because of undesirable use of water. Because the early studies made it perfectly clear that the sediment load of streams would eventually reduce or deplete reservoir capacity and render reservoirs of limited or no value, there has been considerable interest in means of evacuating sediment from reservoirs. Many proposals for methods of sediment removal were made, from sluicing to dredging. None of the methods proposed has ever been put to practical use in the West.

Operation of Elephant Butte Reservoir on the Rio Grande, Lake Mead on the Colorado River, and Conchas Reservoir on the South Canadian River brought the phenomenon of density currents to the fore. It was clearly evident that some flows, heavily laden with sediment upon entering a reservoir, plunge beneath the surface water owing to their greater density and travel long distances downlake practically intact. Density currents are responsible for the deposition of sediments of low weight per unit volume that occupy a relatively large amount of space in

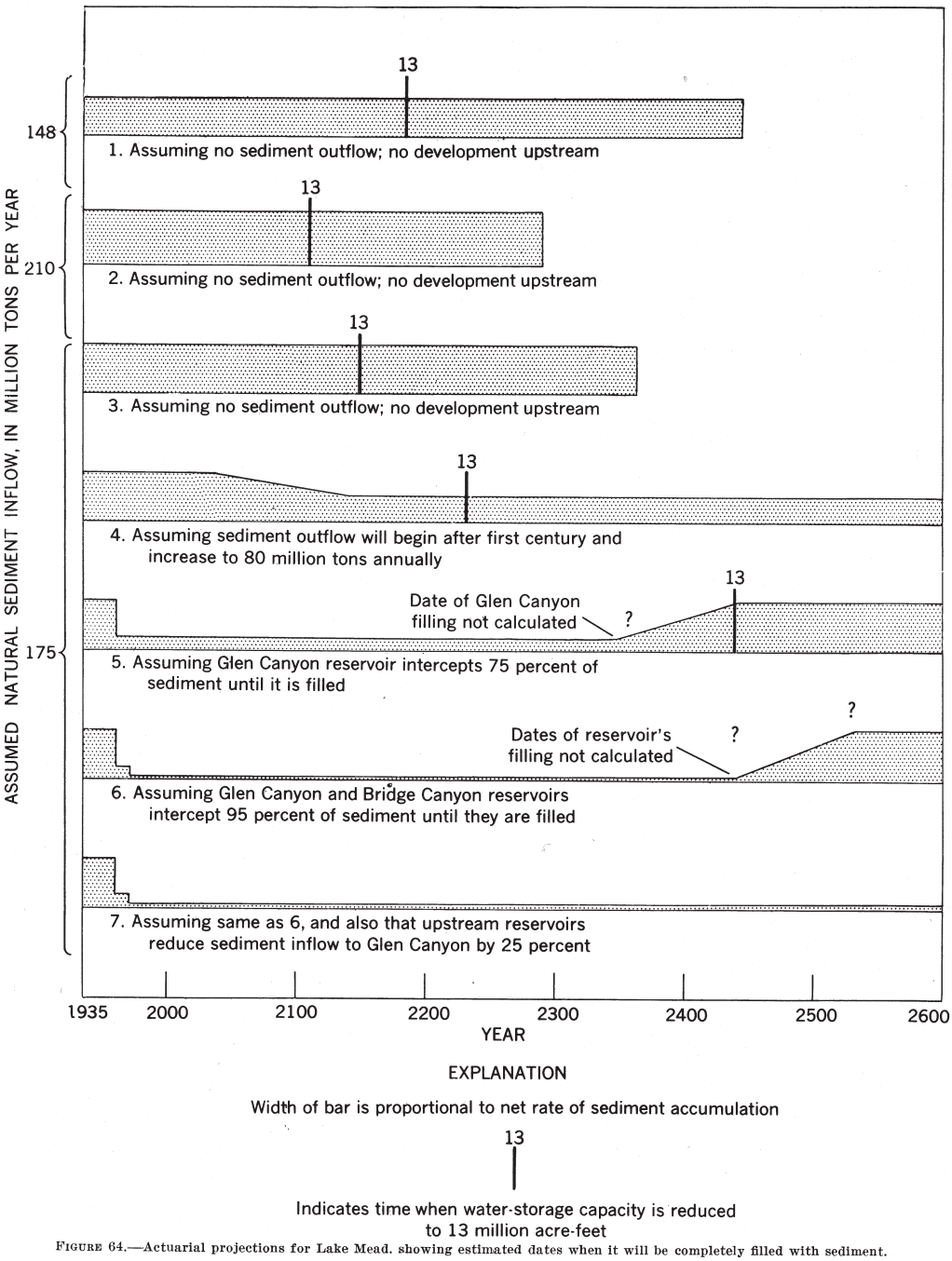


FIGURE 64.—Actuarial projections for Lake Mead, showing estimated dates when it will be completely filled with sediment.

Editor's comment: Survey scientists (circa 1950) determined when Lake Mead becomes half-filled with sediment (13 million acre-feet), it will no longer serve as a beneficial water storage facility. What is important to realize is that a reservoir's life span should not be measured in the terms of complete filling, but in terms of economic efficiency. Today, the public relations office of the Bureau of Reclamation projects the life span of their reservoirs in terms of complete filling, which is an admission of mismanagement and a statement that is unresponsive to science.

the lowest parts of a reservoir, and they have engendered a considerable amount of interest and discussion concerning design of reservoir outlets expressly for evacuation of density currents. The fact that reservoir outlets are not yet so designed is due largely to two factors: (1) The movement of density currents is not yet fully predictable; and (2) the amount of water that must be released from the reservoir for such a purpose must be large. Studies of sediment movement and deposition in Lake Mead will aid in further understanding the density current problem and so help to solve the problem of moving the greatest amount of sediment through the reservoir with the least use of water.

Prolonging reservoir life by reducing sediment inflow is dependent on the potentiality for reducing erosion and sediment movement in streams through watershed control. It is unfortunate that knowledge is so limited regarding the effect of watershed management in terms of reduction of sediment movement in streams. It is known that relatively small areas within western drainage basins contribute disproportionately large quantities of sediment to streams. Within these areas the factors of geology, soils, topography, vegetation, and climate are as critical, from the standpoint of sediment production, as anywhere in the United States. Many of these areas are practically uninhabited and have little present economic value, but they are of considerable local importance; because they are largely within the public domain or Indian reservations, their administration poses many problems for the agency responsible for their use.

It should be stated frankly that not enough is known about the erosion problem to evaluate fully a management program. For example, how well do present rates of sediment movement represent the rates to be expected over a long period of years? Is the long-term rate more or less than the present rate? What stage of gully development provides the greatest amount of sediment load to streams; and in what stage of gully development are we at the present time? To what extent can vegetation be increased in areas of low rainfall; and to what extent will such increases reduce rates of runoff and erosion? These and many other questions cannot be answered at the present time. They will be unanswered for a long time in the future, unless impetus is added to the rate at which investigations are undertaken.

The effect of sediment accumulation in reservoirs upon the quantity and quality of the available water supplies is not apparent at first glance. It should be pointed out that all reservoirs exact a certain water cost for their storage facilities, by reason of evaporation from their water surfaces. As water evaporates, there is some increase in concentration of dissolved solids in the water remaining in the reservoir. In areas where the average evaporation exceeds the average precipitation, therefore, the water in the stream is diminished in quantity and deteriorated in quality by reservoir storage.

> *"Construction of new reservoirs and dams—even if sites were available—does not provide a satisfactory solution to the problem. With the construction of a new, alternate reservoir for storage, the water losses must inevitably increase, because the evaporation from the new water-surf ace area is added to the evapotranspiration from the abandoned, sediment-filled reservoir."*
>
> Thomas L. Maddock, Jr., U.S. Bureau of Reclamation (1949)

Evaporation losses in the West are high, varying from location to location but probably averaging about 50 inches per year. Thus for every acre of exposed water surface in a reservoir, enough water is lost to irrigate as much as two acres of land. The total area of water surface in western reservoirs is measured in thousands of acres, and the magnitude of the price paid for water stored, in terms of water loss, can be readily visualized.

Sediment accumulation in most reservoirs tends to increase the area of exposed water surface per unit of water stored. Thus reservoir sedimentation increases losses from evaporation. But of far greater importance is the fact that most sediment deposits are fertile enough to encourage growth of types of vegetation that consume large amounts of water. It is now considered that the loss of water from reservoir areas having heavy sediment deposits is practically constant from year to year, and that this is due to combined transpiration and evaporation demands and is not dependent upon the area of exposed water surface alone.

Water losses through transpiration can be reduced by providing drainage of the sediment deposits and a channel to carry the streamflow, but these also hasten the movement of sediment into the reservoir area and thus increase the rate of depletion of storage capacity. The whole problem of transpiration and evaporation losses from reservoir areas and from channel deposits upstream from reservoirs is so important that it is the subject of intensive study at the present time. The work now being done toward control of phreatophytic growth in the Southwest shows considerable promise, and water losses from this source may ultimately be shown to be controllable. Increased use of groundwater storage may reduce the amount of surface storage required, thus resulting in a lower loss of water through evaporation. Doubtless it is the fond hope of all water users dependent upon reservoir storage that, as the existing reservoirs become useless by sediment accumulation, new reservoirs can be formed to replace them. It is true that there are numerous damsites and reservoir sites not yet occupied, but their number is diminishing, and some have been rendered unsuitable by reason of development of more favorable sites. A case in point is the Boulder Canyon site, once studied and then passed over in favor of the Black Canyon site for Hoover Dam, and now untenable because it is within the area of sediment accumulation in Lake Mead.

Construction of new reservoirs and dams, even if sites were available, does not provide a satisfactory solution to the problem. With the construction of a new, alternate reservoir for storage, the water losses must inevitably increase, because the evaporation from the new water surface area is added to the evapotranspiration from the abandoned, sediment-filled reservoir.

Future progress will be dependent on further study of the phenomena of reservoir sedimentation. The Lake Mead survey is a survey of but one of the many reservoirs in the West. Other reservoirs have been surveyed and the amount of data available for analysis is growing year by year. Investigations as complete as those at Lake Mead are expensive and can be undertaken only at infrequent intervals, but these serve the special purpose of increasing our understanding of the problems of reservoir storage.

REFERENCES CITED

Follett, W. W., 1913, Silt in the Rio Grande: El Paso, Tex., Internat. Boundary Comm.-Comm. Equitable Distribution of the Waters of the Rio Grande, 102 p.

Fortier, S., and Blaney, H. F., 1928, Silt in the Colorado River and its relation to irrigation: U.S. Dept. Agriculture Tech. Bull. 67, 94 p.

Stabler, Herman, 1911, Some stream waters of the Western United States: U.S. Geol. Survey Water-Supply Paper 274, 188 p.

> *"A 1988 government study found that it would take more than 700 years for sediment to fill the reservoir," said Barry Wirth, a public relations officer for the Bureau of Reclamation. "We know that that reservoir is going to be there for many hundreds of years to come," he said.*
>
> The Associated Press on August 10, 2003

Editor's comment: Mr. Wirth's statement is a complete deception to the American people and assumes that Glen Canyon Dam is a useful facility even after losing its ability to store water and produce power efficiently, and to provide safe flood control and incidental recreation opportunities. After 40 years of operation it has already been demonstrated that sediment has impacted white water recreation and that sediment loads will soon impact dam and power operations as the sediment pool fills, which was estimated to occur in 100 years and confirmed most recently by Commissioner Keys in the Deseret News *on June 18, 2002.*

Persistent Drought In The Colorado River Basin

Compiled by John Weisheit
See Stephen L. Gray, et. al, 2003

Introduction

Scientists have studied tree-ring records that span the last seven centuries for five regions of the United States, including the Colorado River basin. These records have been used to examine both wet and dry cycles of climate that can sometimes last for many decades, or multi-decadal. For example, droughts of 30–70 years persisted from the late 1500s until the mid-1800s in two of the five regions, and wet/dry cycles were synchronous at some sites until the drought of the 1950s. The pattern of severe drought in the late 1500s, followed by unusually wet conditions of the early 1600s, resembled the drought of 1942–1977 and the subsequent wet period from 1978–1998.

The mega-drought of the late 1500s may have resulted from a cooling phase in the tropical Pacific Ocean with a warming phase in the subtropical North Atlantic Ocean, and marked a substantial shift for the climate of the Rocky Mountain region. In 1998, scientists recognized similar sea surface temperatures and forecasted the present drought situation we now find ourselves in, and the present indicators offer little hope for improvement in the next few years. It is unknown if the current drought will become multi-decadal, but such a situation seems likely at some point in time, as do other extremes that include massive flooding, and higher sediment transport regimes.

Tree-Ring Chronologies

The identification of ocean oscillations from past centuries has been accomplished by scientists who have sampled tree-rings from, for example, logs from archeology sites (dwellings), and then comparing them with modern-day precipitation records. By modeling the climate records of the past by this method, there is a high degree of confidence within the science community that significant ocean oscillations in the future can be identified in order for communities to better prepare and manage the impacts of drought and floods.

Scientists have also refined the data for greater accuracy by examining more closely the chronologies from different tree species and geographic areas back to 1400 A.D.such as the central and southern Rocky Mountains. Although these two regions have different precipitation variables, historically they have suffered prolonged catastrophic droughts at similar times, such as the drought of the 1950s.

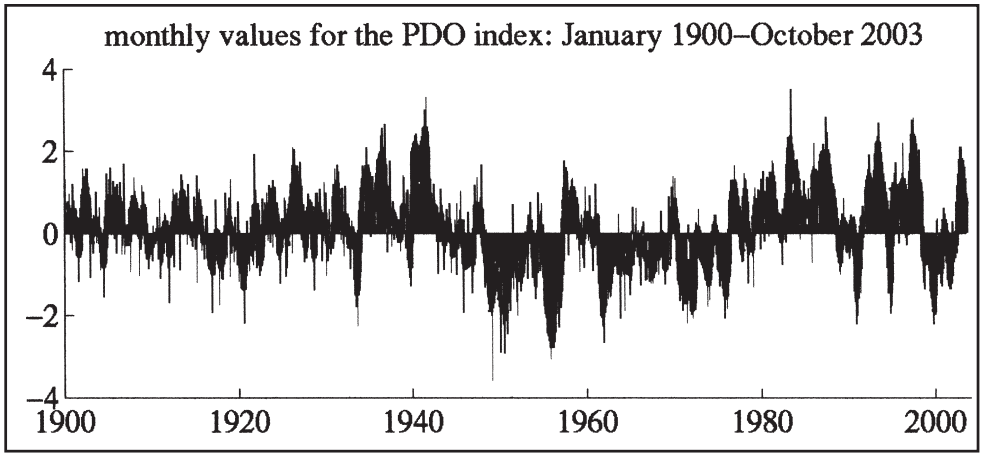
The results of refining the measurements from other tree-ring chronologies and from different regional areas mark both dry and wet periods that alternate for many successive decades, sometimes even four decades and more. However, the frequency and strength of these periods do vary in time spans and among the various regions. In other words, climate cycles do not necessarily impact all regions at the same time. For example, chronologies from Yellowstone and the southwest Rocky Mountains have a strong moisture signal in a band from 30–70 years around 1250–1400 A.D., but these signals are absent from other regions. Additionally, the Bighorn Basin (northern Wyoming) chronology shows significant energy for an even longer wet period that lasted 128 years around 1300–1400 AD.

A significant oscillation was observed during a severe and prolonged drought throughout much of North America from roughly 1575–1595 AD, which was followed by an unusually wet period in the central and southern Rockies from 1600–1625 AD.

Multi-decadal precipitation modes at 30–60 years do not persist after 1650 AD in either Yellowstone or the Colorado Plateau and remains so until the drought of the 1950s. However, the drought of the 1950s, though significant, did not resemble the severity of the drought that occurred in the late 1500s.

Discussion of Sea Surface Temperatures

In the North Pacific, much of the sea surface temperature variance occurs within a time scale of 15–25 years, and is accompanied by the strength and position of the Aleutian Low in winter. These variations have been defined as the North Pacific Oscillation (NPO) when referring to anomalies of the North Pacific, or Pacific Decadal Oscillation (PDO) if they extend into the tropics. The positive, warm phase of the PDO is associated with greater precipitation in all seasons throughout the central and southern Rockies (El Niño or wet). The 1900s were marked by two full +PDO cycles. The warm or positive +PDO regime prevailed from 1925–1946 and from 1977–1998. The cool or negative -PDO (La Niña or dry) regime prevailed



1) PDO means Pacific Decadal Oscillation. Note the dominate negative PDO (dry conditions) from 1942 to 1977 and the dominate positive PDO (wet conditions) from 1978–1997.

2) The alternating varibles as noted from 1900–1941 were decades of increased sediment transport in the Colorado River (see article about sediment inventory in this issue).

from 1890–1924 and 1947–1976.

In 1998, scientists noted the tropical Pacific Ocean was cooling (-PDO).

Warmer sea temperatures in the North Atlantic exhibit a 65–80 year cycle termed the Atlantic Multidecadal Oscillation (+AMO). Warm phases occurred during 1860–1880 and 1930–1960 and cold phases during 1905–1925 and 1970–1990. The AMO shifted to its warm phase around 1995, coincident with the apparent recent shift to the negative, cool phase of the PDO. During the warm phase of the AMO, the central U.S., including the central and southern Rockies, receives less than normal rainfall, particularly in summer.

By 1998 scientists were confident that having a warm North Atlantic and a cool tropical Pacific would spell out a persistent drought for the United States. They were right, for the last five years have substantiated the prediction with water year 2002 being the driest ever in the history of documentation by modern instruments.

This phenomenon is also identified by dry springs (February–April) over most of the western states and were succeeded in the central and southern Rockies by failures in both the early summer (May–June) and late summer (July–August) monsoon moisture that originates in the Gulf of Mexico.

What the scientists envision is a similar pattern of intra-seasonal drought for the mega-drought of the late 1500s, which affected most of North America from northwestern Canada to the Valley of Mexico and the Atlantic Coast. Like the 1950s drought, the mega-drought of the late 1500s was followed by an unusual wet period in the early 1600s, and both events were associated with intense and prolonged La Niña episodes typical of southwestern U.S. and Great Plains droughts. Such continental-scale droughts may be symptomatic of major reorganizations in both Pacific and Atlantic climate.

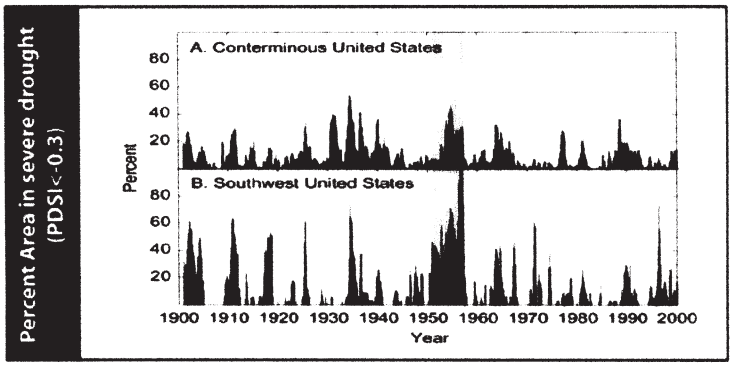
Long-term forecasting remains limited

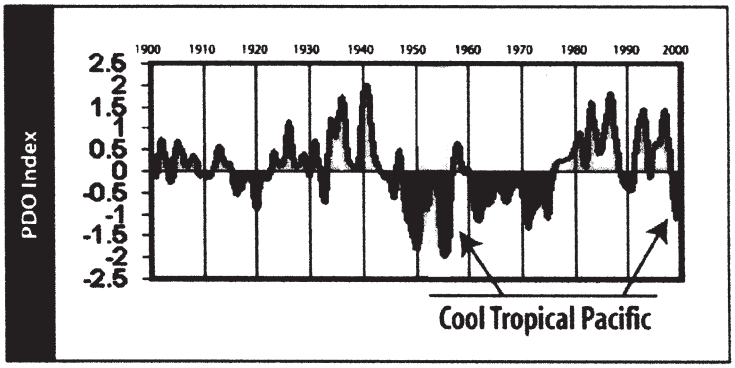
There is considerable discussion about the steady state vs. chaotic behavior of multi-decadal variables in climate, and thus about its predictability. An optimistic view is that knowledge about the present phase of the long-term -PDO or +AMO modes can be used to forecast climate more than a year in advance. Some recent forecasts are already taking into account the possible regime shift in both the Pacific and Atlantic sea surface temperatures during 1995–1998, which could signal prolonged drought in the central and southern Rockies.

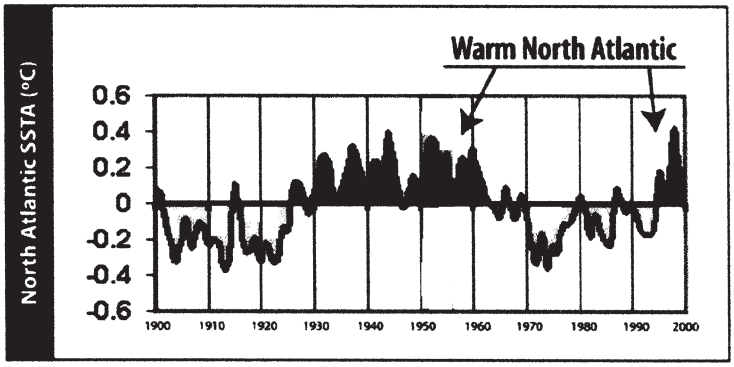
Although there is plenty of multi-decadal persistence in western North America climate, the instabilities argue against extending the forecasting window much beyond 2–3 years. At the very least, however, recent shifts to the cool phase of the -PDO and the warm phase of the +AMO provide little reason for optimism about ongoing drought in the Rockies.

It is probable that multi-decadal variations in North American climate, specifically the occurrence of prolonged, continental-scale drought, involve complex interactions between the Atlantic and Pacific Oceans. Unraveling these relationships will require further development of multi-century, annually-resolved sea surface temperature analyses from the Atlantic and Pacific basins.

Opposing shifts in Tropical Pacific and North Atlantic Ocean temperatures may foretell persistence of disastrous, multiyear droughts across the North American continent.







References

Barlow, M., S. Nigam, and E. H. Berberry, ENSO, Pacific decadal variability, and U.S. summertime precipitation, drought and streamflow, J. Clim., 14, 2105– 2128, 2001.

Biondi, F., C. B. Lange, M. K. Hughes, and W. H. Berger, Inter-decadal signals during the last millennium (AD 1117–1992) in the varve record of Santa Barbara Basin, California, Geophys. Res. Lett., 24, 193– 196, 1997.

Biondi, F., A. Gershunov, and D. R. Cayan, North Pacific decadal climate variability since 1661, J. Clim., 14, 5 – 10, 2001.

Cayan, D. R., M. D. Dettinger, H. F. Diaz, and N. E. Graham, Decadal variability of precipitation over western North America, J. Clim., 11, 3148– 3166, 1998.

Christiensen, C. J., D. S. Grosline, D. E. Hammond, and S. P. Lund, Nonannual laminations and expansion of anoxic basin floor conditions in Santa Monica Basin, California Borderland, over the four centuries, Mar. Geol., 116, 399–418, 1994.

Cole, J. E., J. T. Overpeck, and E. R. Cook, Multiyear La Nin˜a events and persistent drought in the contiguous United States, Geophys. Res. Lett., 29(13), 1647, 10.1029/2001GL013561, 2002.

Cook, E. R. A., A time series analysis approach to tree-ring standardization, Ph.D. diss., Univ. of Ariz., Tucson, 1985.

Cook, E. R., and L. A. Kairiukstis (Eds.), Methods of Dendrochronology— Applications in the Environmental Sciences, Kluwer Acad., Norwell,
Mass., 1990.

Cook, E. R., K. R. Briffa, D. M. Meko, D. A. Graybill, and G. Funkhouser, The ‘‘segment length curse’’ in long tree-ring chronology development for palaeoclimatic studies, Holocene, 5, 229–237, 1995.

Cook, E. R., D. M. Meko, D. W. Stahle, and M. K. Cleaveland, Drought reconstructions for the continental United States, J. Clim., 12, 1145–1162, 1999.

Delworth, T. L., and M. E. Mann, Observed and simulated multidecadal variability in the Northern Hemisphere, Clim. Dyn., 16, 661– 676, 2000.

Delworth, T. L., S. Manabe, and R. J. Stouffer, Interdecadal variations of the thermohaline circulation in a coupled ocean-atmosphere model, J. Clim., 6, 1993– 2001, 1993.

Dettinger, M. D., D. R. Cayan, G. J. McCabe Jr., and K. T. Redmond, United States streamflow probabilities based on anticipated neutral ENSO conditions and recent NPO status, Exp. Long Lead Forecast Bull., 90, 55– 60, 2000.

Dettinger, M. D., D. S. Battisti, R. D. Garreaud, G. J. McCabe Jr., and C. M. Bitz, Interhemispheric effects of interannual and decadal ENSOlike climate variations on the Americas, in Interhemispheric Climate Linkages, edited by V. Markgraf, pp. 1 –16, Academic, San Diego, Calif., 2001.

Enfield, D. B., A. M. Mestas-Nun˜ez, and P. J. Trimble, The Atlantic multidecadal oscillation and its relation to rainfall and river flows in the continental U. S., Geophys. Res. Lett., 28, 277– 280, 2001.

Gedalof, Z., and D. J. Smith, Interdecadal climate variability and regimescale shifts in Pacific North America, Geophys. Res. Lett., 28, 1515–1518, 2001.

Gerschnov, A., and T. P. Barnett, Interdecadal modulation of ENSO teleconnections, Bull. Am. Meteorol. Soc., 79, 2715– 2725, 1998.

Grissino-Mayer,H.D.,A2129 year annual reconstruction of precipitation for northwestern New Mexico, USA, in Tree Rings, Environment and Humanity: Radiocarbon 1996, edited by J. S. Dean et al., pp. 191–204, 1996.

Mantua, N., and S. Hare, The Pacific decadal oscillation, J. Oceanogr., 58, 35– 44, 2002.

McCabe, G. J., and M. D. Dettinger, Decadal variations in the strength of ENSO teleconnections with precipitation in the western United States, Int. J. Climatol., 19, 1069– 1079, 1999.

Meko, D. M., Dendroclimatic evidence from the Great Plains of the United States, in Climate Since A.D. 1500, edited by R. S. Bradley and P. D. Jones, pp. 312– 330, Routledge, New York, 1992.

Meko, D. M., C. W. Stockton, and W. R. Boggess, The tree-ring record of severe sustained drought, Water Resources Bull., 31, 789– 801, 1995.

Minobe, S., Resonance in bidecadal and pentadecadal climate oscillations over the North Pacific: Role in climatic regime shifts, Geophys. Res. Lett., 26, 855– 858, 1999.

Namias, J., Some causes of United States drought, J. Clim. Appl. Meteorol., 22, 20–39, 1983.

Schlesinger, M. E., and N. Ramankutty, An oscillation in the global climate system of period 65–70 years, Nature, 367, 723– 726, 1994.

Schneider, N., and A. J. Miller, Predicting western North Pacific Ocean climate, J. Clim., 14, 3997– 4002, 2001.

Stahle, D. W., M. K. Cleaveland, D. B. Blanton, M. D. Therell, and D. A. Gay, The lost colony and Jamestown droughts, Science, 280, 564– 567, 1998.

Stahle, D. W., et al., Tree-ring data document 16th century megadrought over North America, EOS Trans. AGU, 81, 121– 125, 2000.

Swetnam, T. W., and J. L. Betancourt, Mesoscale disturbance and ecological response to decadal climatic variability in the American southwest, J. Clim., 11, 3128– 3147, 1998.

Szeicz, J. M., and G. M. MacDonald, A 930-year ring-width chronology from moisture-sensitive white spruce (Picea glauca Moench) in northwestern Canada, Holocene, 6, 345–351, 1996.

Torrence, C., and G. P. Compo, A practical guide to wavelet analysis, Bull. Am. Meteorol. Soc., 79, 61– 78, 1998.

Villalba, R., R. D. D’Arrigo, E. R. Cook, G. C. Jacoby, and G. Wiles, Decadal-scale climatic variability along the extratropical western coast of the Americas: Evidence from tree-ring records, in Interhemispheric Climate Linkages, edited by V. Markgraf, pp. 155–172, Academic, San Diego, Calif., 2001.

Woodhouse, C. A., and J. T. Overpeck, 2000 year of drought variability in the central United States, Bull. Am. Meteorol., 79, 2693– 2714, 1998.

Woodhouse, C. A., J. L. Betancourt, Desert Laboratory, U.S. Geological Survey, 1675 W. Anklam Rd., Tucson, AZ 85745, USA. C. L. Fastie, Department of Biology, Middlebury College, Middlebury, VT 05443, USA.

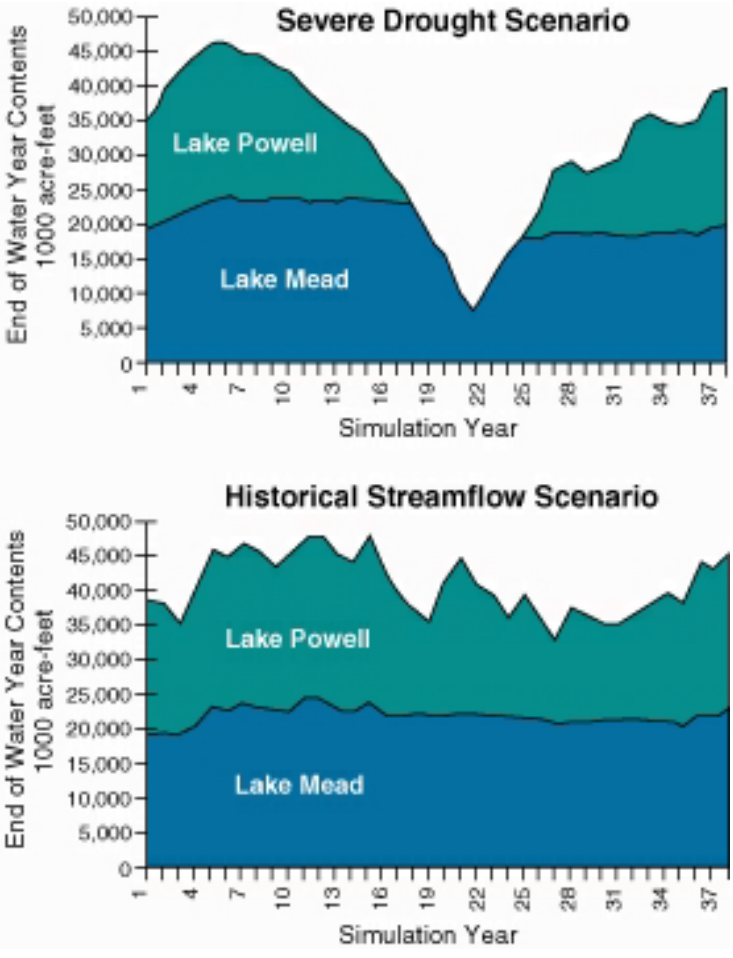
S. T. Gray and S. T. Jackson, Department of Botany, University of Wyoming, Laramie, WY 82071, USA.

The Future Hydrology of the Colorado River

by John Weisheit

The purpose of this article is to demonstrate that the Colorado River can supply the water required by humans and the enviroment, and is available right now and at little cost. This can be done by reducing consumption through management policies to increase efficiency. Otherwise the eventuality for all residents in these arid lands, as dictated by its present course in history, is to become another failed hydrosociety. If we simply reduced our water consumption to the national average, Lake Powell would not be needed and the ecosystems of the Grand Canyon and the Colorado River delta in Mexico can be restored.

The other alternative is invasive and economically burdensome, which is to finance and construct: 1) massive powerplants to provide energy; 2) large-scale wastewater and desalinization plants; 3) pipelines to deliver water to the users. These alternatives will increase our dependence on finite natural resources, such as petroleum and nuclear fuels. These fuels are very inappropriate considering: 1) our degraded atmosphere; 2) the expense and dangers associated with nuclear technology and waste; 3) our penchant as a country to generate unproductive relationships with other countries to support our rampant consumptive life style.



If the mega-drought of the late 1500s were to repeat itself, Lake Powell reservoir would empty for eight years

Another consideration includes the potential for water to become a commodity controlled by corporations, rather than managed as a public trust.

According to law, the water allocations of the seven states and Mexico is 16.5 million acre-feet. The real-time average supply of the Colorado River is, at best, 14 million acre-feet. The total loss due to evaporation and leakage throughout the whole system is currently 3 million acre-feet, which is nearly the complete allocation for the state of Arizona (2.8 million acre-feet). Any objective financial analyst would be shocked at the poor performance of this business venture. Congress is fully aware of this poor performance because they continue to approve Band-Aid fixes and subsidies every year to maintain it.

When the persistent drought appeared in the middle 1900s, nobody really noticed the shortfall because the supply still exceeded the demand—leaks, evaporation and all. Afterwards, when the metropolitan building booms began, nobody noticed either, because the Colorado River overproduced and filled the reservoirs despite the development. Building so-called metropolitan dreams on luck is called greed, not business.

Things are different now that the swimming pools are dug and the golf courses seeded. The demand has almost peaked and the supply continues to wax and wane at the whim of climate. The drought situation at present is very similar to the 35 years of reduced supply that occurred between 1942 and 1977 when El Niños took a long nap and a negative Pacific Decadal Oscillation locked in for an extended stay (see previous article).

The total storage of the Colorado River system right now is below 50%. It took four years to get there. If the drought persisits for another four more years, the trend will instead become a long reality and will completely drain Lake Powell reservoir. Obviously the drought will break—they always do. But what is the next climate regime going to bring our way? Will extreme flooding occur and bring the associated shuddering at Glen Canyon Dam—as occurred in 1983 when the the spillways choked at only 20% of capacity? Will the four-hundred fold sediment loads of the early 20th century return? The answer to these questions are—yes.

Models have been generated by hydrologists and resource economists with results posted on the web. Visit: <http://geochange.er.usgs.gov/sw/changes/natural/codrought/impacts.shtml>. The model presented at the left is based on 400 years of tree-ring data and simulates a drought of the late 16th century (1570-1598). That severe and sustained drought had a 30 percent reduction in stream flow on average in a 19 year period.

How will a drained reservoir effect river running? Our Colorado River river trips will have to take out at the old ferry roads at Hall's Crossing.

Clay Hills Crossing on the San Juan River will continue to be impacted by sediment. The river incising into the sediment may leave the boat ramp perched above a downcutting river. Channel meandering may place the river on the opposite shore. Trips on the San Juan River may have to locate alternate sites to exit the river as well.

Author	Years of record	Location	Unregulated flow in millions of acre-feet
E.C. LaRue USGS; 1925	1895-1922	Lee's Ferry	16.8
L. B. Leopold USGS; 1959	1896-1956	Lee's Ferry	13.85
Bureau of Reclamation	1906-1983	Lee's Ferry	14.35
D. R. Dawdy 1990		Lee's Ferry	14.0
Tree ring record Meko et. al. 1995 Tarboton 1995	400 years before present	Lee's Ferry	13.5
Bureau of Reclamation	1922-1983	Lee's Ferry	15.0

For the Law of the River to function, Nature must supply 16.5 million acre-feet (unregulated flow) annually at Lee's Ferry. The upper and lower basins each receive 7.5 million acre-feet and Mexico receives 1.5 million acre-feet. As you can see from this chart, statistics very widely according to the data sets used. The fiqure stated by Dawdy, on behalf of the National Academy of Sciences, is probably the best estimate. Regardless, the system is flawed and will fail as demand increases. Presently there is no leadership in government agencies to correct the problem. The environmental issues at risk are decreasing instream flows above Lake Powell reservoir and for the Colorado River delta in Mexico. Litigation will dominate the next decade of Colorado River management due to non-compliance.

Source	Year (s)	Upper Basin depletions in million acre-feet
E. C. LaRue 1925	1985 - 1922	1.80
D. R. Dawdy 1990	1968 - 1974	4.28
Bureau of Reclamation	2000	4.72
Bureau of Reclamation	2010	5.20

This chart explains the consumption of the upper basin above Lee's Ferry, which is allocated 7.5 million acre-feet and includes evaporation and leakage. The lower basin completely consumes their allocation of 7.5 million acre-feet, as does Mexico with their allocation of 1.5 million acre-feet.

Source	Full reservoir calculation	Lake Powell evaporation in acre-feet	Lake Mead evaporation in acre-feet
E.C. LaRue USGS 1925	Evaporation formula	750,000	1,000,000
W.O. Smith et. al. USGS 1960	Water year 1942		1,045,000
US Weather Bureau 1959	Evaporation formula	730,000	
Bureau of Reclamation	Water year 1983	633,000	

This chart explains the evaporation rates for the reservoirs known as Lake Mead and Lake Powell. The combined evaporation of the two reservoirs is equilavent to the complete allocation of Utah (1.7 million acre-feet).

Dam Failure Study
At Glen Canyon Dam

By Stephen E. Latham,
Bureau of Reclamation, July 1998

Note: This document is abridged

Purpose of Study

The purpose of this study is to estimate the magnitude of flooding that would result along the Colorado River from Lake Powell to Hoover Dam due to the failure of Glen Canyon Dam. This study was requested, pursuant to policy, by the Bureau of Reclamation. This information can be used in Reclamation's emergency action plan for Glen Canyon Dam, and as a reference in preparing inundation maps for areas downstream of the dam. It can also be used to help local authorities develop warning and evacuation plans.

Flood Scenarios Evaluated

The following two scenarios were considered to cover the range of events that could cause failure of Glen Canyon dam. Both scenarios represent worst-case scenarios that result in the largest uncontrolled releases of the reservoir. Various assumptions were made to help test the sensitivity of results to these assumptions.

1) Dam failure caused by foundation failure or other defect (Sunny-Day Failure). This scenario includes a 100-year base snowmelt inflow to Lake Powell.

2) Dam failure caused by overtopping brought about by the overtopping failure of Flaming Gorge Dam. This scenario involves an extremely large flood inflow to Lake Powell 580 miles upstream.

For this study, it was assumed that Flaming Gorge Dam would fail during overtopping. Should this overtopping failure occur with the starting reservoir water surface at normal capacity, a combined outflow of 5,320,300 acre-feet would result. With Lake Powell at its normal capacity (elevation 3700 feet), this combined outflow would exceed the available surcharge storage capacity at Glen Canyon by 2,498,560 acre-feet.

The flood forecasting computer program, BOSS DAMBRK (DAMBRK), was used to help prepare this study.

For the Sunny-Day Failure, the initial water surface for the computer model was assumed to be elevation 3711, which is the design maximum water surface at Lake Powell.

For the Overtopping Failure, the initial reservoir water surface for the computer model was assumed to be elevation 3700, or the top of active conservation pool. To determine the duration and magnitude of overtopping potential, a flood inflow hydrograph (due to the Flaming Gorge failure) was first estimated. The Dam Failure Inundation Study for Flaming Gorge Dam of January 1990, was used as a reference to help develop this hydrograph. Since that study ended at Green River, Utah (about 130 miles from the upper reaches of Lake Powell), peak discharges were extrapolated downstream to Lake Powell, and an estimated inflow hydrograph was generated using the Flaming Gorge failure volume (5,320,300 acre-feet). It would take roughly 34 hours for the maximum stage of the flood wave to arrive at the upper reaches of Lake Powell. Routing the estimated flood inflow hydrograph indicated that Glen Canyon Dam would be overtopped for a duration of about 40 hours, with a peak depth of 2.9 feet over the parapet wall. While it is unlikely this overtopping flow would cause the dam to fail, for the purposes of evaluating this scenario, failure was assumed.

Outflow assumptions prior to the Overtopping Failure were as follows. Measures would likely have been taken at Glen Canyon Dam to lower Lake Powell, probably by opening the spillways 2 to 3 hours after notification of the Flaming Gorge Dam failure. Upon arrival of the flood wave at Lake Powell, it was assumed that the spillway gates would be opened uniformly to the normal maximum discharge of 238,000 cfs.

Study Results

Evaluation indicates that the leading edge of the flood wave from Glen Canyon Dam failure would likely reach Diamond Creek (Mile 225) in 10 hours to 12 hours for either failure scenario. This converts to a flood wave travel rate of 20 miles per hour (mph). Arrival of maximum flood stage would occur about 20 hours to 22 hours after dam failure.

The leading, edge of the Overtopping Failure flood wave would likely reach South American Point (Mile 296) in 13 hours to 15 hours after dam failure. This equates to a flood rate in the upper reaches of Lake Mead of 17 mph to I8 mph. Arrival of maximum flood stage would occur about 19 hours to 20 hours after dam failure

The reason for the maximum flood stage times at South American Point being less than at Diamond Creek is likely due to a combination of at least two things: 1) a much shallower channel slope at the upper reaches of Lake Mead, and (2) the fact that the canyon cross section at South American Point is suddenly very narrow and creates a constriction producing some backwater.

The Overtopping Failure of Glen Canyon was routed through Lake Mead and Hoover Dam. The results were practically identical for the water surface elevations assumed for Lake Mead. Assuming Hoover Dam does not fail, overtopping would begin about 23 to 24 hours after the failure of Glen Canyon Dam, continue for about 258 hours (10.75 days), and reach a peak depth of about 68 feet over the parapet wall on the dam crest at hour 74. The depth corresponds to a maximum water surface elevation in Lake Mead of 1304 feet. Maximum discharges would be about 485,600 cfs through the river outlet works, powerplant, and spillways, and 2.02 million cfs over the dam crest. This makes a total discharge immediately downstream from Hoover Dam of over 2.5 million cfs.

Obviously any type of structure less than 400 feet to 500 feet above the Colorado River between Glen Canyon Dam and Lake Mead as shown on USGS topographic maps would be completely inundated and destroyed by the flood from either type of failure. Even Navajo Bridge, which is about 400 feet above the Colorado River, could be damaged or destroyed. Results indicate depths of around 500 feet at this location. Flooding of this altitude here in the

canyon would be very severe and lethal. Anyone still on the river at the time, would have to climb the equivalent of a 40-story building, at a minimum, to have any hope of surviving.

The study indicated that the travel rate for the leading edge of the flood wave was estimated to be 20 mph to 25 mph. Although there have been no dam failures of this magnitude observed, historically, these travel rates may be reasonable for this huge a failure outflow. Some flood wave travel times from other dam failures with similar downstream reaches include:

(1) St. Francis Dam, California, failed on March 12, 1928. Flows traveled 18 mph in the first 1.5 miles downstream from the dam. Peak discharge unknown.

(2) Hell Hole Dam, California, failed on December 23, 1964. Flows traveled 14 mph through the narrow and uninhabited rock canyon 56 miles to Folsom Reservoir. Peak discharge was estimated to be 260,000 cfs. Volume released was 24,800 acre-feet.

(3) Teton Dam, Idaho, failed on June 5, 1976. Flows traveled 19 mph in the narrow canyon for 2.5 miles and averaged 16 mph for the first 8.8 miles downstream from the dam. Peak discharge was estimated to be 2,300,000 cfs. Volume released was 251,700 acre-feet.

(4). Little Deer Creek Dam, Utah, failed on June 16, 1963. Flows traveled 18.9 mph for the first 2.2 miles downstream from the dam, Peak discharge was estimated to be 47,000 cfs. Volume released was 1000 acre-feet.

The study indicated that flood depths in the upper reaches of Lake Mead would progress 507 feet at river mile 238, to 246 feet at river mile 281.5 (approximate end of Pearce Basin).

More populated areas around Lake Mead that would be inundated include marinas, campgrounds, and other concentrations of population and activity. Water depths would be around 94 feet above the July target elevation of 1219.61 feet for Lake Mead.

Glen Canyon Dam Specifications

Structural height of dam: 710 feet
Hydraulic height of dam: 583 feet
Crest length of dam: 1560 feet
Crest elevation of dam: 3715 feet
Top of parapet wall: 3719 feet
Each spillway crest elevation: 3648.0 feet
Elevation top of gates: 3700
Combined spillway capacity at 3711 feet: 276,000 cfs
River outlet works: 15,000 cfs
Powerplant: 28,640 cfs
3711 feet (maximum water surface): 28,230,000 acre-feet
3700 feet (active conservation pool): 26,210,000 acre-feet
3490 feet (top of inactive storage): 5,905,000 acre-feet
(minimum depth for power generation)
3370 feet (top of dead pool) 1,906,000 acre-feet
(level below river outlets)
3132 feet (streambed at dam axis) 0 acre-feet

Table 1

Location (River Miles from Lees Ferry)	Summary of Data Ranges [A]				
	Water surface elev. [B]	Max. depth above water surface [B]	Arrival time of leading edge [C]	Arrival time of peak stage	Maximum discharge
-15.5 Glen Canyon Dam	3700 ft	11.0 - 21.9 ft [D]	0 hr	0 hr	18.0 - 19.2 (million cfs)
0.0 Lees Ferry	3115.5 ft	480 - 520 ft	0.6 - 0.7 hr	5.5 - 6.5 hr	10.0 - 14.7 (million cfs)
4.7 Navajo Bridge	3094.7 ft	470 - 530 ft	0.7 - 0.8 hr	5.6 - 6.7 hr	7.8 - 12.2 (million cfs)
87.0 Phantom Ranch	2428.5 ft	400 - 480 ft	4.0 - 5.5 hr	10 - 14 hr	7.0 - 11.4 (million cfs)
135.3 Granite Narrows	1947.5 ft	440 - 480 ft	6.5 - 8.5 hr	13 - 19 hr	6.9 - 11.2 (million cfs)
178.0 Lava Pinnacle	1680 ft	360 - 430 ft	8.0 - 11.5 hr	15 - 23 hr	6.7 - 11.0 (million cfs)
225.0 Diamond Creek	1327 ft	470 - 540 ft	10.5 - 15.0 hr	18 - 27 hr	6.5 - 10.7 (million cfs)
281.5 [E] End of Pearce Basin	1181 ft [F]	246 ft [G]	14.5 hr	20 hr	8.7 (million cfs)

Footnotes:
[A] Ranges cover extremes for both Sunny-Day Failure and Overtopping Failure plus extremes for Manning's n roughness assumptions.
[B] Water surfaces as shown on USGS 7.5 minute quadrangle maps.
[C] It should be noted that for the Overtopping Failure, major flooding will already be occurring prior to the arrival of the leading edge of the flood wave caused by dam failure.
[D] Depths at this section (the upstream face of the dam) are referenced above Lake Powell normal capacity water surface elevation, 3700 feet.
[E] Values for this location are only for flood from an Overtopping Failure.
[F] "Ballpark" estimate of channel invert for this study (due to accumulated sediments since 1964).
[G] Depth above estimated channel invert.

References

Stephen Latham, 303 445-2519

Peer reviewed by: Wayne Graham, 303-445-2553

1) Memorandum to: Director, Policy and External Affairs; Dir., of Ops; Dir., Prog. Analysis Off.; Regional Dir., PN, NP, LC, UC, OP; from Commissioner, Subject: "Policy for Establishing an Emergency Management Program at Reclamation Facilities," BuRec, Wash. D.C., Feb. 27, 1995.

2) Memorandum to Chief, Civil Engineering Division, Attention: D-3100; from Manager Planning Services Staff, Subject: "Transmittal of Final Probable Maximum Flood Hydrographs for

Hoover Dam and Glen Canyon Dam," August 11, 1989.

3) Tech. Memo. No. GC-8130-1: Preliminary Evaluation of the Effects at Glen Canyon Dam Caused by the Failure of Upstream Dams,CRSP, Upper Colorado Region, BuRec, Tech. Serv. Cent., Denver, CO, January 21, 1998.

4) BOSS DAMBRK Flood Forecasting Program, Version 3.00, Boss Corporation, 6612 Mineral Point Road, Madison, WI, 53705.

5) 1996 Lake Powell Survey, REC-ERC-88-6, by Ronald L. Ferrari, Surface Water Branch, Earth Sci. Div., BuRec, Tech. Serv. Cen. Denver, CO, Dec. 1988.

6) Standing Operating Procedures for Glen Canyon Dam and Reservoir, CRSP, Upper Colorado Region, BuRec, Salt Lake City, UT, May 1993,

7) Antecedent Flood Analysis, Section 4.0, "Colorado River Basin, Probable Maximum Floods for Hoover and Glen Canyon Dams," Flood Hydrology Group. BuRec, Denver, CO, September 1990.

8) Dam Failure Inundation Study, Flaming Gorge Dam, CRSP, Sedimentation Section, Surface Water Branch, Earth Sci. Div., BuRec, Denver, CO, January 1990.

9) Drawing No. 557-D-1396, Spillway Discharge Curves for One 40' X 52.5' Radial Gate, Glen Canyon Dam, Colorado River Storage Project, BuRec, Denver, CO, May 2, 1961.

10) Final Environmental Impact Statement, Operation of Glen Canyon Dam, Colorado River Storage Project, BuRec, Dept. of the Interior, March 1995.

11) Bound Tables of Morphologically Similar Reaches for the Colorado River from River Mile 0 to Mile 225, U.S. Geological Survey, Boulder, CO, received by Tim Randle at the Tech. Serv. Cent, Denver, CO on Feb. 20, 1992.

12) Historical EOM Lake Mead Elevations, Lower Colorado Regional Office Website., http://www.lc.usbr.gov BuRec, April 1998.

13) May 7. 1998 discussions via telephone with Mark Gonzales, Grand Canyon Monitoring and Research Center, Flagstaff. AZ, re: findings of a preliminary survey performed in 1995-96 to assess accumulation of sediments in the upper reaches of Lake Mead.

14) May 7, 1998 discussions with Ron Feffari and Tim Randle, Sedimentation and River Hydraulics Group, Tech. Serv. Cent., BuRec, Denver, CO, regarding their observations on recent (September 1983 and September 1993) boat trips on the Colorado River, especially in the upper reaches of Lake Mead.

15) FLROUT, Flood Routing for Dams, Version 3.00, Multiple Dam, Waterways and Concrete Dams Group, Technical Services Center, U.S. Bureau of Reclamation, Denver, Colorado, May 1995.

16) The 1963-64 Lake Mead Survey, REC-OCE-70-21, by J.M. Lara, Office of Chief Engineer, Denver, CO, and J. I. Sanders. Region 3 Office, Boulder City, NV, BuRec, August 1970.

17) Hydraulic Model Study Results, Hoover Dam Tunnel Spillways, PAP-465, by Kathleen L. Houston (Frizell), Hydraulics Branch, BuRec, Denver, CO, July 24, 1994,

18) Project Data Book, Water and Power Resources Service, Dept. of the Interior, 1981

Significance of Rock Art In the Southwest

by Stephen Anderson

Native American rock art can be found in many of the canyons of the southwestern states of Utah, Arizona, New Mexico, Colorado and southwest Texas. The oldest sites in the United States are dated back to approximately 4,000 B.P. [before present]. However, ancient people around the world have used rock art as a means of communication for many thousands of years. Although there are similarities across rock art, most is unique in its style and substance. The two primary forms of rock art are petroglyphs and pictographs. Petroglyphs are either scratched or pecked into a rock wall or boulder, while pictographs are painted on using various dyes. For many years now people have attempted to decipher the rock art in an attempt to better understand how the indigenous people of North America lived. Ancient people left little evidence for their purpose of rock art, but speculation and research indicates that there may be historical, functional or religious significance.

The style of petroglyphs and pictographs is dependent upon the techniques and materials used to create them. Petroglyphs, the most common rock art found in the southwest, are found on hundreds of patinated sandstone cliffs and boulders. These figures were created directly onto the rock using a pecking method with a hammer stone. A chisel was also used for more precise and accurate depiction on the rock. Another common method of creating petroglyphs was by incising or scratching designs onto soft sandstone. In some cases, both the pecking method and incision method was utilized. On the other hand, pictographs are usually found on light-colored, protected rock surfaces such as alcoves and rock shelters. These areas are usually moisture-free and lack patinated surfaces. Pictographs were often created using a yucca brush and a mixture of clay-style paints. The most common colors for this style of rock art were white, black, orange and the most widely used color of red. Yellow, pink, green and blue have also been used but are much more rare. The three components of paint are the coloring agent, the pigment, and the binder, usually animal or plant oil, used to adhere the paint to the rock surface. Red is made from hematite or red iron oxide; yellow is created from limonite; orange combines the red and yellow; blue is formed from azurite; and green is formed from malachite. Turquoise-colored paint was also created from ground turquoise rock mixed with clay. Techniques for making both pictographs and petroglyphs were consistent throughout the Southwest and are helpful in the interpretation of the resources available and the cultures that created the rock art. (Schaafsma, 1980: p.25-32)

Some of the earliest rock art in North America was in the form of pictographs. Horseshoe Canyon and Buckhorn Wash in the San Rafael region of southern Utah are two places that display some of these early works. Although it is rare to determine the absolute age of a particular site, various methods have been used to estimate the age and time frame of panels. Procedures used to determine the age of pictographs include 1) optical microscopy, which confirms original paint layers, 2) scanning electron micros-

copy, which conducts a chemical analysis to view the microstructure of the pigment, and 3) x-ray diffraction, which determines the minerals in the white paint (Chaffee et al, 1994). The All-American Man pictograph of Canyonlands National Park in Utah was examined using the aforementioned methods. It was determined from such procedures that this pictograph contained a natural layer of pigment from dehydrated gypsum. In addition, carbon dating was also used to date the age of the blue color containing charcoal found in the All-American Man. From various dating techniques it was estimated that this pictograph figure dated back to around 1260 A.D. ± 46 years (Chaffee et al, 1994). Another procedure commonly used to date pictographs is accelerator mass spectrometry, which uses considerably less paint in the analysis of the rock art. Only a pinhead size amount of paint is needed, which is much less invasive and advantageous to the archeological site (Chaffee et al, 1994).

Although different from pictographs, the relative dating of petroglyphs can also be determined by examining the amount of patination or desert varnish that has reformed over the rock art symbols. The darker the patina, the older the petroglyph. More recent petroglyphs will be lighter in color than the rocks' original patina. Another way to determine age is to look at superimposition of rock art. Often newer petroglyphs are drawn on top of older petroglyphs, with the youngest being the top layer of rock art. Independent of rock art type (i.e. pictograph or petroglyph), substance and style can also used to determine the general age of the panels. Examination of the objects associated in the panels is used to determine the age of the art. For example, the appearance of the bow and arrow replacing the atlatl is a determinant of the era between A.D. 200 and 600. Additionally, depiction of the horse indicates a rock art panel is post-Spanish conquest. (Schaafsma, 1980: p.13-15).

The style of the rock art is suggestive of particular cultures of Native Americans and the time and the geographical location from which they existed. For example, Fremont rock art typically shows figures as broad-shouldered, trapezoidal torsos with horned or intricate headgear and necklaces. This culture thrived in the Southwest from A.D. 500–1300. Another determining factor in dating the All-American Man is that this figure was "horned" and therefore suggestive of the Fremont culture era (Chaffee et al, 1994).

The Histasinom, on the other hand, had many different rock art styles, each indicative of a particular geographical region and chronological era. These representational styles include the San Juan anthropomorphic figures, Chinle, Hidden Valley, Rosa, and Cave Valley to name a few. Many techniques, including scientific analysis as well as geographical location, style and substances are used in determining the relative age of rock art. Determining the age of a particular rock art panel plays an important role in interpreting the meaning or purpose behind the art. For example, panels depicting "rain makers" were perhaps drawn as pleas or prayers during times of drought. Although this is just an example, calculating the date of the panels can provide archeologists with some evidence regarding the culture of the people who left them.

Examination of the rock art panels gives some insight about the cultures and may provide some historical evidence of their existence. It is important to keep in mind that the absolute purpose of rock art is speculative at best. Some anthropologists believe that rock art panels are a form of written language, while others believed they expressed religious beliefs. Still others believe the purpose of rock art was to provide historical or geographical evidence of Native American cultures.

Weaver (1984) suggested that rock art documented important events and marked natural events such as the summer and winter solstice or astronomical events such as the supernova of 1054 A.D. Weaver further suggested that rock art facilitated record keeping and marked clan boundaries as well as popular crossroads. A good example of a crossroads can be found at the Willow Springs site, near Tuba City, AZ, where vertical rows of rock symbols are found representing some twenty-seven clans. It is thought that this site commemorates the Hopi Indians' pilgrimage to the sacred salt deposits near the confluence of the Colorado and Little Colorado rivers. During this pilgrimage, the Hopi passed through Willow Springs and left a mark of their participation in the journey (Weaver, 1984). Documentation of such journeys as well as a strong oral Hopi tradition has enabled scientists to formulate an interpretation of this historical event. In addition to pilgrimages, ancient rock art is thought to represent migration patterns because similarities in clan symbols are found in many locations (Waters 1963: p. 103). As the migration patterns began to end, rock art was thought to document their travels.

Childbirth has also been the subject of many rock art panels. There are several rock art panels that depict either pregnant or birthing mothers of both animals and humans. One notable panel is located in southern Utah at Kane Creek just west of Moab. This panel clearly shows a mother giving birth to an infant thus symbolizing a new beginning. Again, much of the interpretation of rock art is speculative; however, if a historical approach is taken, perhaps some information can be deduced as to the significance of the cultures.

Another interpretation of rock art is that the abstract lines and spiral circles served functional purposes. The spiral circles are often interpreted as representations of objects on a map such as springs or wells (Weaver, 1984). Although there are a few rare instances where the art does depict maps, this is an unsubstantiated interpretation. The same is true for the abstract squiggly lines. Some amateur archeologists have misinterpreted the lines as possible roads or paths that may lead to fertile land, cached food, or trade locations. The truth is that not even scholars are able to interpret these abstract designs (Weaver, 1984).

Cole (1985) describes another functional role of rock art in the San Juan area of southern Utah. Cole examined Basketmaker face pictograph representations in rock art and the association of those with masks found in the area. It appears from some of the San Juan panels that the face pictographs show similar details, such as a loop handle on the top of the head, to the mask artifacts found. The loop was thought to help attach the mask to the face of the individual wearing the mask. Thus, it is possible to gain some insight as to the function of the rock art symbols and what they possibly represent.

Animal or hunting scenes are perhaps the single most depicted form of rock art and suggestive of the types of

animals present during ancient times. Although, we name the rock art based on their descriptors, Weaver (1984) emphasizes that the artist of a particular rock art panel may have intended to depict a mythical clan ancestor and not what appears to us as a bighorn sheep. But, the ancient Native Americans may have used the rock art as a means of recording a large successful hunt or as a means of asking the gods for "hunting magic." Panels all across the Southwest depict various animals such as big horn sheep, deer, antelope, elk, bison, eagles and lizards. By portraying elaborate panels of successful hunts, the panel creator could be insuring future success in real life hunts. Therefore, the natives would have invested a great deal of time in producing panels that showed a multitude of animals (Weaver 1984). Whatever their meaning or purpose, it is apparent that the rock art was important to the Native Americans.


"All American Man"

Who were the creators of these rock art masterpieces? Many archeologists believe that shamans created rock art either exclusively or they supervised highly skilled artists to do their work. Studies have shown that a continuity of rock art style has been established in small sectors (Weaver 1984). This would mean that only qualified people would be allowed to take place in the creation of such panels. Shamans were believed to have an ability to be in contact with supernatural beings through trances and ceremonies. Thus, rock art may be directly associated with ancient rituals, ceremonies and visions. Many of the abstract rock art subjects, or anthropomorphs are disfigured or resemble alien beings and may have been seen in dreams. Anthropomorphs look like human beings but often have many significant amenities such as horned or antennae clad heads, armless or legless trapezoidal shaped torsos and are disproportionate in size. They may represent a ghost or spirit witnessed in a religious ritual or in a vision. In addition to the various anthropomorphs, several zoomorphs are often depicted accompanying the spirits. Zoomorphs are considered to be spirits of animals and share similar characteristics of the anthropomorphs (Hunger 1986). Sego Canyon panel north of Thompson Springs, Utah depicts many spectacular specimens of anthropomorphs. Many scientists interpret prehistoric rock art as a way to appease the supernatural forces in return for prosperity, fertility, health and success in hunting for either an individual or groups. If the shamans were the artists of many of the rock art panels, then it could provide evidence for a direct correlation between rock art and religion.

The correlation between religion and rock art has been well documented and could be the strongest argument in understanding the cultures of the ancient southwestern people. It was suggested by Hunger (1986) that figures engaged in sexual intercourse, such as the one in Wupatki National Monument in Arizona, are performing a religious marriage ceremony between a man and his female partner. In addition to human figures, there are also animals engaged in similar sexual positions. However, Hunger suggests that indeed these may represent animals, but also may be humans participating in religious marriage ceremonies donned with animal masks. Such rock art was also thought to bring about communication with supernatural powers and animal spirits. Also, Katchina religious associations are often depicted in the rock art of the southwest. Katchinas are supernatural anthropomorphic style religious spirits associated with clouds and rain (Schaafsma and Schaafsma 1974). The origin of Katchina representations on the rocks dates to around 1300 A.D. in the Rio Grande valley. Schaafsma and Schaafsma (1974) suggest the Rio Grande style of rock art came directly from the Katchina cult and is found most elaborately in kiva murals. The Katchinas often illustrate the importance of objects such as corn, the earth, the sun, rain and health. Therefore, insight about the Katchina religion leads interpreters of rock art panels to perhaps understand what the artist was drawing on the rock.

Many of the rock art panels and kivas contain elaborately painted Katchina masks and anthropomorphic figures adorned with modern-day sashes and kilts and are suggestive of ceremonial importance within that culture and the clothing worn during these ceremonies. In addition to Katchina figures, other rock art symbols such as horned serpents, birds, badgers, skunks, rabbits and mountain lions can also be found. During this time, important symbols such as rainbows, clouds and the four-pointed star appear. These are symbols that still represent the Katchina religion of the modern puebloans.

Information gained from modern Hopi suggest that these ancient rock art symbols were religiously important and began to show up around the beginning of the Katchina religion. The Katchina religion unequivocally is responsible for the change in rock art iconography of this era. Therefore, rock art found prior to the start of Katchina religion could be representative of an older religion of the cultures. Evidence of this is found in the use of older symbols found in the Katchina panels (Schaafsma and Schaafsma 1974).

Perhaps the most famous depiction in Katchina rock art is the Kokopelli, the humped back, flute-playing Casanova of the Southwest. "Koko" means "Katchina" in the Zuni language and "pelli" refers to "hemisphere" or "hump" in the Hopi language. This particular symbol can be found on numerous panels across the southwestern United States. The legend of Kokopelli is that he traveled from camp to camp during corn-planting time playing his flute and bringing good fortune wherever he went (Alpert 1991). Alpert (1991) believes that the hump on his back was a bag of songs while others believe it was a grain sack and legend has it that when he left a camp the crops would prosper and there would be a stirring in the belly of

the women. It is for this legend that the Kokopelli is known as the fertility god.

Another suggestion with possible implications about disease of that time is that the hump on the back was a significant deformity found during that time. It has been interpreted that the deformity could be as a result of tuberculosis of the spine (Alpert 1991). Since rock art rarely depicts normal figures, it could be that the Kokopelli was an actual individual with a significant spinal curvature. Alpert emphasizes that the Kokopelli rock art figure was not merely decorative but important in ceremony and ritual.

The early inhabitants of the Southwest did not leave behind written accounts or many other clues as to who they were. One way in which to explore their cultures is by taking a closer look at what they did leave behind. Although we cannot interpret the exact meaning of rock art panels, it appears that it was multifaceted and significant in its own way to each culture. Perhaps, the rock art was meant to record historical events or was suggestive of important ceremonies of the clans. Other interpretations of the rock art indicate that there was a religious importance among all forms of rock art. It is possible that based on information surrounding the Katchina religion that this was actually the main purpose of ancient puebloan rock art symbols. However, in the case of the Kokopelli it appears to represent both a religious and historical significance. We may not be able to properly interpret the purpose behind the rock art symbols, but close examination of rock art panels is helpful in determining the eras of the people who left them. Despite our interpretations and understanding, it is apparent that rock art played an integral part in each of the ancient cultures.

References

Alpert, Joyce M. (1991). Kokopelli: a new look at the humpback fluteplayer in Anasazi rock art American Indian Art magazine. American Indian Art magazine. 17 pp 48-57.

Chaffee. SD; M Hyman; M Rowe; N Coulam; A Schroedl; and K Hogue. (1994). Radiocarbon dates on the All-American Man pictograph American Antiquity 59:4 pp 769-81.

Cole, Sally J. (1985). Additional information on Basketmaker mask or face representations in rock art of southeastern Utah Southwestern lore. 51 pp14-18.

Hunger, Heinz (1986). Ritual coition with and among animals American Indian Rock Art. 10 pp 116-124.

Schaafsma, Polly. Indian Rock Art of the Southwest. Sante Fe: School of American Research, 1980.

Schaafsma, Polly D. and C Schaafsma (1974). Evidence for the origins of the Pueblo Kachina Cult as suggested by Southwestern Rock Art American Antiquity. 39:4 pp 535-545.

Waters, Frank. The first revelation of the Hopi historical and religious world view of life: Book of the Hopi. New York: Penguin Books USA Inc., 1963.

Weaver, David E. (1984). Images on stone: the prehistoric rock art of the Colorado Plateau Plateau. 55:2 pp 1-32.

On Any Given Day… Cataract Canyon Flash Flood

by Stephen Anderson

On 2 August 2001, I departed Potash boat ramp on a six-day commercial solo boat Cataract Canyon rafting trip for Tag-A-Long Expeditions.This was to be my twenty-ninth trip down Cataract. My passengers were a jovial French couple, who were on a typical five-week vacation of the western United States.

The trip was going along as normal for the first few days as we silently rowed down the scenic Colorado River taking in the sights and enjoying peace and quiet. This was a rare pleasure especially for me. I had spent the last two seasons running snout rigs through the canyon and had become accustomed to the constant hum of the motor. This indeed was a welcome change.

By early the fourth day we had reached the confluence of the Green and Colorado Rivers, and after a brief stop for lunch we registered for our camps within the walls of Cataract. By 3 p.m. we were at rapid number ten and one of my customers, Yve, was complaining of “feeling ill” and wanted to make camp for the night at a shaded site. I had signed us in at lower Capsize on river left, but because I knew there was only late shade there and Yve was probably suffering from dehydration and fatigue from the heat, I made the decision to stop above Mile Long on river right about a half mile above Range Canyon.

Upon eddying out I walked over the camp area to insure that it was a safe and comfortable spot for the night. We set up the tents and the kitchen along the sandy bank and Yve and his wife took a nap while I prepared dinner. At this point the sky was clear and the weather seemed favorable. By nine o’clock that night, my customers had retired to their tent, and I sat up reading until the sunset and the stars were shining. I remember thinking that since the weather was good I would sleep outside. I put my Paco Pad and sleeping bag in front of a house-size boulder that sat in the middle of our camp, and by 11 p.m. or so, I was sound asleep.

Sometime around midnight I was awakened by an earth shattering crash that I thought was probably thunder. I looked up at the night sky expecting to see rain clouds but saw only stars. I stood up to investigate a possible rock fall, but was instantly swept to my knees by a rush of icy water and debris. Immediately, I was swept thirty or so feet toward the Colorado River. I was fortunate enough to be slammed against a large boulder that had been unearthed by the sudden discharge of water. I was able to climb hands and feet over to safety and to the tent of my customers. My eyes, ears, nose, and mouth were full of sand and I was in a slight state of shock from what had just occurred. It was at this point that I realized that a flash flood was tearing through the camp. The earth-shattering crash that I had heard only seconds before was the raging water and accompanying debris falling a thousand feet or

so over the sandstone cliffs of the canyon's walls.

I remember the mad rush of adrenaline that was surging through my body and the slight sense of panic that was battling inside my mind. I immediately got to my feet and rushed to the tent where my unsuspecting customers were still asleep. The water was still raging throughout the camp and spreading out toward their tent. I shook their tent and was yelling "flash flood, get out of the tent." Startled and still groggy, they didn't seem to realize the events going on only a few feet away. I began to pull their tent to higher ground with them still inside. The water was now pouring into the tent and they began to panic slightly. I helped them out of the tent and moved them to safety.

I went back and pulled their tent out of the eddy of the river, it was then that I looked up and saw that the 17-foot raft that we had traveled so calmly down the river was now drifting downstream. The raft and kitchen were directly downstream of where I was, but the problem was that there was a forty-foot wide flash flood between the boat and me. For a moment I thought about trying to cross the flood and diving in the river to swim after the drifting raft, but then realized that the oars were on shore, my PFD was on the boat, and I was above the rapids of Mile Long. Good sense took over and I chose otherwise.

I went back to comfort and reassure my customers that all would be okay and that they were now safe. The flood was still growing and the icy water now washed most of the camp, including the entire kitchen area, away. I have little recollection of how much time had passed by at this point, it could have been hours, but it seemed like only minutes. After returning to the care of my customers and helping them get resettled for the night, I made several attempts to cross the flood channel and try to salvage any remaining gear. I was continuously swept downstream or flung against exposed rocks. I knew there was nothing that I could do at this point but wait for the steady stream of water to subside. I sat down and took a few minutes to collect my thoughts. I had heard stories of flash floods from my brother Daniel and from other guides, but I didn't expect to experience it myself. I felt helpless with the situation and somehow responsible for the flood.

I made regular trips to check on my customers, who weren't in any hurry to go back to sleep, and tried to make them as comfortable as possible. After a few hours passed, I was able to crawl across the flood channel and search for lost equipment. I walked barefooted down to Range Canyon, but was unable to locate the raft or anything else for that matter. I headed back to where our camp once stood, checked in on my customers and tried to sleep. It was now four in the morning and the flood channel was still roaring through the center of our camp. All of my personal sleeping gear and my Chacos were swept away with the initial blast of water, so I lay down on a flat rock and waited for morning.

I slept like hell for those few hours and woke to what resembled a war zone. The soft sandy beach that we had lounged on only hours ago was now an eight foot deep, forty foot wide muddy ditch. As expected, spirits were down and Yve and his wife were a bit shaken up from the night's experience. I explained to them how our motor support was coming down during the day and that we would have to link up with them. I assessed the camp area and was able to recover a Roll-a-Table and some kitchen equipment from the downstream eddy. I walked the riverbank and found my poco pad and sleeping bag stuck in a strainer that probably came down with the flood the night before. After returning to camp, I conducted an inventory of what was lost. All of the personal items belonging to Yve and his wife, with the exception of what they were wearing to bed, were now gone along with the raft and all of the kitchen gear, as well as my own personal gear. To make matters worse all of the food and water was either washed into the river or was aboard the missing raft. Things only seemed to be getting worse. It was around eight that morning when we decided to just sit down and enjoy the view and the fact that no one was hurt or killed.

Around 11 a.m. the first outside contact arrived as Colorado Outward Bound School was coming down stream with several boats full of students. They pulled in to lend a hand and gave us their last jerry can of fresh water and some food to hold us over until our motor support arrived. I asked them to keep an eye out for our equipment and to tie up the boat if they came across it. By noon, Joe Oneilson from OARS came by with a snout rig and also stopped to make sure that we were all okay. Joe let me use his satellite phone to call Tag-A-Long and the Park Service office to report the flood. Joe offered to motor us out, but I declined, telling him that help was on the way. I also asked him to also keep an eye out for our gear along the way.

The day was getting longer and by four, we were wondering what happened to our motor support boats. It turned out the Tag had three trips that had all linked up and decided to run the canyon together. By five help had arrived. The looks on their faces said it all. Bob Jones motored in and the first question was "is everyone safe". These words were music to my ears. He was more concerned with the safety of the people and didn't mention the thousands of dollars worth of gear that was sacrificed to the river gods. After a short exchange of greetings we loaded up what little we had left and headed downstream. We found the missing raft that COBS had tied up for us at rapid nineteen, but my personal rocket box and a 128 quart cooler was missing, most likely thrown from the unmanned boat as it plunged through the rapids. We rolled the raft and headed out to set up camp below Ten Cent Rapid. I considered myself lucky that we had several snout rigs, piloted by experienced guides coming down with Bob. Everyone banded together to help and comfort my passengers and myself. After the work was done for the night we settled in for a much-needed rest.

The next day we set out for Hite and the trip home. My passengers and I left with Mark Murray and his boatload of people. We arrived at Hite without any problems and the rest of the combined group came in later. I was able to fly back to Moab with my customers and was finally able to relax a little. The reality of the flash flood hadn't

quite settled in yet, but I was relieved to be off the river.

I arrived back at the Tag-A-Long office, unloaded my personal gear, and headed straight for the Moab Brewery to drown my sorrows and make a real effort to forget about this disastrous trip. After a few pitchers of the brewery's finest beer, I retreated to the SPLORE house and hung out with some friends. While I was there Mark Murray called the house to tell me that Joe Oneilson had found my personal rocket box and my passengers' dry bags floating below the Big Drops. I picked up the lost gear and found that despite a few big dents in my rocket box, all of my gear was dry and accounted for. I can't begin to tell you what a relief came over me. Joe also dropped off the dry bags to the Tag-A-Long office and much to the delight of Yve and his wife all of their personal belongings were also dry, including the one hundred and twenty rolls of undeveloped film they had taken over the past month. Fortune was shining on me now.

In the end, the only personal losses were my Chacos and my passengers' sandals. I haven't been back to Cataract since, but I do look forward to returning and making peace with the canyon and the Colorado River once again. Because the weather was clear in my immediate vicinity, it seems likely that the flood came from several miles away, as they often do. I don't feel that I could have done anything to prevent the events of that night, but hindsight is always twenty-twenty in these situations. If I had it all to do again, I would obviously camp in a different spot, but on the other hand, I was dealing with Mother Nature and we all know that She wins every time. This just goes to show that on any given day, things that we take for granted can erupt into disasters right before our eyes.

I would like to thank all of the people who assisted me that day, especially Bob Jones for his understanding and genuine concern for our safety, Cathy Burks, Susette Weisheit, Mark Murray, and Bart Harvey for their help and concern when they picked us up. Most important, I want to thank Joe Oneilson for the use of his satellite phone and for his help in recovering our lost gear and, last but not least, the COBS crew, Greg Bunn, Nicole Parentice, Bret Morton and Matt DiFransesca for the food and their last jerry can of fresh water that they so generously gave to us that morning. I had always believed that there was a strong camaraderie between boatmen. Having all of these people join together and help out in a time of need certainly reaffirmed that belief.

Waterfall at Hite?

by John Weisheit

I attended the 2003 Science Symposium hosted by the Grand Canyon Monitoring and Research Center in Tucson last October. I do not think there is a better educational venue available for a river guide and I highly recommend attending the next program when it becomes available. Outside of travel expenses, the symposium is free to the public. The proceedings from the symposium are now available on the web at <www.gcmrc.gov>.

Of particular interest to Cataract Canyon guides was a presentation given by Bill Vernieu, a hydrologist for the USGS in Flagstaff. Bill introduced some compelling evidence that a waterfall could form over a bedrock feature downstream of the Dirty Devil River. Broken surface water is already indicating at the suspected contact point and, should the reservoir continue to drop, the proposed waterfall seems likely to develop. Should this event occur, it is hoped that a river access location can be determined by the National Park Service at Glen Canyon, otherwise access to downstream take-outs may require a portage of gear and equipment.

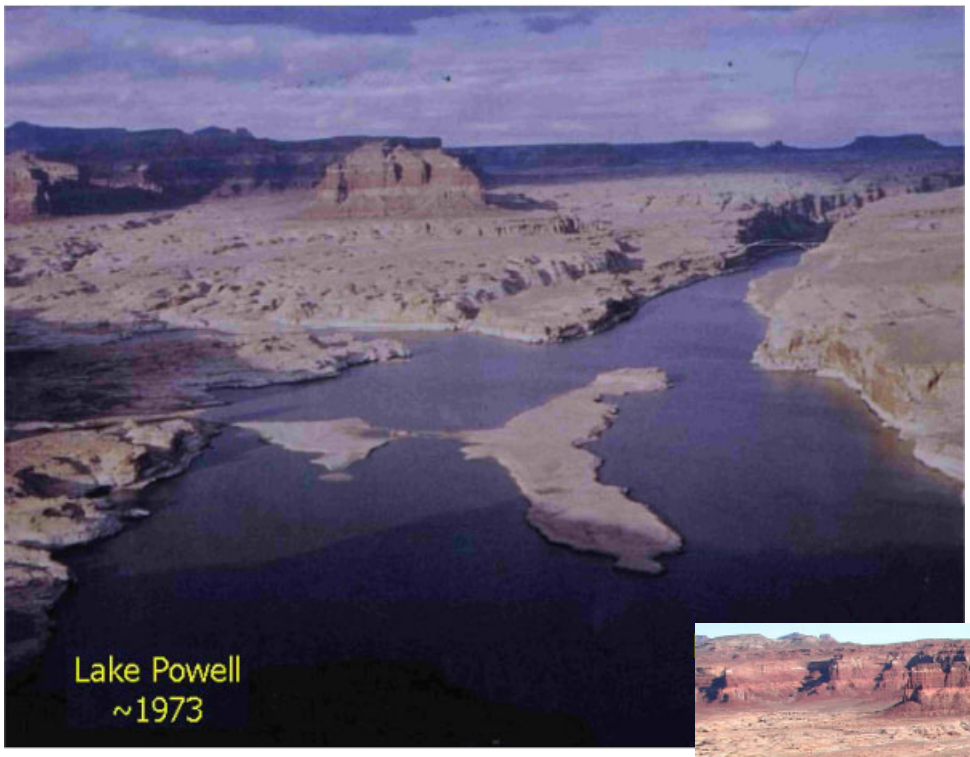
Bill was able to locate an aerial photograph of the area taken in 1973 during the reservoir's initial filling criteria, and with the reservoir level then nearly equivalent to the present reservoir level, which is basically 100 feet below the full pool elevation of 3700 feet.

Incidentally, a small waterfall has already emerged on the San Juan River. This waterfall is not at the same location as the waterfall that emerged on the San Juan River in 1991 during the drought of 1987–1992 (see the first issue of *The Confluence*, Winter 1993).

As an informational item, Hite Marina is officially closed and access there is currently impossible. Most river groups traveled over the reservoir to exit at Halls'Crossing or Bullfrog marinas. Others exited the reservoir from the mud flats on the reservoir's west side near Highway 95, which is downstream of the proposed waterfall location.



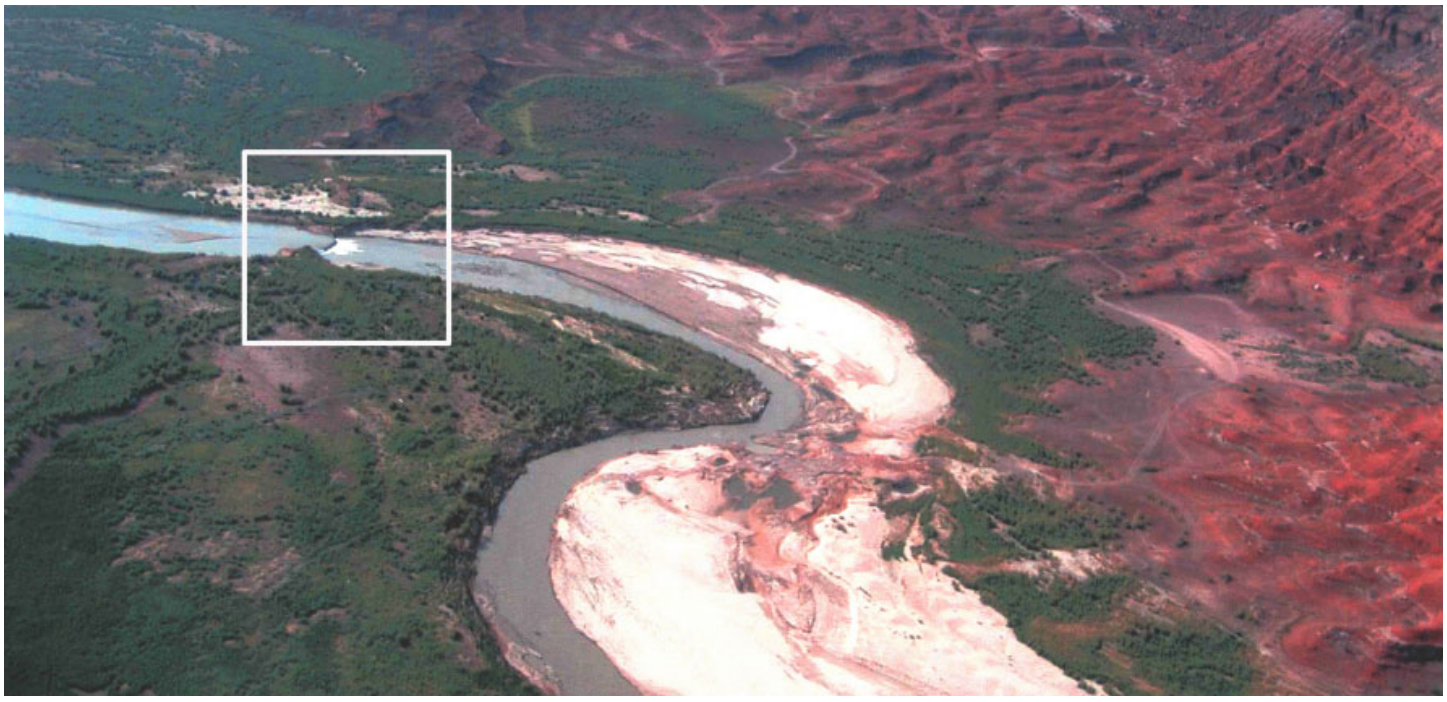
The bedrock waterfall that emerged below Clay Hills Crossing during the drought of 1987 to 1992, and then subsequently inundated after the huge snowmelt of 1993. Photo courtesy of Gene Stevenson.



Left: Lake Powell just below the mouth of the Dirty Devil River in 1973 during the reservoir's filling criteria, which ended in 1980. This bedrock island is actually a cliff top of Cedar Mesa sandstone. The original Colorado River gorge is on the right, or east side of this photo. Photo courtesy of USGS.

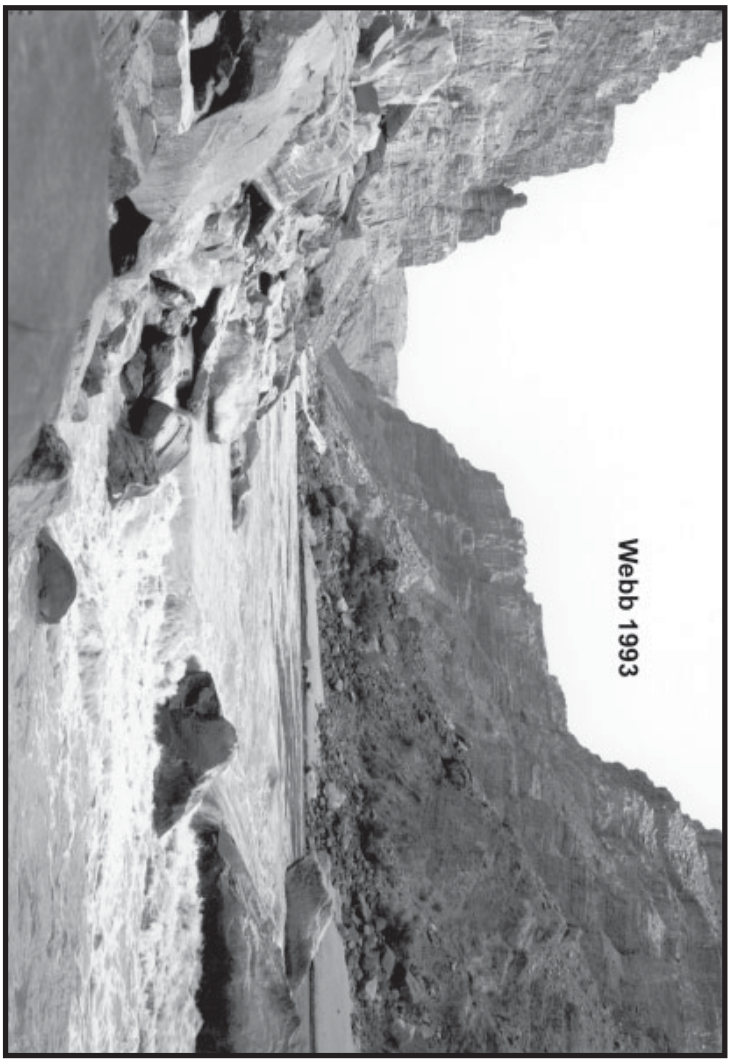


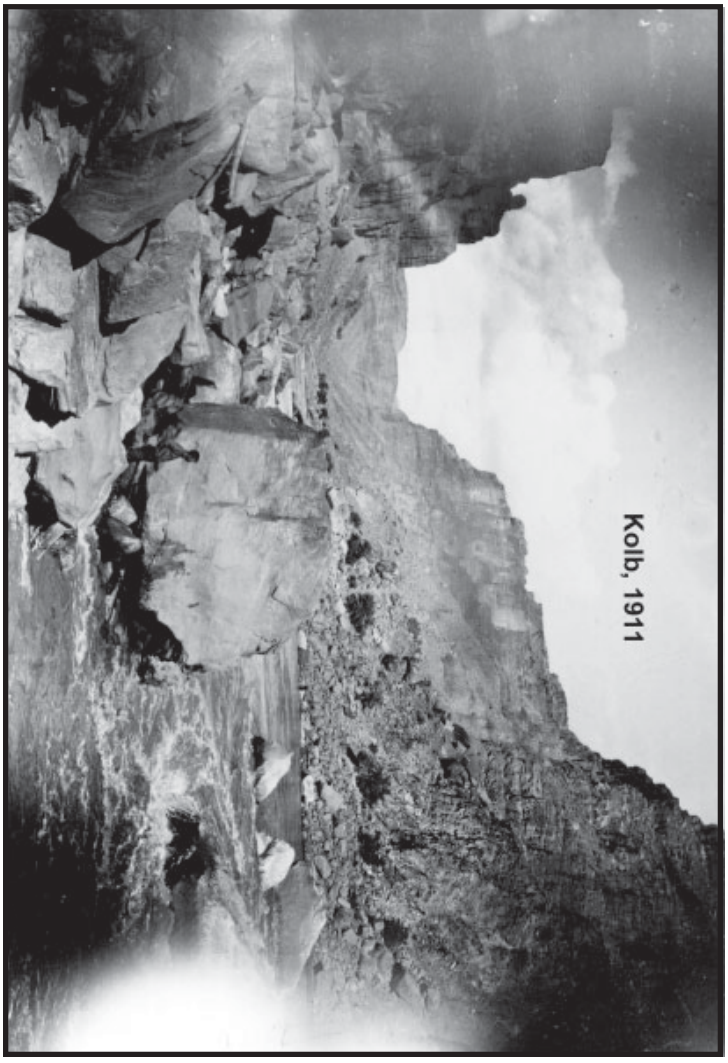
Right: John Dohrenwend, a retired USGS geomorphologist, took the image from 1973 and overlayed it onto a photo he took in 2003. Special thanks to the Moki Mac folks in Salt Lake City for this great idea.



The San Juan River meandering over sediment deposits where downcutting over a bedrock feature has created a new waterfall in 2003. Photo courtesy of USGS.

Colorado Plateau River Guides
PO Box 344
Moab, UT 84532





Big Drop Two, river right and looking upstream. Robert Webb's repeat photography of a Kolb Brother's photo from 1911.

In April, 2004 University of Utah Press will release *Cataract Canyon: A Human and Environmental History of the Rivers in Canyonlands* by Robert H. Webb, Jayne Belnap and John Weisheit. This 480 page book will showcase the repeat photography of 80 historic images, and includes the interpretations of this compelling landscape from the perspectives of a geologist, a biologist and a river historian. The cloth bound edition is $60 and the paper bound edition is $26.95. Visit the University of Utah web page at <www.upress.utah.edu> or contact them at 800.773.6672.

The Confluence

The Journal of Colorado Plateau River Guides | Number 28, Winter 2006

Hank Stewart and Sand Wash

The Boatmen Stories of Arthur Wheeler

John and Parley The Galloway's Testify

Glen Canyon Diary: 1955

Otis "Dock" Marston Moab To Hite: 1964

Headwaters Institute

Diamond Down

Hell's Half Mile A Book Review

Poetry

Dam Solution



Historic cabins near the Sand Wash ferry on the Green River in Desolation Canyon
Photo credit: Dan Miller

The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides. CPRG has a fiscal sponsor, Living Rivers, a 501(c)(3) river advocacy organization that promotes river restoration.

CPRG is dedicated to:

- Protecting the rivers of the Colorado Plateau
- Setting the highest standards for the river guiding profession
- Providing the best possible river experience
- Celebrating the unique spirit of the river community

Guide Membership is open to anyone who works, or has worked, in the river industry of the Colorado Plateau

General Membership is open to those who love the Colorado Plateau

Membership dues
$20 per year
$100 for six years
$295 for life
$495 as a benefactor

General meetings and board meetings will be announced

Officers

President	Daniel Phillips
Vice-President	Vacant
Secretary/Treasurer	John Weisheit
Past President	Annie Payne

Directors

Bluff	Vacant
Grand Juntion	Vacant
Green River	Vacant
Moab	Vacant
Vernal	Vacant
UGO Rep	Lars Haarr

Colorado Plateau River Guides
PO Box 344
Moab, Utah 84532
435.259.1063
Fax: 435.259.7612
www.riverguides.org
john@riverguides.org

We need opinions, articles, poetry, artwork, and photos. Please include graphics with your text submission.

Editor this isue	Kealan Partlow
Managing editor	John Weisheit
Printing	Times-Independent

ISSN: #1078-425X

Note: Printed on a blend of tree-free kenaf and post consumer recycled paper.

DISCLAIMER: The opinions and statements made within the pages of *The Confluence* are those of the author and do not necessairly represent the position of the guide membership, the board of the Colorado Plateau River Guides, nor our fiscal sponsor. If you have an opposing or supportive viewpoint, please send your comments for publication.

CPRG RIVER EDUCATION for 2006: Contact your employer for registration information and details.

Cataract: April 24-27
Contact: Arlo at Sherri Griffith Expedition
Loma/Westwater: May 6-9 (Westwater 8-9)
Contact: Amie at Adventure Bound
San Juan: Sept 5-7
Contact: Kristen at Wild Rivers
Land Based: Date TBA
Contact Kirsen at Rim Tours

A SPECIAL THANKS to 2005 donors for the river education programming: Utah Guides and Outfitters, Utah State Parks and Recreation and Tag-A-Long Expeditions.

A SPECIAL THANKS to 2005 river education instructors: Alyssa Van Schmus, Black George Simmons, Dan McCool, Jeff Arbon, John Dohrenwend, John Weisheit, Kent Frost, Melissa Memory, Peter Fitmaurice, Stephanie Miller, Steve Young, Sue Phillips and Tim Graham.

A SPECIAL THANKS for financial assistance to develop the CPRG web page to Robert E. Tubbs, Jr., and to Kealan Partlow and John Weisheit for web page construction.
Visit the site at: www.riverguides.org

IMPORTANT ANNOUNCEMENT! All general memberships to CPRG have been freely extended for one year because no issue of The Confluence was produced in 2005.

Finances: Before the printing and distribution of this issue, CPRG had $3452 in the bank.

General Membership Meeting Minutes Spring 2005

The meeting began at 11 a.m. on April 9th at Dano's house, 233 Aspen Ave., in Moab. In attendance: Dano Phillips, Steve (T-Berry) Young, Nancy (Monk) Allemand.

The attendees waited for others to show for 15-20 minutes. When none did, they began talking about what CPRG needed to do first. Dano mentioned that CPRG didn't have its own Utah business license and would need one to attain 501(c)(3) status in the future. All three agreed it would be beneficial to get CPRG's own non-profit status and to get out from under Living River's umbrella.

Wanting to hold elections at the meeting, the three attending decided to proceed. All board positions were open except Secretary/Treasurer. When Dano was elected in 2003 to be president, approximately 15 people attended that meeting and it was decided to hold elections with the members present. And so it was decided to go with that set precedent. Nancy and T-Berry voted to re-elect Dano as a second-term president. Dano accepted.

All three talked about who CPRG could contact to see if anyone would agree to be an area director. Dano said he would contact Dee Holliday of Holiday River Expeditions and Bob Quist of Moki Mac for nominations for Green River area director, and Nathan Sosa of Wild Rivers for San Juan/ Bluff area director. He also said he would talk to Dennis Smoldt, manager of Moab OARS, about taking on the position of CPRG Treasurer in the future.

T-Berry said he'd talk to the Canyonlands Natural History Association (CNHA) about once again sponsoring CPRG under their 501(c)(3) non-profit status. This idea was due to the attendees' feeling that Living Rivers turned many members, past and present, off.

Dano made the motion to adjourn the meeting. T-Berry seconded. It ended at 12 p.m.

The Prez Sezs

Hi All -Hope everyone had a fulfilling year of guiding and private trips, living out in those places where we all benefit from the wisdom of perspective. Having some exciting water certainly did us all some good–the Dolores for early-season fun, Cataract up to its old tricks, Westwater and Dinosaur and Desolation and San Juan moving along at a clip, we can all agree, that helped us slough off the low-water blahs. This season found us enjoying what we had almost forgotten. It was a gift.

The Utah Guides and Outfitters (UGO) decided to run a Cataract interpretive trip, with a River Education Seminar held on the day before the launch. The programming was organized by John Weisheit. For the Dinosaur Education Seminar, many thanks go to Tim Mertens of Dinosaur Adventures. CPRG would also like to thank Steve Young of the National Park Service, Jeff Arbon of Utah State Parks and Recreation, and the staff of Tag-A-Long Expeditions. For financial assistance we'd like to thank UGO and Utah State Parks and Recreation.

I won't mince words–CPRG needs your energy to keep its solvent force going. With over 300 members to whom cards were sent earlier this year for the Spring General Membership Meeting, only two folks showed. We need members to fill Board of Director slots. No attendance, no vote. Without participation, without input, all our chambers have gone flat. Where do you want CPRG to go, and are you willing to take it there?

This Prez Sez is my chance to state frankly, to everyone out there who may read it, that CPRG is not an anti-motor organization. I have heard much talk, indeed much disgusted talk, that CPRG does not support outfitters and guides who choose to use motors. Can anyone out there tell me of an outfitter that hasn't used a motor to get off Cat? To speed up a trip for clients who can't take an entire week? If we, the guides' organization, were anti-motor, we'd be anti-guiding. And so we are not. Yet, nor are we going to suppress discussion and articles from someone personally opposed to motors. CPRG is, and always has been, an open forum. These issues are real, and visceral to some. If you've been chased away from the good education and celebration of CPRG because of the motor issue, I invite you to come back, lend your assistance, and make the guides' organization vibrant.

Here's my chance also to thank Living Rivers for being our fiscal sponsor, as we've dodged the rain under the umbrella of their 501(c)(3) non-profit status. We were supposed to get our own 501(c)(3) by December 2004, and have failed to do so, but are still slowly working on it. The problem, you may guess, is lack of help. Getting this non-profit status takes lots of energy, some money, and time. We've had no one, or no team, that has taken on such a big responsibility. And so we are still under the Living Rivers umbrella until we find our way to our own.

Here's another issue guides have mentioned to me. They don't like CPRG's affiliation with Living Rivers. LR, they say, is too political and carries too much of a stain of anti-dam sentiment for an educational organization like CPRG. My response to those with that view I dispense here: CPRG needs Living Rivers' sponsorship now to maintain the website (http://www.riverguides.org), and to give us non-profit power. Not all of us may agree with LR's stand, and so let that be the impetus to get our own status. We need to know what you want to do, and we need your presence at meetings to engage in discussions about these very important matters.

Indeed I am optimistic that we can climb from our current position of inactivity and misunderstanding. There's a lot to do, but more importantly, a lot we CAN do. Don't feel scolded, don't feel guilty, but just ask yourselves how you want to assist the Colorado Plateau River Guides toward the goals of education and celebration of the river community. Let your friends know of our focus and open forum. You, the members, have asked for it, and now I need you help in making it so.

To all a good winter. See you out on the water next season!

Right side up, Dano

From the Secretary/Treasurer

by John Weisheit

I do not agree with the understanding of the issues as presented directly and indirectly with the CPRG members in the preceding article/minutes. The board of CPRG has never determined that CPRG is an education only organization, nor has it ever determined that it is an advocacy only organization. At present CPRG protects the Colorado River in every way possible.

I also do not think that Dano and others have correctly identified the problem concerning the lack of volunteerism in CPRG. The statements from the last page have identified controversial environmental activism from Living Rivers as the cause for the waning of CPRG. Environmental activism may be a symptom, but it is not the root cause. I think the root cause is apathy and that it began to grow the day after CPRG was founded. Regardless, we need to start a public discussion on this matter for better understanding and to make a clear record.

I would like to provide some clarity on the issue of fiscal sponsorship. The position of Living Rivers towards

CPRG is: LR agrees to provide non-profit administrative assistance to CPRG because the river guides' mission statement includes protecting the rivers of the Colorado Plateau. This arrangement is very simple and will not be terminated unless CPRG abandons river protection as a component of its mission statement.

However, the issue brought forward at the annual meeting is about a controversy that is more complex than a simple business relationship between LR and CPRG. I think this discussion needs further clarification too. Although Dano's discussion and the minutes do not specifically state this, I do recognize that the issue at hand is more about me and less about LR. This is what needs to be made very clear: my opinions and my activism belong to myself and is not necessarily specific to any organizational entity. My opinions and my ambitions are why my history includes co-founding CPRG in 1993 and co-founding LR in 2000. If CPRG members want to attach some responsibility to the growing activism found within CPRG, then they should attach it to me where it belongs.

To be transparent, it is obvious that some CPRG members are uncomfortable with my activism as it relates to my OpEd piece two issues back where I attack the Holy Grail of the outfitting industry, the outboard motor. And irritating to others because I am a motor guide. I hope that CPRG members understand that this is exactly what one should expect from a person who believes very strongly in river protection and wilderness values. And I also hope that CPRG members realize that activism and freedom of speech are guaranteed under the constitution and that the door of citizenship opens from both directions.

There really is nothing that I have to apologize for and changing CPRG policy to place limits on its mission statement to control diversity is not the answer. I do know leaving CPRG because of this controversy is also not the answer, especially when avoiding representative debate.

To be specific, the problem with CPRG is not my aggressive activism. I am just one member of 300 who takes the time to say and write what I think needs to be heard. I also think individuals should be allowed to say and write their opinions without the fear of losing sources of funding and membership participation. The strength of an organization comes from its dedication to its mission statement and not from money or patronizing membership perceptions. I also think it is important to recognize that many river guides and outfitters agree that we need more river protection than what we have right now. So until we acknowledge the political makeup of this river community for what it really is, then CPRG and will not overcome this particular controversy to a satisfactory conclusion.

So let's not be an organization that has doubts. Rather let's welcome our controversies with healthy debate. Let's fight for what we believe in and lets do this with the spirit of good intention. Let's make the Colorado River and the guiding profession the best it can possibly be. Let's discuss ways in which we can improve our knowledge, our wages and make the river safe and enjoyable for everybody. We do need to fight for the things for which we are about to lose: the endangered fish of the Colorado River and economic sustainibility for the people who depend of the Colorado River for their thirst and livelihood.

I announced five years ago that I do not have the time to volunteer for CPRG at the same level. What keeps me in place is the apathy I previously mentioned. Regular attention to *The Confluence* and web page must be my replacement's first priority. CPRG has money, it has a web page, it has a fiscal sponsor, and it has computer hardware and software to pass on to someone who can get the work done on a dependable basis. Who is this person and will he/she guarantee dependability at the bridge crossing before us?

I really hope that this organization will continue to endorse the advocacy banner not just for the river but for ourselves. Education programs alone will not achieve these important goals and will eventually leave us empty-handed.

In closing I want to share a summary of what the charter members discussed at the very first CPRG meeting held at Pack Creek Ranch, November 1993. The consensus at the time was: we will try a little of everything. In the two days of meetings CPRG managed to fill a mixed bag of issues that basically included education, service projects, environmental advocacy and labor organizing.

The agenda for guide education included natural and cultural history, first aid, river rescue, prevention of illness and injury, resource protection, river etiquette, and recycling. Service projects included the stabilization of archeology sites and trash removal. Weed removal was not mentioned, but subsequent journal articles and projects did appear.

Concerning environmental advocacy we discussed wild and free rivers, wilderness inventories, regulation of jetskis, impacts from overflights, improving air quality, biological integrity for endangered species, eliminating grazing from public lands and stopping the immediate threat of the Animas-La Plata Project. We did not discuss oil and gas development nor uranium waste issues, but some board members did get pro-active on these issues later.

Concerning labor organizing, some charter members expressed a desire to advocate for better wages and benefits and we did discuss the unionizing of river guides. Meaningful leadership on this issue never has materialized. I think this should be acted on more seriously. I believe the industry can bear a progressive labor movement and if it can't, then we need to know why.

CPRG should continue to work for all the members and for all the issues and to explore them with full transparency. The ideas and energy from CPRG volunteers should be welcomed and encouraged at all times. Nothing should be tossed out until the full membership determines otherwise in a setting of full disclosure and debate. Whether the program or issue succeeds or not is not as important as allowing the community to fully engage and challenge the membership in all its activities, especially when it relates to the biological integrity of the Colorado River, because if we lose the rivers life, we lose the base part of our river community.

Thanks for reading my opinion and I encourage you to voice your own at meetings, by mail or telephone, or through this journal.

Hank Stewart and Sand Wash

by James M. Aton



Hank and Arden Stewart
Arden Stewart Collection

Every river runner who fights his/her way through the mosquitoes at Sand Wash for a run down Desolation Canyon will notice two old cabins there. Many of those boaters know that for years, Sand Wash was a major sheep ferry crossing. Some even know that the man who built one of those cabins and made the ferry a going concern was Hank Stewart. Few, however, know his story. So let me tell it to you—the outlines of it anyway.

But first you should know that Hank Stewart did not pioneer sheep ferrying in the Sand Wash area. Although it is not certain exactly when he started it, around 1912 one Charlie Brown was running a ferry and cable crossing just above Sand Wash at a place called Boat Bottom.[1] Also, a man named Miles (I have not yet found his first name) ran a ferry, probably at the same place, when the 1917 Utah Power and Light (UP & L) survey came through. The growing sheep industry in the early part of the twentieth century had necessitated ferries in the region. All those ferries are part of a larger story, which I will not recount here, of the various crossings between Split Mountain and Sand Wash. They predated the bridges that now span the river.

Hank Stewart's story is special for river runners partly because he made Sand Wash the most important ferry during that era. But he also spent a good part of his life up and down the river, before and after Sand Wash. Besides running two different ferries, he befriended Butch Cassidy and his gang, he rowed for two river surveys, he spoke Ute fluently and generally got on well with them, he ran a postal route, and he worked some copper claims. Stewart was typical of many men and women between 1880 and 1940 who were trying scratch out a living along the Green River: he did whatever he could to get by.

John Henry "Hank" Stewart was born in Mona, Utah in 1868 where his father, Simeon, worked as a mine company dentist. The peripatetic family moved to San Bernardino for a while, then returned to Mona. For a time, Hank and his brother, George E., lived with an aunt and uncle in Puget Sound, Washington. They both later attended All Hallows College in Salt Lake City. Even though he came from educated parents, all that Hank ever wanted to be, according to his son Arden, was a cowboy. As a youth he had devoured dime-store westerns and apparently yearned to be a part of that legendary life.[2]



Tia Juana Ferry
c. 1916-1919
Arden Stewart Collection

In 1897 the Stewart brothers came into the Castle Valley country. They first worked for the Joseph B. Meeks and Pete Murning ranches in Castlegate. Hank quickly became friends with Butch Cassidy (aka Tom Gillis) and Elzy Lay (aka Bert Fowler), who were then punching cows on the nearby Jens Nielson ranch. He nearly got mixed up in the infamous Castle Gate Robbery that Cassidy, Lay, and Joe Walker perpetrated in April of that year. Hank had a big grey horse that Cassidy tried to buy from him. Stewart wouldn't sell it, but he agreed to let Butch borrow it for the winter. Cassidy proceeded to use the horse for the robbery, even though it bolted out from under him. Lay had to

retrieve the horse so Butch could escape to Robber's Roost in the San Rafael Swell. Eventually the horse was returned by a young boy who manned the relay station for Cassidy's gang.[3]

A year after his near run-in with the law, Hank married Minerva Van Wagoner, started a ranch in Argyle in upper Nine Mile Canyon, worked for various cattlemen like Preston Nutter, collected wild mustangs and wild cattle (mavericks), and eventually fathered three children. He also did a little mining on the side. Some time in the first decade of the century Hank divorced Minerva, and she later married Stewart's good friend, Neal Hanks (of Hanksville). She got the ranch in Nine-Mile and custody of the children; Hank got the freedom to pursue mining and ferry ventures with his brother George.[4]



Red Moon
University of Utah

Stewart next appears in the historical record in 1911 and 1913 when he rowed Desolation Canyon for two improbable surveys. The first, the Carstarphen party, wrecked its boats above Rock Creek and had to abandon the river. Frederick Carstarphen was a Denver engineer who managed a gilsonite mine on Pariette Bench. He was looking to the river for a faster route to haul gilsonite to the railhead at Thompson.[5] The second party was led by Roosevelt founder and engineer Ed. F. Harmston. He was surveying for a possible railroad line between Roosevelt and Green River, Utah for the Denver and Rio Grande Railroad. Although he could obviously handle a boat, the 1911 wreck notwithstanding, and knew the river, Stewart could not swim.[6]



Sheep Crossing ice on Green River
Uintah County Regional History Center

The Stewart brothers had some small copper claims on Leland Bench, between Roosevelt and Ouray, around the same time as Hank was rowing for the survey parties. The two brothers also started a ferry at Tia Juana Bottom. The sheep that crossed on it wintered on Wild Horse Bench, east of Upper Desolation Canyon, and summered above Nine Mile Canyon. Eventually Hank sold out his mining interests to George who had become the manager of the Uteland Mining Company, while George sold his interest in the ferry to Hank.[7]

Hank operated the ferry at Tia Juana Bottom from at least 1913 to 1919. He was involved in a short-lived school for other ranchers' children at the confluence of Willow and Hill creeks to this extent: his oldest daughter, Eva, a recent BYU graduate, was the teacher. In 1919 Stewart met and married Jedediah Wardle's daughter, Elsie. She was fifteen and he was fifty one. Both had been baptized Mormons but neither practiced any religion throughout their lives.

During this time Hank (the Utes called him "Ma Oov Erats," or "Buckskin Shirt," his usual attire) had a run-in with Red Moon, an assertive White River Ute who lived along the east river bottoms. The story comes down to us from Stewart's son, Arden.

When Stewart was operating the ferry at Tia Juana Bottom, he always let Utes cross for free. This included Red Moon. But Red Moon did not like sheepmen and their sheep crossing onto what he considered his land. He tried to extract a fee from them, and eventually a sheepman named Peterson paid the Ute to silence him. After that, when the Ute tried to collect money from other sheepmen, they would lie to him, saying, "Peterson will pay."

Finally Red Moon realized he had been had. He got a pistol, and Hank Stewart happened to be the first white he saw. Red Moon fired at the ground around Stewart's feet. The ferryman then grabbed the Indian, threw him to the ground, held the pistol to his head, and threatened to kill him. Red Moon begged for his life, and Hank let him go.

Red Moon then jumped on his horse and rode for Ouray where a Ute Bear Dance was underway. He hoped to stir up the young braves for a reprisal against Stewart. The ferryman saddled up as well and took a short cut to Ouray, arriving ahead of Red Moon. In fluent Ute, Steward explained to the tribal council what had happened. After Red Moon arrived and pleaded his case, the council ruled for Stewart. They made the White River Ute apologize to Stewart and promise to treat him as a friend. After that, Red Moon left Tia Juana Bottom and may have moved north, perhaps to Montana. He was dead by 1925 at the age of 61.[8]

Generally, however, Hank got along well with the Utes, partly because of his friendly, accepting nature and partly because he spoke their language well. But conflicts with Utes like Red Moon eventually prompted the area's sheepmen to encourage Stewart to move the ferry downriver to Sand Wash, a more convenient and less contentious crossing spot for sheep. Thus, in 1919 newlyweds Hank and Elsie floated the ferry down to Sand Wash and lived in a tent. That winter they tore apart their four room cabin, marked the logs, and dragged them down on a

bobsled on the frozen river. It took three or four trips.[9]

The ice they skidded the cabin on that winter was no fluke. Ice is an annual occurrence on the Green. The river usually solidifies in late November or early December and thaws in late February to mid March. The thick ice allows for the easy transportation that Hank and Elsie Stewart experienced. But sometimes during the spring thaw, ice jams pile up and prevent river crossing by any means—ferry, boat, or horse. Yet the ice had its uses in the pre-refrigerator days. Residents would cut ice blocks out of the river, pack them with snow in a shed, and cover them with a layer of gilsonite. The ice would last all summer. But it could be deadly as well. When Vern Muse was working at Sand Wash in 1933, he let his team of horses loose to get a drink in the river. They broke through the ice and disappeared.[10]

The ferries themselves worked through the use of a windlass which allowed the ferry to change attitude and let the current push it across. There was an air space between the boat bottom and the floor. The front of the wooden boats had an apron to allow animals easy access on and off. Later a man named Peterson, probably the same man in the Red Moon incident, brought in a metal ferry which is now buried in the sand downstream of the boat launch. The ferry cable wrapped around large cottonwood trees on either side. At various times ferries operated at Swallow Canyon, Jensen, Ouray, Tia Juana Bottom, Boat Bottom, and Sand Wash.[11]

Sheep made the ferries necessary, and up to 45,000 head passed through Sand Wash a year; 50 head at a time fit onto the boat. Sheep were sheared on the "Wrinkles" side, across from Sand Wash. The wool was sacked and freighted out by wagon. Hank Stewart charged three cents a head, and in his best year made $2,700. The scariest cargo was Jim McPherson's bulls. Not surprisingly, they were hard to herd onto the boat and rambunctious during the crossing.[12]

At Sand Wash the Stewarts had a large garden, pigs, chickens, and a few work horses. They probably had a milk cow. Elsie canned extensively in the winter. She was known as an excellent and very creative cook, and sometimes their cabin served as a boarding house for stockmen passing through. Visitors remarked on her tasty pastries and "big white gravy." Elsie herself sometimes helped with the ferry. Many men noted that "she worked like a man," lifting the logs that formed the cabins and later herding and branding cattle at the Willow Creek ranch. She also kept a detailed diary of all business transactions at the ferry and at the ranch. Unfortunately that diary burned in a house fire in Vernal many years later.[13]

Hank eventually grew tired of the ferry business. He sold out to Chuck Sands sometime between 1929 and 1930 and moved upriver to Willow Creek. He bought a ranch from his father-in-law, Jedediah Wardle. The 160-acre homestead sat over a mile up creek from the Green. Sands, meanwhile, added a second cabin at the ferry (Sand Wash is named for the sand that comes out of the side canyon, not after Chuck Sands, as some have thought). He and his wife, Iola, had two children. He sold out to Peterson, and Peterson in turn sold to Ray Thompson in the mid-1930s. Thompson was there in 1937 and 1938 when Haldane "Buzz" Holmstrom stopped by two years in a row, the second time with Amos Burg. He told Holmstrom that a 1935 flood had brought the rock and mud down Sand Wash, burying the lower part of one cabin. It is still visible today. An eater of horse flesh, Thompson in his best year saw twenty thousand sheep pass through at five cents a head ($1,000). The ferry business declined, though, because bridges were being built upstream. Moreover, the 1934 Taylor Grazing Act, a prolonged drought, overgrazing, and the Depression all worked to reduce the size of sheep and cattle herds on public ranges. When a big spring flood in 1952 ripped out Thompson's ferry boat and cable, he abandoned it because business had narrowed to a trickle.[14]

Hank Stewart, meanwhile, hacked out a living at his Willow Creek ranch in the early and mid 1930s, as well as anyone could during the Depression. The family did not really suffer during the world-wide economic downturn because they were largely self-sufficient. But besides ranching, Stewart contracted as a private postal delivery man. He picked up the mail at Ouray and delivered it to ranchers up and down Willow Creek. Although he lived near the river for over two decades, Hank's inability to swim caught up with him in the spring of 1937.[15]

On May 18 that year during the spring rise, Stewart and his young ranch hand, Thomas McKenna, were rowing a heavy disk harrow and a corn planter tongue across river in a small boat. The boat filled with water and swamped. Both men's wives watched in horror as the tragedy unfolded. Stewart was knocked unconscious by the machinery, and when he surfaced, McKenna tried to hold on to him and the capsized boat at the same time. Harry Aumiller swam his horse out, threw a rope to McKenna, but the young man missed it. Both men then disappeared under water. Stewart's frantic wife, Elsie, attempted to ride and swim to rescue him but fortunately was restrained by Chuck Sands. For the next week a team of fifty men in eight boats searched for the bodies. They finally discovered them a few miles below the accident. Hank's best friend, Matt Curry, found him.[16]

Stewart, age sixty nine, left a twenty-nine-year old wife, a twelve-year old son, and a mountain of debt. Elsie Stewart had to sell two hundred Herefords to pay off ranch debts. She eventually remarried Jack Brewer, which improved the family's finances.[17] McKenna, who was twenty five, widowed a wife and left two small children fatherless.

Stewart was especially mourned. An impulsive, hot-tempered man, he was also known as a friendly, gregarious, can-do cowboy. In large headlines, a front page article in the local paper described him as "one of Utah's colorful pioneer stockman….Hale and hearty, able to ride and work hard, he did things a younger man would shirk…respected for his hardihood and straight-forward dealing with his fellow man."[18]

Hank Stewart's legacy includes a reputation for working hard, starting various enterprises, guiding, and making many friends up and down the river. He etched his name and character on Sand Wash. Tip your hat to him next time you push off shore.

[1] George Stewart interview by Bill Belknap and Loie Belknap Evans, 1974, Belknap Collection, Northern Arizona University; Arden Stewart, "Ferries: A Lecture to the Uintah County Historical Society, 10 July 1993," Uintah County Regional History Center (hereafter UCRHC), Vernal, Utah.

[2] "River Victims Located Near Scene of Death," *Vernal Express*, 27 May 1937, p. 1; Arden Stewart interviews with author, 8 January 2004, 25-26 March 2005.

[3] Stella McElprang, comp., *Castle Valley: A History of Emery County* (Emery County Daughters of Utah Pioneers, 1949), 50-51; Arden Stewart, "Dad Nearly Rode With Butch," *Outlaw Journal* 1.1 (Summer 1991): 46-47. Arden Stewart, "Arden Stewart at the Uintah County Historical Society on Outlaws," UCRHC.

[4] Arden Stewart interviews; Mildred Miles Dillman, comp., *Early History of Duchesne County* (Springville, UT: Art City Publishing, 1948), 256; "River Victims."

[5] Robert Sorgenfrei to author, 26 July 2004; "Much Interest in Castle Peak," *Eastern Utah Advocate* (29 June 1911), 11; Many articles in the *Eastern Utah Advocate* and *Carbon County News* for the fall of 1911 and winter of 1912 recount Carstarphen's battles with the state road commission and his efforts to purchase trucks to haul gilsonite to the railhead at Price. He failed and ended up back in Denver, where he did some survey work for the city.

[6] "Diary and Report of Ed. F. Harmston, Engineer, on Feasibility of Line for Railroad from Green River on Denver and Rio Grande R.R. to Roosevelt, in Uintah Basin, State of Utah. September 6th, 1913," Marston Collection, Huntington Library, San Marino, California; Bill and Mrs. Seamount interview by Otis R. "Dock" Marston, Salt Lake City, 1 January 1966, Marston Collection; Ray "Budge" Wilcox interview by Bill Belknap and Loie Belknap Evans, 1974, Belknap Collection.

[7] George Stewart interview; Arden Stewart, "Ferries;" Kathleen Irving, "Interview with Arden Stewart, 19 April 2002," UCRHC.

[8] Arden Stewart, "Lecture for Uintah County Historical Society." Stewart composed this story in the form of a poem called "Red Moon" which he has preformed on numerous occasions; Arden Stewart interviews; "Ute Indians Allotment Records, Uintah and White River Utes, circa 1900-1940," MSS B-833, Box 1, Fd 5, # 351,Utah State Historical Society, Salt Lake City.

[9] Arden Stewart, "This Story Was Told To Me," UCRHC; Arden Stewart interviews; Kathleen Irving.

[10] Arden Stewart, "Ferries;" "Ouray," *Vernal Express*, 23 March 1933, p. 4; Kathleen Irving; Pearl Baker, *Rim Flying the Canyonlands with Jim Hurst* (Riverside, Ca: A-to-Z Printing, 1973), 43-44; Rex F. Rowley, "Ferry on the Green and other happenings at Sand Wash, "1969, Ms in author's possession; Rex F. Rowley, "Sand Wash Ferry Played Role for Early Sheepmen," *Vernal Express*, 21 August 1969, p. B6.

[11] Irving; Stewart, "Ferries;" Arden Stewart interviews.

[12] Stewart, "Ferries."

[13] Arden Stewart interviews.

[14] Chuck Sands was a hot-tempered man who once slapped young Arden Stewart in the face. Stewart never liked him after that. Thompson was known to eat horse meat from the wild horses he rounded up when he lived at Ray's Bottom. Arden Stewart interviews; Brad Dimock, ed., *Every Rapid Speaks Plainly: The Salmon, Green & Colorado River Journals of Buzz Holmstrom* (Flagstaff: Fretwater Press, 2003), 50, 168; Stewart, "Ferries."

[15] Doris Karren Burton, *Settlement of Uintah County: Digging Deeper* (Vernal, UT: Uintah County Library, 1998), 502, 508.

[16] "Searches Fail to Recover Bodies," *Vernal Express*, 20 May 1939, p. 2; "River Victims;" Arden Stewart interviews. Curry owned the Ouray store and later Curry's Manor in Vernal. He was well-liked by both Anglos and Utes.

[17] Irving.

[18] "River Victims."

James M. Aton is Professor of English at Southern Utah University. He is the author with Robert S. McPherson of *River Flowing from the Sunrise: An Environmental History of the Lower San Juan* (Logan 2000). He is currently writing a history of Desolation Canyon.

The "Boatman Stories" of Arthur Wheeler

by
Jim Knipmeyer

Boatmen, and especially river guides, have long been known to "stretch the truth a mite," if not downright come up with out-and-out "whoopers," about the streams they have navigated or their own exploits there upon. It almost seems to be a prerequisite of guiding, for, after all, they have clients and customers to entertain, and the "No shit, there I was…" stories seem to be a staple of most river trips. This is certainly true on the rivers of the Colorado Plateau. Whether it was Major Powell in his 1875 account of his river expedition(s) or Norm Nevills around a nighttime campfire on the San Juan or in Glen Canyon, the facts have, on occasion, been stretched almost to the breaking point.



The Mouth of Spring Canyon on the Green
Photo: Mike Ford

Though usually not thought of as a "boatman," Arthur Wheeler, a rancher on the east bank of the Green River across from the mouth of the San Rafael, did pilot a steamboat at least once (and perhaps twice) downstream into Labyrinth and Stillwater Canyons. This voyage must have affected, or perhaps a better term is infected, him almost immediately with what some have called "canyonitis," and he soon came forth with at least an "embellishment" of an actual event plus one "tall tale" about his boating experiences on the Green and Colorado.

Arthur Wheeler and his two brothers had come from New York state (see Winter, 1996 issue of *The Confluence*), and in 1884 they settled on the Green River some twenty miles south of the town of the same name. They planted alfalfa and fruit trees, but primarily ran cattle. In 1891 they were visited, both going and coming, by the members of a river expedition which descended the Green to just below the confluence with the Grand (today's Colorado River), before returning back upstream to the town of Green River.

The eight men were members of a company planning to launch a "fleet" of steamboats that would carry tourists from the Denver & Rio Grande railroad downstream to a hotel, which was to be built a few miles below the Confluence near the "head of the cataracts" on the Colorado. A prototype steam launch had been built and shipped to Green River station by rail, and in August, 1891, its maiden voyage (see Winter, 1997 issue of *The Confluence*) was begun to test the practicability of the proposed plan. Christened the *Major Powell*, low water and too deep of a draft caused blades from its propellers to be knocked off by rocks in the channel. However, the trip was continued on in rowboats, stopping at the Wheeler brothers' ranch each way.

The following year, 1892, the steamboat was refitted for a second trial run. This time there was a crew of only four: Arthur Wheeler, who had been asked to act as pilot; H. J. Hogan, engineer; W. A. Heath, artist; and David Kenty, "excursionist." An account of the voyage was obtained from Wheeler and appeared in the July 3 issue of Denver's *Colorado Sun*. Among other things it said:

"All the way down the Green river cañons these [prehistoric cliff] dwellings are to be found. At the junction of the Grand, where the Colorado river begins, is another interesting feature. It is what the maps have designated as a Mormon fort. This is entirely erroneous. It antedates the Mormons, but by how much no one knows. It is on the west bank of the river on a high elevation. It is an earth-work fortification, but now shows little more than outlines. Inside of it have been found many fine arrow heads, but no modern warlike remains, which goes to show what people used it as a stronghold."

Of course, there is no such "Mormon fort" at today's Confluence, nor is there even any prehistoric Anasazi or Fremont culture archeological sites. The description does, however, match in some respects the two-room dry-laid masonry tower located forty miles up the Green on a high point overlooking what has been named Fort Bottom. Even here, though, the ruin is on the east side of the river, not on the west as stated in the *Colorado Sun* article. So, did Wheeler and his three-man crew even reach the Confluence, or did they

only make it as far as Fort Bottom, many miles short of the junction of the rivers?

The newspaper story goes on to say: "The Colorado river is not at all an inviting stream to navigate. The voyagers on the *Major Powell* had a grand sight once they got into the Grand cañon. The walls are higher and the stream seems smaller than above, though it is increased materially in volume by the waters of Grand river. For only sixteen miles is there any safety for a boat. At the end of that distance the Cataract cañon begins. This is really a terror…It is one succession of cascades, rapids, whirlpools, rocks, curves and other difficulties, which make it impossible for a boat to live any time at all."

While the above is an accurate description of Cataract Canyon, it is certainly no "sixteen miles" from the junction to the first rapid. The true distance, of course, is only four miles, which, even allowing for mere estimation instead of accurate measurement, still seems to be a rather significant error. This, then, again begs the question: Were Wheeler and his fellow voyagers even at the "head of the cataracts"?

Lute H. Johnson, writing for the *Denver Republican* the following year, stated simply: "In 1892, a second trial [of the *Major Powell*] was made, a few miles down the Green attained and again the expedition was abandoned." Writing several years after, William H. Edwards said: "The second attempt was made a year later, 1892, but the boat was abandoned at Wheeler's Landing [ranch], twenty-five miles down stream from the starting point at the Rio Grande Railway crossing [at Green River, Utah]."

Arthur Wheeler, therefore, seems to have "embellished" a little on his evidently aborted voyage down the Green on the second trial run of the *Major Powell*. In fact, it may very well have been from Edwards, who had been down the Green and Colorado Rivers with the James S. Best prospecting expedition in 1891, that Wheeler got the descriptions of the so-called Mormon fort and the area below the Confluence. Such second-hand information from Wheeler may, then, account for the discrepancies from the correct facts in the *Colorado Sun* newspaper account.

But if the 1892 story was simply an embellishment, then the one that followed in early 1893 was a true "whooper." Once again based on an account evidently provided by Arthur Wheeler, a relatively short item appeared in Denver's *Rocky Mountain News* entitled, "OVER THE RAPIDS," with the subheading, "The Major Powell Went Through Cataract Cañon." The entire article is as follows:

"Green River, Utah, Jan. 11.- Promptly at 7 o'clock yesterday morning the twin screw launch Major Powell left her dock at the mouth of the San Rafael river for her trip through the Cataract cañon of the Colorado river. On board were Captain A. Wheeler and Engineer William Lyle. At a twelve-knot speed the junction of the Green and Grand rivers was passed. Cork jackets were donned and fenders thrown over the gunwales. At 1 p.m. the head of Cataract cañon was reached and the perilous voyage begun. Faster and faster went the launch with engines reversed, quickly veered to port or starboard, barely missing great jagged rocks. Now in a whirlpool, now down a cascade, nine miles of seething, boiling cauldrons was safely passed. A smooth stretch of a few miles and once more down, with ever increasing velocity, through the maddest torrent ever attempted by a pilot. The Major Powell had gone through the Cataract cañon safely. Twelve miles below, in a comparatively insignificant rapid, a snag caught the port propeller, breaking two blades. The launch swung quickly to the left, striking bows full on a big rock, staving her badly. She was safely beached and will be repaired at once and proceed to Dandy Crossing."

The above account was made notwithstanding the assertion made just a few months earlier in regard to Cataract Canyon, that in it "it is impossible for a boat to live any time at all." Nothing about this account seems to have any validity in fact at all.

The dates, to begin with, do not seem to make any sense. The *Rocky Mountain News* article appeared in the January 12 issue, and the dateline from the town of Green River was January 11. However, the item immediately begins by stating, "Promptly at 7 o'clock *yesterday* (my emphasis) morning the screw launch Major Powell left her dock…" The makes the entire subsequent series of events appear to have taken place in only ONE day. This is certainly an impossibility for the 151-mile distance from the mouth of the San Rafael to Dandy Crossing [Hite], which in 1893 would have included some 35 miles of Cataract Canyon rapids. Simply put; one day, no way!

The steamboat *Major Powell* was 35 feet in length, had an 8 to a 10-foot beam (accounts differ), with two 6-horsepower, wood-burning engines driving twin screws. Modern river runners in Cataract Canyon seem to be nearly unanimous in declaring that such a craft almost certainly could not have successfully navigated the 47 to 52 (again accounts differ) major and minor rapids of that canyon. Therefore, one must conclude that the *Rocky Mountain News* article has no basis in fact whatsoever, and is nothing more than pure fiction.

These two accounts of river voyages, however, do serve one purpose: to elevate Arthur Wheeler from the status of mere "rancher" to that of a true "river guide." It is clear and obvious that he could spin "boatmen stories" with the best of them.

River Bed Case Testimony

Edited by John Weisheit

John Galloway

Resides 1984 View Street, Salt Lake City, Utah; age, 49 years. Has boated the Green River from almost its starting point to its mouth, and the Grand (Colorado) from Westwater Canyon to Moab; from the junction of Green and Grand to Moab; the Colorado from mouth of the Green to Lees Ferry. Boated on other rivers. First river trip as a boy 13 with his father, Nate Galloway, designer of Galloway type of boats.

First trip from Westwater Canyon to Moab on the Colorado was made in Spring of 1926 or 1927; middle of April to 12th of May. Boat as near Galloway type as possible. 16 ft. long, 4 ft. wide at top, 36 in. at bottom, draft 4 inches loaded. Hard granite [actually schist and gneiss with igneous intrusions] formation in Westwater Canyon; tremendous fall, rapids have 2 to 4 feet fall, straight drops; continual mass of rapids; back suction under falls makes difficult and dangerous proposition; some places steep smooth walls; could not line boats. No room to make a bed so made bed in crevices of rocks.

Below Westwater Canyon the river is sluggish and slow; shallow over little riffles; had to row or wade back in places and pull boat back to find channel. Never attempted to take boat up Colorado from Moab to Westwater; thinks he could by towing.

Has been upstream on Colorado between mouth of Green and Moab; down Green River to the mouth.

Took trip in February or March 1925 from mouth of Green River to Moab; same boat as Westwater Canyon trip. Rise in water made progress difficult; it took five days to go from Junction to Shafer No. 1 well [downstream of Potash boat ramp]; from there went to Moab on Moab Garage boat. Rowed in places; towed in places; good many cases on sand bars; water shallow so far out boat would not tow; would have to drag on bottom; wade fifty or sixty feet to get line enough to get boat in current.

Two miles [one mile] above junction place where good many rocks lying on bank and in river [The Slide]; narrow current. Rowed around it, threw tow line around ledge where could not pull with oars; shoved boat with oar; heaved and pulled above the rock. Towed two-thirds the way between junction of Green and Colorado rivers and Well No. 1.

Loaded rowboat on Moab Garage boat; trip from well to Moab consumed five or six hours. Boat stuck on a sand bar within sight of Moab; reversed engine and backed up and went ahead.

A second trip was made in December 1927, up Colorado from mouth of Green to Moab; unable to take boats all the way; left them at Lockhart camp; no permanent channel to row in; water cool; trouble with floating ice. Walked across the trail to Shafer No. 1 well; took Moab Garage boat to Moab. Delayed by sand bars for short intervals on trip.

In February 1928, got his boats and trapped upstream from Lockhart to Moab; sand bars about the same—interchangeable; shifting current; change in 24 hours good many cases; try to keep in channel but find you have to go back one hundred feet until you find a point, then go around and find channel; sand bars not in the same place every day; condition of rising and lowering of water changes the current on most any sandy formation. Finished trapping, left boat at Lockhart; took Moab Garage boat back to Moab, leaving sometime latter part of March. Boat stuck on sand bars many times for several minutes at a time.

Made three trips from Greenriver down to junction with the Colorado, but no trips up Green River.

First trip on Green River was in 1911; second, Spring of 1926; third, Fall of 1927. River conditions not the same. In 1927, going down noted the river had moved; noted in particular as to camping places; would have to unload boat way back on a sand bar and carry stuff three or four hundred feet to get to where wanted to camp. Noted current was not in place where it was when there before. Noted beaver dams, were on dry land; beavers selected deep water for winter food supply.

Green and Colorado Rivers do not freeze except in places where river is shaded by ledges.

Material for building boats and supplies hauled overland from Greenriver to North Wash. Country is desert in character. Saw one ranch on San Rafael but no settlements. First trip in 1911 from Green River, Wyoming to Dirty Devil. Returned with pack outfit leaving boat at mouth of Dirty Devil. Did not see any one boating on this trip.

Has not seen boats on Green River carrying freight or passengers.

Trip from Green River, Wyoming, to Dirty Devil made in September; trip from Greenriver to North Wash, where boat was built, in March or April of 1927. Third trip from Greenriver to Glen Canyon by river made in 1924. Went out from Lees Ferry to Kanab overland.

Same difficulties from end of cataracts to Lees Ferry on Colorado; only difference more water; river wider and boxed in places. Where river crowds against ledge, there is a great big whirlpool.

Only boats he saw were some tied along river; did not see any ranches from mouth of San Rafael to Lees Ferry; no fertile or plowed lands. One old prospector, named Carpenter, below cataracts. Hite ranch deserted.

In his opinion, impossible take a boat from Greenriver to Colorado line. 120 rapids in Desolation Canyon; 30 rapids in Split Mountain Canyon.

Cross-examination [abridged]:

His father was Nathaniel Galloway, did considerable trapping on Green and Colorado Rivers; boated down the rivers and designed type or boat known as Galloway; never used motor boats.

More water in Green. Going up Colorado River is hard work.

If he had a permit to trap beaver between Moab and the junction of the river, and was coming back and could get to Moab, why should he not want his boat to be at Moab? Then he could float down the river. He was in floating ice when he left that boat at Camp Lockhart.

Jensen, on the Green River, is a town of possibly five or six hundred people. Supplies to Jensen are brought in overland with team either from Mack, Colorado, or from Price, Utah. They are not brought in by way of the river.

Ouray, on the Green River, is a town of probably two hundred fifty people, counting Indians. Supplies to Ouray are brought in overland and not by way of the river. There is a ferryboat at Ouray used for the purpose of crossing the river back and forth. The Ute Indians who live at Ouray, use the ferry for crossing back and forth but so far as he knows, they do not use boats of their own in any way on the river.

Recross-examination: [abridged]

He is acquainted with the fact that there is a tribe of Indians in Idaho known as the Blackfoot but has never known of them to use boats on the Snake River and does not know whether or not they are more civilized than the Indians in Utah.

Further examination: [abridged]

Hanksville, Utah, is a settlement of about three or four hundred people who engage principally in the sheep business.

He came down through Cataract Canyon twice. The first time he went down there he was alone.

The supplies would not exceed five hundred pounds, camp and all.

When he went down Cataract Canyon first time had only knowledge from what his father said in regard to the condition of the canyon. He had no maps or charts or surveys.

Redirect examination:

In going through Cataract Canyon he made portages. He carried the duffel in Cataract Canyon pretty near from one end of it to the other. Just at intervals of rapids he would tie up, and take most of his equipment below the rapid; then either run the rapid or line it, whichever he thought he could do the easiest. The rapids were lined by himself alone and if he came to one he thought it safest to line, he would do so.

In going through these rapids a map is of no assistance at all, as he can see. The only thing a map might tell you, was what the rapid is, the name of it, or where it was located. He was looking at one of the maps and he couldn't see that would help him any in going through that canyon.

When he comes to a rapid his procedure is: The first thing is to stop before he gets too close, so he can stop; in the still part of the water above the rapid there is always a still space of water; stop and go down and look the rapid over, see if there is a possible channel or way a man can navigate a boat through it without hitting a rock or striking waves so high that there is danger of putting you underneath, filling your boat with water, or something like that.

You know about what your load is; you know about what your boat is carrying, and about what kind of waves you can battle with. If there is any possible way you can see that it looks like it is safe enough for a man that is in there alone, or two parties—that he can get through without losing his outfit—you would naturally get in your boat and go and pick down through where you had sized it up and looked it over and thought you could make it, as near as you could possibly.

In running rapids, every rapid you run, you run the rapid only after a personal examination.

Further examination:

He doesn't know of his own personal knowledge whether or not rapids are run on the rivers in the west as they are in the east, by guides and Indians poling the rapids, one man at each end of the boat.

Recross-examination:

When he lived in Vernal he didn't know whether there were other trappers than his father who lived there. He would judge there were probably six hundred people in the whole Vernal Valley.

He left Vernal when he was about seventeen years old and his father died at Richfield, Utah, after he had left.

Parley Galloway

For Complainant

He is a farmer, stock raiser, and trapper, is forty years of age. He has had experience boating on the Green and Colorado rivers and has run the Green River from as far up in Wyoming as it is possible to boat, and the Colorado River to Needles, California. He has also boated on the White River, the Bear River and the Yampa River. He has made four or five trips through Flaming Gorge, Red Canyon, and Desolation Canyon on the Green River and has been on the river in those sections at other times.

It would be possible, in his opinion, to take a boat up the Green River from the City of Greenriver Utah, to the dam, about eight miles above the town.

He has never seen any other boats than his own in operation on the section of Green River north of the town of Greenriver, Utah.

He has made four or five trips down the Green River to its junction with the Colorado from Greenriver, Utah. In that section of the river he always found the location of the sand bars to be the same but had a good deal of trouble with them. This trouble occurs nearly all the way along that stretch of the river. There were some stretches of the river where he didn't have quite as much trouble, but others were bad enough to pay for it.

He has been through Cataract Canyon twice. One of the trips especially remembered by him was with the [Clyde] Eddy party in 1927, when be acted as guide for the party and operated the boats as head boatman. Considerable trouble was had on the first part of the trip because none of the party except himself had had any experience in navigation. The first rapids they came to were run. Ran them with all their loads in the boats. These boats were well decked boats that Mr. Eddy had, so they could run in waves where they were pretty big.

They were there in high water, so didn't have so many rocks to contend with as he would in lower water. At about the fifth rapid in the cataracts is where they had their most trouble. Had to unload everything and line boats around the fifth rapid. [Probably Rapid #7 or the North Sea]

From there on ran the rapids until he got to the last rapid in the cataracts; that is Dark Canyon rapids; lined that one. Always unloaded some of their duffel, not all of it every time, but nearly all the heaviest part of equipment.

Prior to the Eddy trip he (Galloway) had been through Cataract Canyon with his father when he was a boy but does not remember the month or year when the trip was made He has been through Glen Canyon three times.

Did not have a great deal of difficulty in taking the Eddy party through Glen Canyon, found sand bars, but had real high water, and the sand bars were more covered lip. Stuck on the sand bars though. Nearly every day the boats would hang on a sand bar.

The other trip he took through Glen Canyon was when he left North Wash with his brother and Mr. Howland and difficulty with sand bars and riffles was encountered during that trip.

On his trips between Greenriver, Utah, and the mouth of the Green River, he did not see any other boats empty or carrying freight or passengers.

There have been some ranches in that section of the country but everything is abandoned now. From the mouth of the Green River down to Lees Ferry there is one old abandoned ranch that has been abandoned for some time, in as much as the cabins have fallen down. He remembers a place called Hite but there was nobody living there.

He met no other boats either light or carrying freight or passengers during the times he was in Glen Canyon and from there on down to Lees Ferry.

The trip he made with his brother and Howland from North Wash was made late in March, 1928, and the Eddy trip was made in June, 1927.

The Howland trip started from the mouth of North Wash with two boats loaded with camp outfits and supplies, the load amounting to five or six hundred pounds to each boat. The lumber and supplies were purchased at Greenriver. Utah.

Didn't build boats in Greenriver, Utah, and go on down the river, because wished to avoid the Cataract Canyon. Could make the trip quicker by going overland.

From the mouth of North Wash down to Lees Ferry there are a great number of riffles, some of which would be considered rapids, were encountered.

He never tried to bring a boat from Lees Ferry up the river.

He has boated on the Colorado from Westwater Canyon, near the Utah State line, as far as Moab, four or five times, but has never boated down the Colorado from Moab to its confluence with the Green. All of his trips, on that section were made up the river.

Many difficulties were encountered on his trip through Westwater Canyon, the rapids there being as bad as they are tiny place in the Grand Canyon. Sand bars and gravel bars were also encountered on this trip.

It is his opinion that boats could not be taken up the Colorado River from Moab to Westwater, but that they might be taken up a distance of about fifteen miles, although it would be necessary to do considerable towing in that distance. It would be impossible, in his opinion, to row a boat that far up the river.

He has never seen any boats on the Colorado River between Westwater and Moab.

He has been up the Colorado River between its confluence with the Green and Moab three or four times.

The difficulties encountered in going up that stream are always bad enough with a row boat; some of it you row, some of it you tow your boat the best you can. Had the sand bars; running behind a sand bar, sometimes would have to turn and go back, hunt around and find some little channel that you could get your boat up through.

One trip made on the Colorado River between the mouth of the Green River and Moab was in March of 1926, when be was accompanied by his brother. Very little equipment was carried on the trip and it consisted principally of camp equipment and a very little grub.

In places where a sand bar or bank was found that could be walked along, the boat was towed, one man walking along the bank with a sixty foot rope tied to the boat, the other man using the oars to hold the boat in the river.

From some place above what he believes to be oil well No. 2 [John Shafer well; petrified log area], they took the Moab Garage boat into Moab. The Moab Garage boat hit sand bars in a place or two but was always able to back up again and then go ahead, making the trip without losing a great deal of time.

He made another trip on that section of the river with his father a good many years ago but does not remember the date. He has also made two or three other trips, one being made in 1927 with a young fellow by the name of Zerber.

This last trip was from the mouth of the Green River to Moab. The boat was not taken all the Moab but only as far as well No. 2, where it was loaded on the big boat and taken on up. The same difficulties were encountered on this trip as were encountered on the other trip. After reaching Moab the boats were taken to Greenriver, Utah, by truck.

Didn't go on down the Colorado River and then up the Green to Greenriver, because of the hard labor of getting up there is something fierce; wouldn't want to undertake it with a pair of oars.

He can not tell how long it would take to make the trip from Moab to Greenriver City by boat but in his best judgment it would take about a month's time. By truck it takes not over eight hours time.

He has never been over that section of the country by boat between Moab and Greenriver. He has been from Greenriver to Moab, of course, by boat.

Between Moab and Greenriver there is a ranch house somewhere on the road but he doesn't remember just where it is.

The land in the surrounding country is mostly bad land, cut considerably with deep washes. The land does not look like farm land to him.

Cross-examination: [abridged]

There are two years difference between his age and that of his brother, John Galloway. He is forty years old and his brother 42.

When he took the trip with his father through Cataract Canyon he was 15 or 16 years old. No one else accompanied them on the trip. As he remembers, some of the rapids on the trip were lined, but he has no distinct recollection of it.

The trip ended at Lees Ferry. From Lees Ferry they went back to Kanab and from there they went to Uintah County, Utah.

The purpose of the trip was for trapping and prospecting; prospecting being down in Cataract Canyon.

On the Green River in Wyoming he has boated up from the mouth of the Fontanelle and doesn't know whether a boat could be run any further than that. The water was real shallow in lots of places on the stretch of the river he boated up.

By boating water he means sufficient water to carry a boat, man, and provisions.

He has always avoided going up stream as much as possible with a rowboat.

When rowing upstream he attempted to keep in the quiet water as much as possible and to keep away from the swift current and in doing that be boated in the shallower portions of the river.

But when rowing up stream, and seeking the quieter water, over where it is more shallow; boat much more frequently touches ground of necessity.

On the Eddy expedition no one besides himself had had previous experience with boats, or with the river and therefore encountered quite a bit more trouble than would otherwise have been encountered.

As a boy, he made many trips with his father, but only the one trip spoken of on the Green and Colorado Rivers to Lees Ferry.

Except when he was a boy and he was with his father, when a rowboat was used, his only experience on the Colorado River between Moab and Shafer No. 1 well has been on the large Moab Garage boat.

A contract was made by him to take Mr. Howland over the Colorado River from North Wash down to Lees Ferry. He was paid the agreed compensation and the boats used were built for that purpose.

He has never operated a power boat on the rivers. The reason boats were built at the mouth of North Wash when the trip was made with Mr. Howland, was because Mr. Howland did not specifically desire to go through Cataract Canyon.

As near as he can remember, the trip from North Wash down to Lees Ferry consumed about three weeks. On the trip down, some prospecting was done and some exploration of the river was made. They did not stake out any claims.

There was a man by the name of Richmond who went with his father the first trip that he made through the Grand Canyon and he started about Flaming Gorge and went clear through to the Grand Canyon of the Colorado. He was just a boy and he remembers the man Richmond. He doesn't just know how old he is, or whether he is dead or not, but his father is dead. He remembers of the two of them being at their home in Vernal but he didn't see the boat arrive or depart.

Redirect examination:

On the trip back to Vernal, Utah, from Lees Ferry, after his trip on the river with his father, they went by stage and train.

The trip made with the Eddy party ended at Needles, California, and he returned home by way of Salt Lake City.

Diamond Down

By Keri Scott

It was the winter of 2000 and I had the boatmon blues. I was attending Northern Arizona University and all I could think about was going down the river. For the past two summers, a company that ran the biggest white water craft on the North American continent through the Grand Canyon had employed me. I needed a river fix bad so I decided I would invite all my friends to attend my first private trip ever: a Diamond down trip over spring break. None of the people I invited were boatmon, so they were excited at first, but one by one they declined the invitation, all except for one, my good friend and roommate, Tonya (not her real name).

As the time drew closer Tonya drew more skeptical. She was nervous because only two people were going, she didn't know how to swim, and she had never gone on a river trip before. I begged and begged her to go because I knew I couldn't do it myself. Finally, the night before we left, I officially talked her into it.



Everything was set. I had Tonya with me for companionship and safety, my parents would do the shuttle, and the permits were in hand. I had picked up all the supplies at a rental place in Flagstaff (at the time all the boating gear I had was a lifejacket, dry bag and a rocket box), and all the food had been purchased.

The next day we were on our way! We got to Diamond Creek at a reasonable time and proceeded to unload the gear, inflate the boat and start packing. At this point I would like to list my rowboat experience: zero. I had never even stepped on to a rowboat before. I had seen rowboats on the river, and it didn't look too hard. It seemed to me that all you had to do was sit in the middle of the boat and push on the oars, simple enough. I knew the rapids fairly well and the dangers. I also knew what the dam release was and what it would look like when we went through.

When it came to packing the rowboat, I started to think that maybe I was in over my head. I had no idea how to put on the frame, where all the stuff went, what all the straps were for, or the big metal plate with pipes on the bottom of it (now I know it was a folding table). Luckily the boat rental place handed me an Allen wrench and told me to keep it in my pocket; they also chose locking oars for me. It took the rest of the day to get the boat half-packed.

Over dinner that night I entertained my parents and Tonya with all the famous flash flood stories of Diamond Creek, and told them to look for the axle and wheel of one of the two International trucks that had been washed into the river. It wasn't to cold for late March, but somewhere in the middle of it we had one of those out of nowhere, hell raising storms. I thought we were in a good place should Diamond Creek flash, so I turned over in my sleeping bag and proceeded to go back to sleep. However my parent's tent had broken its poles in the wind, and the rain was coming in. They woke me up and told me that we needed to leave immediately because Diamond was going to flash and they didn't want to be there. I tried to convince them that we were okay and needed to stay, but my Dad told me in certain words that we were going even if he had to drag me to the trucks. Diamond didn't flash and we spent the rest of the night somewhere on the side of the dirt road sleeping in the trucks. We were off to a good start.

The next morning we woke up to snow on the cliffs, I looked over at Tonya and asked if she still wanted to go. She returned the question and, because I am stubborn, I said yes. We drove back down to the boat and finished packing, which took till noon. The river was rising and so was my frustration. I don't remember how I got all the stuff on the boat and tied it down, or if I did tie it down at all, but I do remember that I put the rocket boxes where my feet were supposed to go. Therefore I had to sit somewhat Indian style. We got on the boat, waved goodbye to my parents and proceeded to go down the river. Later my parents told me that they had never seen me look so scared in my life.

Now for those of you who have not traversed the lower Grand there are basically six rapids: Diamond Creek, Travertine, 231 Mile, 232 Mile, 234 Mile, and Bridge Canyon or 235 Mile. Being a motor guide I was a little concerned about 231 Mile and I was really concerned about 232 Mile. At low water 232 Mile has a nice lateral that comes out and will try to push you into the "Fangs" on the right side of the river. The Fangs are

nicely polished Vishnu Schist that likes to rip boats up before it flips them over.

As I pushed down river through Diamond Creek I fully realized that we were screwed. I couldn't even avoid the two small holes in Diamond, and I thought to myself "how in the world am I going to break the lateral in 232". I thought maybe I would get better the more I tried, so I didn't tell Tonya at that point that I thought we were probably going to die. As we went trough Travertine my skills had not improved. I tried to push to shore so that we could see the waterfall in the side canyon, but I didn't make it, we went down river.

Talk between Tonya and I had almost ceased. By the look on my face she cold tell that I was terrified. I still tried to pretend that I knew what I was doing, but she wasn't buying it.

I was able to make the eddy at Travertine Falls, a camp and my scouting stop for 231 Mile. Even though I knew the rapids, I failed to realize the higher vantagepoint a motor rig has over a rowboat. As I pushed towards the tie-up tree I told Tonya to tie up the boat. To my amazement she thought that I meant right then and there and jumped off the boat. I thought I had killed my roommate who didn't know how to swim. She managed to hang on to the bowline and step on to shore as the boat drew closer. When she got out of the water I was given the look of death. After that, what little conversation there had been between us ceased.

As I climbed to where I could see the rapid my arms would not stop shaking, but I was so pumped up on adrenaline I didn't feel cold or fatigue. I looked at the rapid and saw the run. Miss the big hole, simple. Did I miss the big hole? Of course not, I was pushing. Remember, the only method I knew at the time was the upstream ferry. I had never even heard of downstream ferry. As we went through it my roommate disappeared in a wall of water and the oars were knocked out of my hands, but we made it through and thanks to the wisdom of the boat rental place, I still had my oars.

Now I only had a mile to get ready for the rapid I feared the most, 232 Mile. That was the longest mile of my life. I just wanted to be below it. As the horizon line disappeared I wished I had my big motorboat. I started to push over to the right to scout the rapid and realized that my left oar stand had come loose. I proceeded to freak out. I frantically searched for the allen wrench in my pockets (I forgot which pocket I had put it in), found it, and started tightening up the wrong screw with the roar of the river in the background. I was shaking so bad I could hardly get the wrench in the socket. Tonya, seeing the state I was in, took it from my hands and tightened up the right screw and gave me a dirty look. When she finished it was too late to scout, so I screamed, "Fuck it were just going to run it!" I pushed with all my might to break the lateral. Just as I thought we were going to make it, the lateral rose up and curled on us. This had the effect of spinning me backwards. Now we were hurtling towards the Fangs. I started cussing and pushing frantically up river. I knew we were doomed. At the point when I realized that we were about to go over the Fangs. I closed my eyes and imagined the sound of the boat being ripped to shreds. Silence. I looked over as my oar hit the last of the fangs, clunk and it was over. We made it. I pushed over to the middle of the river and felt the best feeling ever, the feeling that we were going to live.

I started to relax and enjoy the trip at this point. As we went through the last rapids I was amazed how much bigger they seamed in a small boat. After we made it through the last of the rapids Tonya started talking to me again. We were both relieved and happy to be alive.

We pulled into camp at Separation Canyon and that's when my fatigue hit me. I could barely lift my arms. All I wanted to do was get warm, eat and sleep. Tonya cooked dinner and I looked for firewood. Nothing was dry from the night before. As I started to go further up the canyon, I got the strong feeling I was being watched and the hair started to stand on the back of my neck. I promptly gave up and went back to camp.

During the previous summer we would stop here for lunch on commercial trips. A fellow guide and I would argue over the prints we saw in the sand. I would say that they were a cat's and he would say that they were a dog's. It turns out that I was right. That night we were serenaded with the sounds of what I thought sounded like a toddler being tortured and Tonya thought it was a screaming woman. Neither of us had ever heard the calling of a mountain lion, but I'm sure if we had just unzipped our tent and looked out we would have seen one. Not realizing what it was we slept like babes.

Due to our experience the day before, all Tonya and I wanted to do was get home. That day we took turns rowing in one-hour intervals. The tourists that fly over in helicopters from Las Vegas all looked at us like we were crazy. They were the only people we saw on our whole trip. We rowed well into dark. The lake had gone down quite a bit since the last time I was there and I was worried that we would miss Pearce's Ferry, so we tied up to a spider infested tree in the middle of the lake and slept on the boat.

The next morning we woke to realize that we were only about a mile from our take out. I was shocked to see the lake so low and Scorpion Island was not an island any more. As we drove home I'm sure Tonya secretly vowed never to go down the river again. As I have gained more and more river experience, I've realized how incredibly lucky and stupid we were. Others say we were brave, I say we were ignorant.

Headwaters Institute at Ten:
Still Providing Leadership in Watershed Education

by Tom Hicks
Executive Director, Headwaters Institute

Mission: To provide education that inspires individuals and communities to care for and connect with their watershed.

Vision: The Headwaters Institute and its associated network of educators strive to be the premier provider of natural history, conservation, and interpretative trainings for professional guides. These seminars encourage and promote a deeper public understanding of the importance of healthy rivers and their watershed ecosystems from ridgeline to Coastline.

Our mission gains momentum and credibility when individuals collaborate in the educational process and open themselves to learning from each other and the natural world. Informed individuals inspired by moving water will help protect, conserve, and restore its vitality for the enjoyment of future generations.

Ten years ago, in spring of 1996, nearly one hundred rafting guides gathered for a "Rendezvous" on the Rio Grande near Pilar, New Mexico. Two years before, the Rio Grande had been identified by American Rivers as North America's "Most Endangered River" and most did not even know anything was wrong. The basic premise behind the pilot project was to assemble local and regional experts to fill in the personal gaps in each guide's interpretive knowledge of the local watershed so guides would be better informed to educate their guests. Not only was the Rio one of the original eight Wild & Scenic Rivers passed into law in 1968, surrounded by fascinating Pueblo and Hispanic history, but it had some health issues as well.

The keynote speaker, John Nichols, author of the *Milagro Beanfield War*, had been invited to discuss story telling. That evening he approached the head high flames of the bonfire with a measured hesitation and then quickly lit into his audience of guides, recounting quiet and private moments fishing deep within the Rio's deep basalt canyon years before that were utterly ruined by the loud and raucous approach of beer can littering raft guides and their guests. There was an awkward quiet with no interrupting punch line or laughter.

But then his tone softened and he adjusted his stance. "You guides are not the same guides. You guides are different. The fact that you are here and willing to organize this day and to listen and learn about the local history and understand the community other than for your yahoo thrills is encouraging. My opinion of guides and rafting has been changed." He raised his beer and a loud cheer went forth.

The subtle style of his story-telling message still echoes loudly today. From that glowing ember followed additional seminars on the American, Arkansas, and Kern in 1997. The Headwaters Institute's Rio pilot project successfully (1) tested lowered attendance fees and made them affordable (i.e. $20 for three meals and beer), (2) shortened the seminar format to a day or two (rather than 5-7 days), (3) held the seminar on land, and (4) broadened participation to include multiple guides and multiple outfitters at the same time. With increased attendance seminars turned into exciting early season community events, abuzz with raffle prizes and boatman contests, not to mention the renewal of river friendships and tall tales.

The educational lynchpin was an individual coordinator who led the process with the support of a local steering committee made up of guides, outfitters, river managers, outdoor educators from programs like Outward Bound and NOLS, river conservation organizations, and others interested in guide education. The increase in guide attendance, as high as one hundred and seventy-five guides on the Arkansas in 1998, directly translated into increased public contact.

In 1998, the Headwaters Institute joined with Canyonlands Field Institute and the Colorado Plateau River Guides to organize "Desert Waters" here on the Plateau, which was followed by "Life on the Rocks," "Boats and Boaters," and subsequent seminars focused on teaching guides interpretive techniques and sharing information on the multi-faceted Plateau Country. Guide seminars on the Plateau have often been shared and used as an informal national standard for outstanding interpretive trainings, most notably with the longer format that gets more in depth than typical guide seminars

Since 1996, Headwaters Institute seminars have been conducted in south central Alaska near Palmer, California Coast, Deschutes, Futaleufu in Chile, Kern, Uinta Basin (Thanks Herm!), Maine Coast, Maine North Woods, Pigeon, Rogue, Salt, and Snake. Some of these seminars have expanded to train sea kayaking and fly-fishing guides or a combination of professional guides and tourism employees who have potential windows of educational contact with the public. Approximately 3,000 professional guides have been trained at 75 seminars and they have had over 1.5 million contact days with the general public.

Of course the key questions that remain after all this hard work by coordinators and local steering committees is "what has Headwaters Institute actually accomplished?" or "what have those guides told their guests?" It is an unusual challenge to quantify the impact of how interpretation of a "teachable moment" translates into a tangible outcome. An early experiment on the Rio Grande was designed to link guide outreach to their guests' direct donation to outfitter led river conservation efforts, but the concept was short on important implementation detail and clarity that led to its demise on a broader scale. Other informal methods of quantification include guide tips or requests for a certain guide, but in many respects the measurements of an outdoor education program focused on guides

have remained as elusive and mysterious as the guides who have attended our seminars.

Experience reinforces that if guides do not have specialized information about their watershed and the river corridor, they will either say nothing of educational value or they will make it up. Most rivers' depth is "chest high on a duck" and almost all vegetation can confidently be identified by its generic Latin genus, "*greenus besideus*." Of course, that is why it always helps to ask if anyone is a geologist before discussing plate tectonics and advanced theories related to the heat generated by the friction of plates in subduction zones, which creates magma which wells up in an underground chamber before exploding in a torrential gush of oozing lava from a volcano… around a late night campfire surrounding by the mythic women's Swedish paddling team. At a fundamental level guiding is about entertainment.

Yet more so, guides have a unique role as educators in today's American west, whether they are rafting, mountain biking, fly-fishing, sea kayaking, or even Jeepin! The average visitor to a western river corridor does not seek out the snake that an informed guide picks up and points out does not have a rattle. Nor do these guests know much other than any bright combination of stars are either Orion's Belt or the Big Dipper. By the time a guide is asked "Who were the Anasazi and where did they go?" hard information becomes useful. Ask any resource manager about what guides need to teach their guests and almost anyone can lip-synch the mantra "Leave No Trace," but how? If a guest asks "what's the commotion about draining Lake Powell?" or "how much water is lost to evapo-transpiration on the lake each year?" a well-informed guide is at a new level of navigation.

The river conservation promise is that guides can inform their guests about the distinct and riveting issues that affect rivers since each guide has individual contact with hundreds of customers or "customer contact days" (multi-day trips) and cumulatively guides have direct access to millions of members of the vacationing public each year. That is clout.

But how that aggregate clout is managed and applied is another matter. In 1806, John Colter, upon return from the Pacific Ocean with Lewis and Clark, turned around to lead two trappers back into unimaginable wilds of the Northern Rockies. A guiding tradition was born and passed on to the mountain man and subsequent guides, based on basics such as capability, integrity, and credibility. This is an inherited legacy that must be protected and guarded carefully.

Most notably, this promise has borne conservation fruit on California rivers like the American, Stanislaus, and Kern where groups like Friends of the River pioneered "the guide talk" and letter writing campaigns to stop dams, such as Auburn Dam. However, the use of guides for direct conservation outreach is most successful when it is carefully synchronized between conservation organizations and outfitters. In an almost unimaginable scenario, one river conservation organization accessed guides to deliver a message that ultimately tried to limit outfitters' access and numbers on the river. Pull plug. End of message.

The underlying reality behind the conveyance of any educational message from a guide to the public is that guiding and outfitting is primarily a function of customer service. If the client leaves happy, then everyone is happy, and some have unfortunately discovered what happens when a client is not happy. They do not need to be right, but they are the customer.

To the extent that a savvy guide can point our both sides of a complex river conservation issue, great, but customer service awareness needs to be recognized alongside basic marketing priorities or there might not be a positive and glowing word of mouth referral that keeps guides on the river and the company in business. Preaching the gospel according to the river can and occasionally does backfire, since not all are on a river trip to be converted. Most are there to find adventure, spend time with family, and simply be on vacation and away from work and home.

The Headwaters Institute is organizationally separate from conservation organizations' and their often noble objectives, although this distinction was not as distinct in the first years of the program, since foundations paid for the promise of river conservation and directly subsidized the cost of paying seminar coordinators to keep admission costs low and to incentivize outfitters to send guides. It worked for a while, but Headwaters Institute learned it could not deliver on this promise without becoming an advocate of its own, which ultimately it chose not to be.

Today, the Headwaters Institute has its own 501(c)(3) tax-exempt status and remains solely focused on the substantive role of providing a neutral, non-biased watershed education forum for professional guides. A fundamental decision was made by staff, directors, and advisors to stay rooted in the outdoor education community where it could provide the most value and service to the guides who attended its varied seminars and their guests.

Our best example of this conservation-education boundary was a decision to not sign a petition seeking to make Wyoming's Snake River a Wild & Scenic River, when in some respects it was a no-brainer that was supported by the vast majority of locals in Jackson. There was some pressure to do what was popular. Instead, through our local coordinator we offered the use of the local "Summit on the Snake" as a forum to discuss the value and merit of W&S status and ultimately, when Wyoming's Sen. Craig Thomas' office decided to endorse W&S status this past spring, they chose to make the announcement at the Summit. Our program was not the news, but its contents were.

Initially derided as uneducatable or simpletons with no interests other than beer, adrenaline, and late night heroics, the Headwaters Institute tested the premise and proved that guides are in fact different than we once were. Most guides are intelligent, educated, and curious (we each know one or two that aren't, but they don't read *The Confluence*!) and often eager to share what they know for the pure joy and pleasure of watching the learning and understanding that transforms their guests' immediate experience and perceptions of their surroundings. What these lessons hold a week or a month or years later back in the comforts and familiarity of home is not our business as much as it is to ensure that guides are poised to maximize

the potential of their interactions with their guests in the present tense of a guided experience, also known as the teachable moment. In that moment, a hopeful seed of appreciation and stewardship can be planted with intention, but it cannot be forced.

The size of the public education challenge may be daunting and so immense as to engender paralysis, some would say it is a Sisyphean task or a faith-based endeavor. When the rafting industry trends are analyzed and one recognizes that senior guides with more than 5-7 years experience are their own form of endangered species, it becomes clearer that the guide-to-guide transfer of interpretive knowledge is fragile and inconsistent. Guide education seminars are an investment that needs to be shared by outfitters, resource managers, and guides themselves.

Ultimately, when teachable moments are not even recognized or they are actively sidestepped by a timid guide the Headwaters Institute has a clear role and mission. Executing that mission is a big task that has primarily centered on the heavily rafted commercial rivers, i.e. Arkansas, where at least some guides are starting out with interpretation as an active component in their bag of tricks, since low water catches up with us all, no matter where we boat. As those guides mature onto bigger rivers and more difficult rapids in Utah, Arizona, Idaho, and the international circuit, they can safely deliver the payload while telling jokes and making a balanced and impassioned case for river conservation. Indeed, it was the deft touch of a guide on Costa Rica's Upper Pacuare that sparked my own personal river education odyssey.

The guides who are attracted by the value of a professional interpretive training demand a training that is professional and educationally stimulating. To that end the Headwaters Institute has stayed focused and patiently tried to reach out and educate each participant of our varied seminars at their personal point of curiosity and expertise. While challenging and far from lucrative, the results are tangible and real and the seminars are often fun and inspiring. Thousands of guides have taken our seminars and become *River Jedi*, knighted with the educational tools to begin interpreting their watershed.

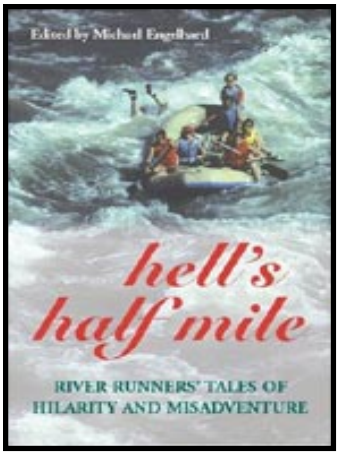
Please consider how you might take the idea of educating guides and personally providing your own leadership in watershed education. If done well, the rafting and recreation industries may benefit and more people who come to rivers for their renewal might someday become a national populace that is watershed literate.

Book Review

Hell's Half Mile:
River Runners Tales of Hilarity and Misadventure

by Michael Engelhard
Breakaway Books. 272 pp. $15.00

Nearly every night spent in the canyons on the banks of this river or that one, a magical thing occurs. Deprived of televisions, radios, computers, and playstations the ancient art of storytelling is revived. These river stories recount scenes of humor, disaster, heroism and depravity. With each telling the wave often becomes a bit larger, the boat a bit smaller, the bear a bit taller.



In guide and author Michael Engelhard's new book, **Hells Half Mile,** he has compiled some of the finest examples of this tradition. Some of these tales have been published before, while some are making their first foray outside of the campfires glow. Some come from the likes of Edward Abbey and Katie Lee, while other tales recount such misadventure (and even questionable legality) as to require pseudonym's such as Eddy Fence. To be sure, this is no inside joke. The contents of this collection will leave everyone from the most experienced boater, to the complete novice laughing aloud and eagerly turning the pages.

On the river these stories are recounted for a variety of reasons. On the first night of an eighteen-day expedition Michelle Murray's lighthearted tale, *Binkler's Butterball*, would serve to break the ice between a group of strangers about to spend three weeks together. Below the Big Drop rapids of Cataract Canyon stories such as Christa Sadler and Dave Edwards *High Water* will remind commercial customers of the skill that was required to "make it look easy". For episodes of forgotten gear, there is Karen Jettmar's *Hell and High Water*, the tale of a river trip in which nearly everything but the boat was forgotten!

In putting together this collection, Michael has done the river community, and all lovers of the lighter side of nature writing, a great service. Putting these stories together is an idea many have had in passing, many thanks to Michael for making it a reality. Whether breaking the tension above rapids at high water, or simply reveling in the glory and mishaps of those who have gone before, this book is a must have for book shelves and ammo can's alike.

Kealan Partlow

Three Poems By Deborah Hughes

LIVING LIQUID

Many people are not aware of the fact that the volume actually occupied by water molecules in a glass of water is very small, perhaps 1% or less of the total volume…the rest can be considered as empty space. Because of this large, empty space, the molecules of water enjoy large movement. – Luigi Luisi, Chemist, from "Gentle Bridges"

I would live like water

Always moving downstream
To satisfy the virginal void
That binds my bones.

As I open wider, grow lighter
I would be sucked and nursed into sky.

I would accumulate, condense
With white grasps then gray
To fall once more through my own emptiness.

I would gurgle and swirl down gullies
That gather the trickles from torrents,
Fill depressions and overflow,
Chase gravity through the lap
Of this liminal landscape
Back to the river.

VIRGA

Leaving lay the heavy,
Carving pseudonyms in sandstone,
Rain gives up to gravity
In its desire to join with river.

Wearing only sandals,
Carrying only water,
I wander down dry washes
In my desire to join with river.

I am just another veil
The river wears
To woo the rain
Into its bed.

FEMME FATALE

Listening beneath the surface –
Gravely voice
Never quiet, babbling, bubbling,
She channels, floats, levitates
Inflated water craft,
2 foot draft.

Reaching flood stage,
Cycling back
Never holding back
Her indelible current,
She moistens, envelops, laps
High water mark
20 feet above.

A search for the spring –
Divining rod –
Never yields her source or depth.
She disappears underground, dark
Cave dwellings
2,000 years ago.

The river,
Never satisfied
To be a lake,
Composes, carves pseudonmyms
In sandstone at
20,000 cubic feet per second.

Two poems by Brett LeCompte

Cobble Tales

Like ancient black seeds
clustered together
on high, blond, alien sandstone,
lost cobbles
strain o recall
a jagged, icebound homeland
known as
Mountain.

In hushed whispers
beneath a sun too hot and dry,
they speak of their savior,
a mythic being
of thick, cool, liquid wind
called
River.

The cobbles remember
the pilgrimage:
tumbling together,
smoothing youthful rawness,
collecting wisdom.
They cry,
“Why have you abandonded us,
O’ Blessed River?
Return
and take us into your arms
again.”

Insolent sandstone mocks
the mournful cries
of the odd, rounded Old Ones,
yet also dreams of an afterlife of oneness
with
Ocean.

Sleeper

You first appear
as a distant ripple
in the placid river
stretching before me.

Curious
I row over.
Yet, the upwelling reveals
little of it’s core.
Rock of water?

Forsaking safety,
I surrender
to the powerful current
and enter
the turbulence.

I drop into swirling water
and submerge
and surface,
dazzled and drenched,
happy and scared,
fully alive.

I seek an eddy,
yet the current
tugs me downstream,
There is no return.

Looking back,
the broken waters
catch the sunlight
and the roar chases me
as I drift
away.

River at Heart

There is nothing
ordinary
about this evening

There is nothing
small
about this thin edge of time

of sleepy smiles
tumbling across a sleeping bag
and a river roaring by

there is nothing
ordinary
about this journey

there is nothing
ordinary here
just kisses and carresses and sighs

a few teardrops too
and
a river at heart

Doug Oblak

Four Poems by Greg Trainor

Rippling Brook

There is
a cool, steep place
where pool, green, and deep clear
draws fool to swim without clothes, Ripp
Ling Brook

Rivers.

I think I need a river, lover, friend.
Voice of quiet, soothing bend
Embracing, flowing, surrounding trend.
Rock in the rill, I wait
Silent.

January 29, 2001

Poet's Lyric

Withdrawn from their times persons, not the same, each with a romance to be wooed or a whim to be amused, take their hand, cast by fortune, and play. Not to hide but to seek.

Deep in the tortured canyon realm, a thread of water too flowing to be wooed or amused. Stitch lives together and carry each to their answer sought. A

Poet's lyric, Two's union, a Rower's fancy, a Father's dream, a Friend's mending, a Career's ambition.

To find an opening in the punished wall, an opening almost always in one's own mind, may be helped by Canyon's rift along water's thread and fall.

September 8, 2002
Grand Canyon, June 1 -June 18, 2002

Tapping to Time

Some call it the blues
tapping to time in shiny, worn shoes.
Delirious like Bush's "Stingray" mirth,
or sober like Monroe's "My Last Days on Earth".

Fingers on the mandolin's taut strings
thoughts of heroes and friends they bring.
Visions of canyon water or mountain cliffs,
deep down or lost in the mist.

Whirling feelings or brooding meditation
from twisted fingers incantation.
Soul's earthy connection bound,
or of mind's confusion peace be found.

The minor chord, its haunting shade,
conjuring magic of euphoric plans made.

Journal of Otis "Dock" Marston: Moab To Hite

Diary: March 28 to April 4, 1964

Special thanks to Roz Jirge and the Marston Collection at the Huntington Library.

Note: Brackets are notes from the editor, John Weisheit. This was a trip done in Sportyaks.

Bill Belknap and I arrived Moab by VW March 27 - space in Bowen Motel - checked in with Bates Wilson - lunch at Arches Café - saw Sam Taylor at Times-Ind - Connie Cauntly [?] - Bill left for G. Jct. to get Buzz - Jorgen Visbak & the Culps ar. about 4:30. Helen Stite & the Arps [?] reported arrival at Apache Lodge in the evening.

March 28

Early breakfast & we were at the dock above the bridge before 9 AM. Tex McClatchy had his 29' MAJOR POWELL and a small Buehler [a jet boat] in the water. Stite, et al were soon in. Connie carried our gear to the docks and it made a good fit on the boat.

Lloyd [blank space] drove the Buehler. We were away about 9:30 with the Culps riding in the Buehler. Just at the Portal the Powell rode onto a sand bar & we were fast. All passengers finally unloaded into the Yaks & an hour or more of strain & grunting freed the craft. Gene Culp fell & was wet to his waist line.



Marston near Cove Canyon (now submerged)
Photo: Belknap's Canyonlands River Guide

The riding was cold & everyone covered all they could but Gene's cold bath was a little too much to compensate.

A stop for lunch gave an opportunity to get warm.

We were at the Junction at 2:45 & Tex showed us a Kolb name painted on the wall at LB of Green about 200 yds up from confluence. I finally found the boulder with the other inscription where the DEF and a 5 were very plain.

Tex landed us at Mile 212.8 LB and was on return trip by 3:40 PM.

Buzz napped while 3 of us headed up Butler Canyon [Lower Red Lake?]. A definite trail took off up the left hand wall and approached the wall at the head of the talus - then disappeared. No markers were on it & it was probably a deer trail. We were back at camp about 6 PM.

More than enuf dinner which reduced the worry over bulk.

Easter Sunday - March 29

Cold night down to about 25 with a frost. Bill was up at 4 to build a fire and shift his covers. Jorgen & Bill slept cold but Buzz & I did not suffer.

Buzz had a box of candy eggs to celebrate. Temp was 28° when he got up. There was a 1/4" of ice on the bucket. Sun was welcome in camp at 8:30. Water 42°. Later measures raised some question on this temperature as a noon measure below Rapid No. 2 was 57°.

After much packing of gear we were away & crossed to the 1st Steamer MAJOR POWELL inscription just below the lower end of Spanish Bottom. This sign is one of the largest inscriptions.

A current of about 3 mph carried us to head of No. 1 RB & we ran it after a looksee.

Landing at head of No. 2 RB showed us a course that could be run but we lined 100' RB before running the lower end.

Lunch at head of No. 3. Half way down this rapid on upstream side of boulder 6' higher are faint initials - HW.

We ran No. 3 and landed LB. What is an island along LB at higher stages was now a part of LB with a small pond in the water course.

It appeared that either side canyon at 211.5 or 211.2 could be climbed.

Above the beach at 211.75 and about 2' elev. above the River were the two springs found by Bob Cox. One was running about a cup a second.

No. 4 was easy & we ran its long course.

No. 5 was rough & rocky & we lined it on the right.

We did some looking for No. 9 opp. a side canyon but with no results. Just below on LB were small caverns which could have been Gun's [?] "CATACOMBS".

We landed RB just above a side canyon RB & an S rapid for a fine camp.

This camp was 150' above the head of Rapid No. 7 & we could see No. 6 upstream.

Monday - March 30.

Cool night with some dew but all slept warm having gained technics from the experience of the night before.

We looked over the long S of No. 7 which showed 2 courses. Bill & Buzz ran the course close to RB. Jorgen & I crossed and, after more search for No. 9, we lined 100' of LB and ran out the remainder.

No. 8 was easy. We found more "CATACOMBS" at the head of this rapid LB.

We stopt at the head of the "BIG FLAT" starting above Y Canyon & lunched in the shade of a large boulder. I walked back above No. 8 to search for a McCormick pix [photographer for the Best Expedition].

As we cleared the beach we saw bodies moving on the beach at the mouth of Y Canyon & found Kent Frost & 3 others who had walked down Y. Kent tried out a Yak & was sold.

Rapid No. 9 was easy & while talking with Kent, we recognized the McCormick pix.

Rapid No. 9 had some waves about 5' high & a clear course down RB. I broke an oar lock at the head & thot I

was due to get rolled but managed an easy run.

At 206.85 we saw no rock which could account for the Hoover-Peterson tragedy [refers to a boating fatality that occurred circa 1960]. We did not stop & I forgot the A. G. TURNER inscription.

Noted the side canyon at 206.2 LB. The islands shown on the map below 206.85 were gone.

We landed above Rapid No. 13 LB & Bill found the [drawings of inscription] signs which are opposite the down River side of Range Canyon & 30 - 40' above the River. Bill thinks the baloney could have hit one of the big boulders here & this theory seems logical.

There is a chimney in Range Canyon on Up River side which may have been Hislop's route. The bottom of Wide Valley & Range Canyon looks very difficult.

Tuesday - March 31

Night was warmer with slight breeze and a thin overcast. We have had difficulty with the lack of strength of the salt from the fancy shaker & this morning Buzz discovered it was sugar. We had almost adjusted to this change.

[Written at bottom of page: There were passengers with Pat Reilly last year who were highly critical of the food he served. Bill Belknap 3-30-64 Cataract Canyon]

The confusion re rapids between 205 & 204 remains as there is one too many rapids at the stage we are riding.

We moved down to No. 15 which is the point of loss of the Best Exp. boat. We located all of the inscriptions which have been listed. We found a faint R.G.F. near the rk. where his name & date are [written in left margin and circled: "F.G.F. not R.G.F."].

No. 15 was lined & portaged at LB.

The BEN HURT was atop the island at No. 20 & is a complete wreck. The transom was completely gone, the sides torn and the whole hull structure broken near the bow.

We took the left channel of No. 20 & Bill claims a run without getting out of the Yak. There were some brief pauses enroute.

The Hoover-Peterson oar was not seen [a memorial].

Calf Canyon offers no route out.

We ran No. 21 EXCEPT a small section along LB near the foot - lining & short portage.

At No. 22 Buzz liked a course on the left & made a fine rock & curling wave dodging run. The remaining three saw a course along right side which ended as Jorgen would say "DOWN THE GRAND MIDDLE [printed in the left margin is: DOWN THE GREAT MIDDLE]. When we got into it there was a strong drive against a boulder with a cushion wave that worked for me but not for Bill & Jorgen. Bill pulled left & avoided it. Jorgen slammed the rk & capsized. Bill took about 5 gallons & I was awash - praying for the shields that had not arrived. Jorgen ran the boat to shore but it got away and ran thru the riffle which is the lower end of No. 22. I had dropped thru this & was fairly full of water but bailed most of it & recovered the derelict.

We camped on the beach RB where the Kolb's camped when Emery was sick.

Jorgen's camera is wet but seems to be recovering.

Bill found a 2" Leica lens.

No. 22 is in 2 sections at this stage with 100 - 150 yards of slack water in between. This has led to confusions. The SLICED BOULDER is at the foot of the short lower drop & opposite a point about 200' above our camp. The bottom of the lower slice is about 1' above River level.

Correction - DOWN THE GREAT MIDDLE

Losses in the capsizing were Jorgen's cap and an oar which broke the lock.

Wednesday - April 1

Warmer night with occasional overcast moving in. It is overcast & clearing this morning. The Kolb inscription was sighted by Jorgen just above our camp.

There is one shrub on the point LB at head of 22 - none at lower end or at 23.

Wed. April 1

We photographed the Kolb inscription. It was a rather large undertaking for Emery to climb onto the ledge & do this paint job. A Hatch party register was in Hill & Hill bottle atop the milk can.

Rapid No. 22 & Rapid No. 23 each have two sections at this low stage & the Sliced Boulder is at the foot of the lower drop of No. 22.

We lined No. 23 & moved down thru 24 & 25 & pulled in to look at No. 26 when a storm hit hard with rain, wind, snow & hail. I tried to start a fire while the others crawled into wet suits. Bill pulled me into one & the warmth improved the complexion of things.

We took off after lunch. Jorgen & Bill decided to nose & line 26 but Buzz & I took on wet - very wet runs.

We lined the rapid just above Waterhole Canyon & camped upstream from the outlet.

Another storm hit when we were lining & another after we got into camp. The latter one stayed with us but there was little wind & a continual sprinkling of rain.

Thursday - April 2

Could not locate the White [Georgie White] register nor the seam of jet [?]. There was a small wind hole at the plunge pool 150 yards back from the River. There are cross canyons here.

Stormy weather delayed departure until almost 11. A bumpy course invited a run of the rapid below & we all took it on.

Gypsum was an easy lining. Buzz ran most of a bump course LB.

Palmer Canyon was a bumpy course on left side of the island.

Rain & wind stopped us for a fire on RB above Clearwater. There was a site here that had not been worked. Everybody was cold. The rapid was lined by two & Buzz ran his Yak & mine for a sneak course RB. Broke a lock on my Yak.

Bowdie was rough & was lined.

We moved down to camp in side canyon LB about

188. Little wood in this section; a stream is running.

A cave offered some protection. The overcast cleared about 9.

Friday Apr. 3

Rain started again at 4 AM & fire was a problem. Buzz slept in the open & was wet. Rain was not steady but there was no drying of anything. It was difficult to get started.

We noted the cross canyons where Ellsworth Kolb climbed to the top both sides in 1921. Search for the large painted register, the art work of La Rue, revealed nothing to us.

There was a lively riffle at Cove Canyon and the fan stood about 3 to 4 feet above the River.

Search for D. Julien 1836 was successful when Bill sighted it. It was as described by the several observers and showed its age. The observation by second to note it was confirmed. Much photography must have put it in the record by film.

Mile 184 Rapid was very rough & we lined it. The rainy weather made the slide scar very brilliant. We ran No. 44 and nosed & lined No. 45 where a red flood was coming down the creek. There was a sharp drop at the bottom which got lensing for the lining job.

This type of operation proved the worth of the wet suits and Bill's suggestion to bring them deserved the orchids.

We ran the rapids below which were absolutely were plenty lively & added water loads in the boats. Island Rapid had a big island at right & called for a run close to the cliff at left bank.

We noted the Hoover-Peterson painted marker at upper side of Sheep Creek outlet & started a run of the rapid. All but a narrow sneak course at right was a mass of holes about 4' deep and no place for a Yak. The sneak course had two small eddies where the Yak stopt & it was necessary to row out but the run involved no hazard if this course was maintained. Bill landed & ran back to warn Jorgen while I coasted below in event he did get into trouble. He came thru smiling.

We stopped at two warm sulfur springs at Mile 173 RB. In the lower one it was possible to row into the pool of clear, bubbling water.

We camped at Mile 171 LB among the rocks where there was plenty of wood. The drift in this section had been scarce.

The weather couldn't make up its mind whether to clear or not.

Saturday - April 4th

We were up early. It had rained slightly but showed signs of clearing. Everybody kept busy & we cleared at 8:10 on a smooth River running about a 1 mile current.

There were two small sulfur springs at about Mile 171 RB which came from higher up than River level. Stanton mentions a small spring in this area where he camped & Brown came up River for a talk with him [the Frank Brown and Robert Stanton railroad survey of 1889].

We picked up a good current at the Dirty Devil which had some flow.

At North Wash the riffle gave a good ride & below it, current increased so we were making up to 5 & 6 mph.

At a mile above the airport we greeted Slim [blank space] who was fishing but told us we could not land our Yaks at the strip because of the mud [possible reference to the new reservior, Lake Powell]. He offered to drive his pick-up down to the ferry & drag our gear back.

We landed at the Ferry at 10:35 & Slim left as Woody Edgill took charge. We dragged boats out & sorted enuf gear to clear Bill & Buzz.

At 11:15 Bill Wells circled overhead & Woody drove us to the strip for taking the Belknap duo out.

Back at the Ferry we loaded Yaks & gear & took all to the store, had a beer - then took a Yak to the strip & left a note for Al Culp.

At the store the Nielsons drove in & we rode their jeep down to the ruin. Just as we left them, Al flew over & Jorgen & I started to walk to the strip. 250 yards below the strip we met Al, his son Gene & a friend, Shelly.

Woody appeared in his truck & we hauled gear to the store, then returned to the plane, flew up over Cat, the Standing Rocks, the Needles, the Dirty Devil & returned to Hite.

Dinner opposite the store & to bed in & out of trailers.

Sunday - April 5th

We cooked bfst. opp. the store and soon Bill drove in with the VW. He had left Moab around 4:30 & hit some snow over the mountain.

We sent Culp, et al off & were about ready to move out when they returned due to heavy rains over the Junction. They then saw us off as we crossed the Ferry.

We stopt in Hanksville to see the Robinson's & Barbara Ekker. Edna knew the Stevens who had run cattle in Stevens Canyon - Albert Stevens.

We stopt at Harry Aleson's at Teasdale for dinner finding Dean Brimhall there.

Over the mountain in a snowstorm put us in Richfield for the night & we reached Boulder City at 2 PM, having visited Juanita Brooks in St. George.

End

Glen Canyon: The Living Heart

A Diary:June 20 - July 16, 1955

by Gus Scott

From a typewritten manuscript translated by Kealan Partlow using optical character software. Brackets indicate editor's comments. The diary makes a contribution to the inventory of biological and cultural information prior to the filling of the reservoir in Glen Canyon. It also has the merit of being a very fine expedition. Gus lives in Prescott with his wife Sandra and visits Canyonlands to enjoy his many friends and the Colorado River.

June20 - Mile 162.4 RB (Hite): Joy of joys! At last I am on the Colorado again after nearly a year. Last night was spent at Hite after a hell of a rough ride down North Wash late yesterday. We had left Phoenix about 8 o'clock Saturday nite after Robert and I had spent 3 days getting the boat & equipment in shape. Sat. nite Robert & I stayed in the Townsend campground while Dad & John [brother] stayed in Flag. I was sorry it was too late to see Dick [Sprang; artist of Batman comic books from Sedona] & Dudy [Thomas] on way up. We have a hard time tracing the dried food down in Richfield, but find that Selida Hansen had picked it up for us and it is at the Johnston Hotel. I had had the food sent to me c/o Harry [Aleson] in Richfield. We waked several men up who were in one of the tent houses getting in last night. This morning I find he is Jim White and is waiting for a group of 50 boy scouts to come in which he plans to take down Glen tomorrow. He talks to us while we eat and tells us much of Glen & its canyons. He said he was mad at [Elmer] Purtyman about the story which came out concerning his pilfering of Purtyman's supplies when they (he & Georgia [Georgie White]) kicked his boats lose in Grand last summer. He mentioned a proposed run with 30 through Grand this summer when he gets off his 10 day Glen trip. He says he is taking 30 so that he will have taken the largest group through Grand, which will make Frank Wright mad. He said F. W. was already mad at him for some reason unknown to him and had completely ignored him several times on the river last year. He tells me Harry should be getting off Glen and then plans to make a San Juan run. I also met another man & his two sons who will be going down with Jim & the boy scouts, but whose names I have forgotten. Robert & I pump up the boat & get it loaded while Dad & John swim in the Colorado. The Colorado is said to be running about 30,000 cfs and so is the highest stage I have been on it. Rubin [Nielsen] brings down the book for us to sign. Rubin, Mr. White & his 3 companions. Dad & John watch us depart about 11 o'clock. Dad & John will be going out via Blanding and I hope they have an easier ride than they did coming in. The water is quiet for a short while & then we hit a few riffles. At Mile 160.4 we take in some water when we hit a wave sideways. Twomile is a nice run, but Fourmile isn't much this



Robert Robertson and Gus Scott.
A couple of Glen Canyon explorers looking for a little adventure.

year. At Mile 157.6 RB we stop for lunch. While I check my notes after lunch, Robert collects 5 plants for the plant press. While we drift slowly around the Horn Robert & I take a dip. We drift past the 3 Moki Graneries on the LB at Mile 154.7 or .8 before we realize it and stop at Mile 154.0 RB to get out of the sun & go to sleep. No island here this year. Drift on down to Mile 150.8 LB to look at what appears to be an old placer outfit. Drift down to the "Hermitage" [Bert Loper's cabin] at Mile 150.1 where we hoped to spend the night. Spot a Coot (Fulica americana) on way down. There is a "private" sign at the top of the banks, two trailers by Loper's cabin and a family living in the cabin several hundred feet upstream from Loper's cabin. In '53 no one was living here and there was some corn in the field; in '54 there was a barbed wire fence around Loper's cabin; and this year sev. families are in here and the fields are cultivated. What will it be like next year? Don't go to the ruins on the LB at Mile 150.3 but push off to try & find a good camping place. The riffle at Red Canyon is nice & snappy. We pull in on the RB at Mile 148.9. After dinner 5 liferafts with 9 people float past us. They ask where Ticaboo is and say they plan to stay there for the night. See them land above the rapid. Go to bed early and tired.

June 21 - Mile 149.0 RB: Last night we noted sev. very pretty lizards with a black collar (not true collared lizard) and an orange head. We see them again this morning along with some brown ones, much quicker & with longer tails. We haven't identified either yet. After breakfast we drift on to Mile 148.6 where we land to go up Ticaboo. No sign of the 5 boats that landed here last night. Hike up Ticaboo to remains of Hite's cabin. Stopped at spring entering RB about 2/3 way up. Numerous small fish and tadpoles in pools. Main rock in streambed is andesite [granite from Henry Mtns.]. Chimney and some of the foundations is about all left of Hite's cabin. We look at the two graves about 100 feet north of the cabin. Which is Hite's [John Hite died in 1914]? To whom does other grave belong [John Dehlin, who died in 1934]? Robert & I leave record of our visit in one of the 2 jars in chimney.



"Wheel" at Good Hope Bar

Robert Robertson
Gus Scott
Spending 4 weeks in Glen
June 21, 1955

See Dick & Dudy's record of Oct., 1952. No record of last night's party. Go to see nice group of petroglyphs on rock 200 ft. west of cabin. As we start up canyon meet 7 of the party that past us last night. They ask us to tell the 2 behind to hurry up. We see a location mark on a rock:

LOC STAKE
CONNIE #7
?*00 YDS. EASTERLY
* Not sure if 1 or 4

Another location marker further on:

CONNIE**
#11 | #10
#9 | #8
** Not sure of numbers or order.

About 3/4 mile past cabin stop at beautiful pool where there is an old corral. A woman is waiting there for a man who had gone further on "to look for Hite's cabin." He soon shows up & introduces them as Phil & Genny. They are with the group of 9 and are spending 10 days in Glen. Robert collects some Physa from the pool. On the way back we show them where cabins, graves & petroglyphs are. This is 3rd trip in Glen for Phil and he had been to the cabin before but had forgotten where it was. Stop at spring. Robert collects plants on way back to boat & we see a beautiful leopard lizard (Crotaphytus wislizeni). Below Ticaboo on RB we see where party of 9 stopped. Jim White and his party of 50 scouts pass us just below Ticaboo Rapids. Robert & I do some swimming as we drift down to a stop on Good Hope Bar (Mile 144.8). See where road has been taken down to Rincon opposite Good Hope. The river shows more signs of civilization each year. Too bad!! I hike back 1/3 mile up bar to ruins of old cabin where Seabolt had placer outfit. On hike back I find large wheel about 3 ft. in diameter with a chain attached. The cabin (Mile 145.2) which only has parts of the walls remaining, is near the upper end of the bar under a grove of Cottonwoods. Near the cabin are numerous wooden post in ground, a plow, sev. pieces of metal & an irrigation valve under the Oak trees nearby. Collect plant on way back to boat. While I was gone Robert heard group of 9 pass. Drift to Mile 141.8 LB where we stop at Mummy Spring for lunch. Spring comes out about 10' above water line & 150' below large boulders which go into water. Mummy, named after rock formation directly above on cliff, is one of the best springs on the river. Robert collects water cress. Find two cow vertebrae, probably lumbar, & scapula near spring. Stopped at Mile 140.7 RB upstream from canyon to look for petroglyphs Dick gives at 140.6. Find record left by Harry & Art on rock near boat.

H. L. Aleson & Art Greene
May 19 1946 May 1946

We cross canyon but find no sign of glyphs. See Collared Lizard (Crotapyhtus collaris). Find 2 Chuckwallas (Sauromalus obesus). Surprised to find them up this far. Decide to camp here for the night. Numerous bats out after sunset. Go to bed soon after dinner.

June 22 - Mile 140.7 RB: Many of the brown, long-tailed lizards near camp. After breakfast float to Warmspring Creek (Mile 136.7 RB). Hiked into Warmspring. Nice pool 1/3 mi. up with fish 3-5" long. About a mile up cleft breaks LB wall. Walked in cr. most of way. Numerous tadpoles & leeches in stream bed. Little over 1 1/2 miles up stream forks. We take left fork (main stream) to pool at end about 2 miles from Colorado - where we swim & have lunch. Pool is long & slender, about 30' x 10', & under dry waterfall. Pool & stream supplied by 200 ft. of seeps around. Shout prezygapopysis and other words which have probably never echoed from these walls. On the way back I go up rt. fork while Robert waits in shade. Ends in 1/4 mile in pool (20' diameter) under dry waterfall about 60-75 feet high. Get to top of waterfall by going up talus on rt. bank. Above waterfall is flat area & then another dry waterfall over which I couldn't climb. Collect plants on way back. At mouth we find 13 explorer scouts from San Diego in 3 7-man boats filling up with water. Spending 10 days in Glen. First time for all 13. Drift past Tapestry & then stop on Olympia Bar (LB) to look at old waterwheel. Above waterwheel is old pipe, ties of railroad track, & wheelbarrow. Further back on bar are more railroad ties, railroad oar car (manufactured by J. H. Montgomery in Denver, Col. USA, shed for car, and a carriage type of scoop. 14 nuts on wire in car, take one. Robert finds sev. pieces of petrified wood. Stop at Knowles Canyon (Mile 134.4 LB) to look for a possible campsite. Find spring mile up canyon on LB hill. Numerous cattle tracks. Decide to drift to Forgotten for the night. See 3 cows on LB hillside. Stop below mouth of creek first & have a hell of a time going thru oaks looking for campsite. We pull boat back to mouth where we camp on right bank of stream. Nice open area for camping but have to cut a 25 foot path thru brush. After dinner go to cairn built by Dick, Dudy, & Harry in Oct. 1952 at foot of cliff to see record of their visit.The following is a copy of the record left by Dick, Harry, and Dudy at the mouth of Forgotten in Oct., 1952. The record is on a piece of Canyon Surveys notebook paper.

To whom it may concern:

This canyon traversed from mouth to head (10 miles+) and return by undersigned Oct. 23-24-25, 1952. For length and drainage system refer to USSCS aerial photo, Symbol COG, 3 - numbers 161 & 149. No map reference can be given since no map known to us charts the course of this major canyon. It is believed our is first complete traverse made. Previously unnamed, we suggest it be called "Forgotten Canyon" as proposed by Dudy Thomas in 1951.

For further information write: Canyon Surveys, Richfield, Utah, or Sedona, Arizona.

If you hike this canyon please write us details of your finds for comparison with our own, and exchange of information.

Please record your visit here on back of this sheet.

Dick Sprang
Harry L. Aleson
Dudy Thomas
for
Canyon Surveys



Canyon Surveys symbol in cliff above cairn. Also in bottle in cairn was record of Dick and Dudy's visits to Forgotten.

Record of visits here by Dick Sprang, Sedona, Ariz.

Oct. - 1950 - Passed
May 9 - 1951 - Hiked to first narrows
Sept 23 - 1951 - Hiked 1/10 mile past 1st narrows.
Oct 23-25 - 1952 - Hiked to head (3 days up & return)

Record of Dudy Thomas, Sedona, Ariz,

Oct. 1950 - Passed
Sept 23 1951 - Hiked 1/10 mile past lst narrows & up R. hand fork.
Oct 23-25 1952 - Hiked to 5 mi. of head.
Pard - Shepherd dog
Micky - Am. alley cat
3 visits each

Several Violet-Green Swallows (Tachycineta thalassina lepida) fly over camp. 5 cows graze in open area and more up canyon.

June 23 - Mile 132.1 LB (Forgotten Canyon): Rest day. Sky is overcast this morning so we decide not to go up Forgotten, but rest. In morning we go to look at some fine intricate petroglyphs about 70 feet long on wall under overhang between Forgotten Canyon & canyon at Mile 132.3. Here is old Moki Campsite. Numerous bits of pottery & flint on ground. Two metates in place. Take piece of pottery. Also on wall are some initials: L.H.B., D.E.R., W.B, F.M.G., and E.P. & DS. In afternoon Robert & I go up canyon at Mile 132.3. Sandy stream bed dry except for pools in upper end. Ends in 1/3 mile from Colorado in dry waterfall. Go up over sand dune to ledge (on right bank) where I leave a small pile of rocks. See what looks like wall of ruin on opposite side. Go up sand slide where Moki Steps lead up wall. Go up Moki Steps 6' - fail to reach the top. We return to camp. We go swimming & cool in mud, in late afternoon I take Stebbins [book on reptiles] down to identify a toad buried 1/2" in the mud as Woodhouse's Toad (Bufo woodhousei). More bats out tonight. After dinner we

walk into mouth of Forgotten.

June 24 - Mile 132.1 LB (Forgotten Canyon): We straighten up camp after breakfast & then hike into Forgotten. Wade in stream most of time. About 1 mile up come to first narrows & 8 cows (5 adults, 3 calves) which we have chased up canyon this far. When we come upon them they rush madly past us back down canyon. 50-75' through narrows. Water only near chest until near end where we must swim. Part of tree between canyon walls above us where it was washed during flash flood. l/10 mile past narrows come to jct. of 2 forks. We go up rt. fork about 1/2 way to end before way is blocked by large boulder. Inner canyon very narrow and slanting with water seeps on both sides. We return to jct. While Robert waits at jct. I go back thru narrows to find way to get on top of ledge of inner canyon. Around 1st bend from narrows get up RB wall with help of sand hill & rocks. Go along ledge 30-50 feet above creek to above jct. Go over Moki Steps enlarged by Dick, Dudy, & Harry above narrows. Continue along on talus up r. hand fork to above place where boulder blocked creek, where I drop to stream bed. Follow bed to box end - 1/2 mile from jet. - where there is a large sandy area under dry waterfall. Return to jct., dropping over boulder, down stream bed. Eat lunch of sardines with Robert. 200 feet up left fork is 2nd narrows at foot of 15-20' waterfall. At jct. are two sets of Moki Steps for getting into left fork. 1st series directly at jct. between two streams is impossible. Second series which climbs r. bank wall just inside r. hand fork are possible. Decide to try narrows first. After wading 40' thru water - swimming last bit - climb waterfall by wedging myself in & pushing up. Few pools above waterfall, otherwise stream is dry, There were footprints to jct. & up r. fork to boulder - no sign of them above boulder or past 2nd narrows. In less than 1/4 mile canyon enters from left. Follow canyon 3/4 mile to box end. Large pool under dry waterfall with hydraphilids. Investigated possible petroglyph on wall of RB in last bend before entry into main canyon. Chipmunk. Back down waterfall to jct. where Robert is waiting, having built dam while I was gone. Head back to camp. Robert collects more Physa (freshwater snails). See beautiful orange dragonfly. Out about 3:30. Rested around camp before large dinner. Flys bothersome. Have campfire & try to get diaries up to date.

June 25 - Mile 132.1 (LB Forgotten Canyon): After breakfast pack up for trip down river. Leave record of our visit to Forgotten in bottle in cairn with Dick, Dudy, & Harry's record.

> June 24, 1955
> Robert Robertson - Hiked past 1st narrows & way up r. hand fork. Gus Scott - Hiked to end of r. hand fork through 1st narrows and past 2nd narrows to end of first canyon on left. (?) Camped on bar night of the 22, 23, & 24th.

We shove off and have a hard row to try & get across to Smith Fork. Land at mile 131.8 RB. Carry 1 2-gal can & canteens to be filled with water. Stop at large group of petroglyphs on wall at Mile 131.9. Fill up with water at mouth before hike into canyon. See hidden Moki House on L.B. ledge just inside Smith Fork that Harry mentions (LMOC) [Lone Month on Colorado]. Wall to west of house on brink of ledge. Robert & I continue up Smith Fork about 2 miles. On the way back Robert spots a snake but it disappears in some brush in the stream before we can catch it. 1/3 mi. from Col. R. on R.B. wall see series of Moki Steps Harry records as having seen in 1947 (LMOC). They are on the bend, starting behind the oak trees. Climb them only 25 feet. No sign of Moki Granary on LB 1/3 mi. up Harry records (LMOC). Return to boat with filled can & canteens and drift to canyon entering LB at Mile 130.2. After lunch we start up canyon. Very brushy near entrance on bar. After much work get into canyon. About 1/3 mile in is nice pool with beaver dam near. 3 large trees nearby downed by beaver. Human footprints to pool, not past. From ledge near pool spot Moki Steps on opposite wall (LB). They start from the top of a sand & rock slide & lead to ledge above. Very steep & dangerous. Whatever is on top ledge will probably be new find for whiteman that climbs steps. Continue up canyon in stream most of time. Stream bed dry first 1/2 mile. Many signs of beaver for 1.5-2 miles. 2 miles up Robert spots snake; we catch to try & identify. Pupil round, chin shields, anal plate single, ventral scales larger than dorsal, dorsal scales keeled, caudals entire (?), 8 lower labials, nasal plate divided, 3 post orbitals, 1 pre-orbital, no rattle or pit, loreal, and no prominant vertebral or lateral stripe. Excreted substance similiar to garter snake (Thamnophis). Probably same. Silvery-grey color. We follow inner canyon to end where there is a waterfall about 12-15 feet high. Canyon boxes just above fall. We don't climb, but would be possible. Leave cairn on boulder near end. Go up talus 1/3 mile from end to get above inner canyon & on top waterfall. Talus above comes down to rim of inner canyon. Follow around about 1/2 way to top of fall before deciding to turn back due to late hour. However, possible to top waterfall this way. Return to camp at dark. No further sign of Moki. Have large dinner & then go to bed.

June 26 - Mile 130.25 LB (Beaver Canyon): After late breakfast straighten up camp to leave. Prepare record of visit to leave in cairn at mouth similiar to that left by Dick, Dudy, & Harry at Forgotten,

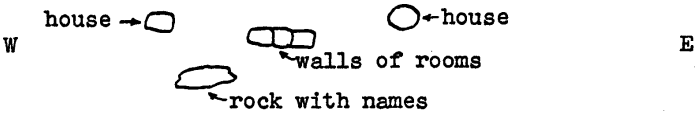
> To whom it may concern:
>
> This canyon traversed from mouth to head (3 miles +) and return by undersigned June 25, 1955. For length and drainage system refer to USSCS aerial photos, symbol COG, 3- numbers 160 & 170. No map reference can be given since no map known to us charts the course of this canyon. Ours may be first complete traverse made.
>
> Please record your visit here on back of this sheet.
>
> As far as is known this canyon is previously unnamed.
>
> Gus Scott
> Robert Robertson

Beat way back through brush to leave record in a Henkell's Sweet Pickles jar in cairn on RB at canyon mouth. Shove off to try & make Burro Bar. Spot Moki Steps up wall on LB at Mile 129,65. Possible to rim out both banks at bend.

Ekkers Cafe, Hanksville, Utah, on RB wall at Mile 127.0. Pass Harry's Concert Hall (Mile 125.4), stop on bar opposite Moki for lunch (Mile 124.9). Drift to Mi. 124.8 RB to hike up on top of bar. River slow below Moki. Bad upriver winds. Stop at Mi. 121.5 RB to go up Dredge Canyon. Note old waterwheel on opposite bank. Signs of motor vehicle recently on bar. Hike into Dredge Canyon (Mi. 121.4 RB). Went up to well-built Moki House just inside mouth on RB. Moki Steps from near house lead to Moki Cave just upstream. Didn't climb. Across canyon are about 100 Moki Steps that zigzag up wall. I go on to top while Robert stops 1/2 way up. From top see dugway leading up RB wall just up canyon. Go back down Moki Steps to trace dugway. Dugway is about 1000 feet long. Built by Charlie Gibbon's crew in 1900 to lower dredge outfit by steel cable (1-1/8") (LMOC). Part of cable still in dugway near top, and signs of where dredge scraped. At top of dugway is old Dodge truck. Harry gives particulars (LMOC). Nice view of Navajo Mt., Waterpocket Fold, & Henries from top. Back down dugway. Several Bufo punctatus in stream. Go back up Moki Steps to photograph dugway, dredge, & canyon. No sign of petroglyphs Harry mentions on LB wall inside mouth. Float past Stanton's Dredge (Mi. 121.5). Slow travel with upstream winds. Nice run through Bullfrog Rapid. Stop on sand bar LB Mi. 119.2. Drift to camp at Mi. 118.85 RB at Hall's Crossing. Hand lain rocks show where old road leads down to tree where we stopped. Find we left shovel on sand bar at 119.2. Go up RB & try to swim across. Half way across decide I had better come back. Must get shovel in morning. Robert proposes Beaver Canyon as a name for the canyon (LB Mile 130.2) we went to the end of yesterday. I would like to suggest that this name be given to the canyon if it is unnamed. Dinner & right to bed.

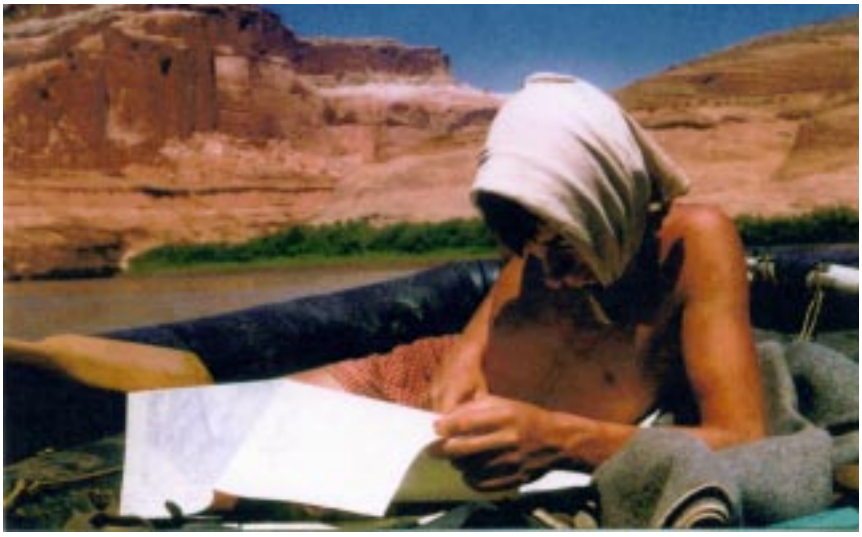
June 27 - Mile 118.85 RB (Hall's Crossing): In morning find where rats have gotten into dried food & taken Robert's hat. After breakfast unload boat for Hall's Crossing to get shovel. We tow boat upstream around bend & then I row across. Robert finds old ring in rock near boat. Hike back up bar along wall. See MCK, BMC, & 1944 on wall about 4 times. Cowboys? Several groups of petroglyphs - one on each side of oak trees. Flints under overhang. Old Moki Campsite? Man petroglyph upstream after first talus reaches bar. Harry gives 21 petroglyphs on wall (LMOC). Much recent work along wall. Pick up shovel. Spot river party below Bullfrog Rapid. Collect plants on way back to boat. Robert rows back to pick up supplies. Just after we shove off party we saw upstream passes us. 3 10-man boats - 17 members. Decide not to go up canyon on RB Mi. 118.0 (Lost Eden) but get on down to Lake Canyon to get water. Hear 1 motor pushing 3 boats ahead of us. Pull Into Lake for lunch & night camp. River party up canyon to look at ruin. Talk to lady who twisted knee getting to Hite waiting at their boats. Socotwa exp. spending 7 days in Glen. Leonard Grim guide. Ate lunch & then talked to members of river party returning from ruin 1 mile up Lake. Go to first waterfall (15') up Lake. Fill up with water at little spring from LB near water line about a block up Lake. See large 2 1/2" tadpole. Nice to have plenty of water again. Hike into Lake to see ruin. About 2/3 mile up see ruin in cave above talus on LB. Continue to beautiful little ruin [Wasp House] 1 mile in on RB where cleft breaks RB wall. Ruin consists of two well built rooms and walls of a third room, Few petroglyphs on wall. Many recent "petroglyphs." See Aleson's record of having been here in 47, 48, 49, 51, 52, 53 (?) and Dick & Dudy 11-52 left by Dick & Dudy. On hike back stop at ruin seen on LB on way up. Ruin Is remains of wall of large room. Proceeding down canyon find about 10-15 Moki Steps on RB wall just upstream from second waterfall. Steps lead to ledge from top of sand & rock slide. First few steps have been enlarged recently. Didn't climb. Robert collects plants on hike back to camp. Good dinner. Have campfire & try to get notes up to date.

June 28 - Mile 113.2 LB (Lake Canyon): Sleep late among bushes. Have breakfast in sun on ledges. There is a small hand lain rock wall near camp. Has NA 3722 painted in white paint on wall nearby. Pack up boat to leave. Decide not to stop to see 1642 and nearby 1886 on wall opposite Lake because of difficulty in telling exactly where date may be. Hit some nice riffles on ledges below Lake. See 3 Great Blue Herons (Ardea herodias) on wall. Go to right of sandbar that starts at Mi. 111.1 and land at spring which comes out 10' above the river & runs over sloping rock at Mi. 110.9 RB. Go around to right, climbing a few Moki Steps, and then cut back to left to gain ledge in cave where ruins are. Cave is about 2/3 way up wall & ruins are visible from river. Small house at each end of ruins. Walls of about 3 rooms remain standing in center.



Between house at west end and walls is large rectangular block with many names. Some very old - 1856, 1896 (?). NA 3724 is painted in white paint near ruin. Return to edge of cave where Robert is waiting. We go over to look at long series of widened & deepened Moki Steps leading to top of wall. Decide to climb. Few names on wall by steps. Two main series of steps lead to rim where we go to top of small hill. Wonderful view of Navajo Mt., Waterpocket Fold Henries, & East Lake Canyon country. Nice view of Glen. Return down steps to have fruit punch at spring. Several smaller groups of Moki Steps near bottom. Drift on. See Moki Steps leading to cave on LB wall at Mi. 110.1. Possible Moki Granary or House in cave? See old placer workings on Dr. Shock Bar (Chaffin Bar or Gressman Bar) (LB about Mi. 108.2). Also see ruins of old house below placer workings on bar. Drift to stop at Annie's Canyon (Goldwater) [Barry Goldwater named this canyon after Annie Dodge Wahneka] (RB Mi. 107.7). Eat lunch at spring about 200 ft. in on bend on RB. Spring seeps over ledge in many places & falls about 10 ft. Wonderful! Decide to stop here for the night. Find sunglasses which look like the ones Genny

Schwartz had (Ticaboo). We rest, read, & Robert gets plant notes up to date (34 plants to date). Hike into Canyon. See first Rana pipiens. Waterfall in first bend to left. Pools below waterfall and rocky stream bed make travel slow. Dry above waterfall. 2nd waterfall in next bend to right, pool beneath, Large potholes in next stretch with large overhang on right at end. Around next fall bend stream bed branches. Small spring about 100 yds. up left branch. We decide to return to camp. See large owl. Go to end of large overhang. Leave R & S on floor with rocks, Beautiful walk up canyon with high walls and big bends. When we get back to camp I feel sick and eat no dinner. Robert thinks it's from drinking too much river water, Robert brings equipment in to spring from boat & fixes his dinner. Get to bed late.



Lost in the 50s in the living heart of canyon country.

June 29 - Mile 107.7 RB (Ann's Canyon): Sleep late today & have late breakfast. Very damp where we sleep. Since I was sick last night we decide to rest today. Spend most of day reading Romer's Man and the Vertebrates , The Origin of the Earth, Stebbins, getting notes up to date and trying to keep in the shade by the spring and drink lemonade & cold chocolate. Eat a light dinner and go to bed early. Many bats around camp.

June 30 - Mile 107.7 RB (Ann's Canyon): Eat big breakfast and cook extra pancakes for lunch. Big job carrying supplies back & loading boat. Drift on. Don't stop to see Chaffin boiler on LB bar. Harry (LMOC) gives cool spring water in mouth of canyon on LB Mi. 107.0. Have nice run through "106".

Note old river bed back of left bank near here. Stop to investigate 2 springs LB at Mi. 104.9. Both are hard to get to because of brush and are only good at low water. Stop at another spring 1/10 mile below on LB. Also poor for same reasons. Water is coming out from canyon (LB Mi. 104.65) just below. Probably good water. Note spring on LB at Mile 104.5. Drift on down to unnamed canyon [Wilson Canyon or Iceberg Canyon] entering LB at Mile 101.5. Hike into canyon. Little over 1/4 mile in at bend to left there is a dry waterfall with a large pool beneath. Gushing out of LB wall about 2' up, below pool, is a very good spring. Climb around fall and continue up canyon. There are several other falls above with a few scattered pools in stream bed. Numerous claim markers along stream bed. Staked May 10, 1955, by Malony (?) and Truitt (?) of New Orleans. Stream bed in Kayenta. About 1 3/4 miles up we eat lunch where canyon enters from right. Hike up side canyons to amphitheater at end. See beautiful yellow lizard with 2 black collars. Pool at end supplied by seeps for several hundred feet around with a small stream running out. Rest for a while before heading back. Robert collects plants at end. Decide not to continue up canyon but head back to boat. Stop at spring again. Drift on down Colorado. Don't see Harry's Hanging Valley Bridge [Aleson Arch or Flying Eagle Arch], high-up near Rincon. Spot small spring on RB about Mi. 100.05. Pass pillars at Mi. 100.0 that Powell's men spoke of as Powell's Pillars. In front of Rincon on LB are 3 men and the helicopter we have been seeing for the last few days. They are uranium prospectors. Ask them if they have had any luck. They say, "It's all staked" with a sweeping motion of the hand. Stop once on Oil Seep Bar (?) (RB) to look for anything remaining from the time when Oil Seep Bar was worked. Not knowing exactly where to look decide to move on. Pull up for camp at Navajo Creek (RB Mile 95.5). Hike up canyon to first large pools. Decide to stay & hike up canyon tomorrow. Have dinner & go to bed after trip back up to pools.

July 1 - Mile 95.5 RB (Bowns Canyon): After breakfast hike into Bowns Canyon. Canyon has large boulders in it with some very nice pools. In little over 1/4 mile canyon divides. Both forks have water in them, but we take right fork--main stream. Around bend pass r. hand fork entering. One half mile further come to nice spring coming out from r. bank. Pass another fork entering on right with large rock balanced on top of wall at jct. Around another bend come to 75' dry waterfall with pool beneath. Find Harry's record on large boulder near end in bottle by cairn.

Sept 30, 1950

Came up from river. Will try to go up talus slope to west, get on ledge, go around eastward & come down on Oil Seep Bar & return to boat at mouth of Navajo Creek, or (Bowns Canyon?)

Harry Aleson on Lone Trip of a month from Hite to Lees Ferry. Record is on cigarette tinfoil along with Kodak exposure guide and box of matches in bottle. Left record of Robert & my visit.

July 1, 1955
Gus Scott
Robert Robertson

Hiked up from river. Also spending a month down Glen. Entire hike up canyon in Chinle & Wingate. Top of waterfall near top of Wingate. Hike back down canyon to camp.

Robert collects plants on way back. Get wash cloth & soap and head back to second pool. Wash bathing suits & self in wonderful fresh water pools. Eat lunch at pools & leave for Escalante R. Many large caves 1/2 way up wall on RB of large bend. Robert sings a calypso as we drift [also *Graf Zepplin* and others]. Pull up just upstream from Escalante R. mouth (RB Mi, 88.3) to look at names and petroglyph. The following names & initials are on the wall: A. J. Tadje. M. Pictures. Dec. 10 1914; T William Dec 25 1885; R. R.; K. F.; Bering & Barbara Monroe 1946; Ralph Badger 9-22-46; Lou Fetzner 5-1-48; and Frances and Hal Osborne and Brimhall have names & Sept. 6, 1946 on wall. On large rectangular block below names there is a long snake petroglyph that Harry gives (LMOC) as 24 - feet long. Go up to see Harry's personal record of visits to Escalante R. mouth. We drift on to tie up In Escalante R. mouth. Eat dinner. I go up to look at 10-15 Moki Steps, on RB of Escalante R. at mouth that Harry first saw in 1950. I believe they just lead up to the ledge since this was an old Indian crossing. I go over to look at the pictographs on the RB wall (Mi. 88.2) while Robert with a limb, piece of line and a bent safety pin tries to catch some catfish in the Escalante. No luck! Harry (LMOC) gives 21 pictographs on the wall. Most are of human figures in red. There are also a few petroglyphs. We have a campfire. After we are in bed I am quite restless because of some poison oak (?) I picked up several days ago and start to build up fire. Robert tears fire down because he would like to sleep so I decide to try my hand at fishing. No luck. Get to bed late.

July 2 - Mile 88.2 RB (Escalante River): After breakfast went over to photograph name, petroglyph and to copy Harry's personal record of visits to Escalante R. mouth. The record is in a jar at top of talus slope on LB of Escalante at jct. with Colorado.

Jct. Colorado – Escalante October 3, 1950
Following records were copied from original papers which had become brittle in 8 years:

July 7, 1942

1. Camped overnight - Jct Escalante - Colorado Came up from Lees Ferry Boat "Up Colorado." Evinrude Speeditwin. Jack Richardson and Harry Aleson made the trip up from L. F. to San Juan & down to Aztec Canyon. were joined by Betty Richardson. Took Bill Wilson to Music Temple and back to Aztec Canyon. Jack, Betty & H.L.A. went up to Escalante, and returned to L.F.
2. Camped here Apr 2-3-4, 1945. Ed A. Hudson, Edward Hudson, Bering Monroe, Harry Aleson. Came up from Lees Ferry in Boat "UP LAKE." 18 H Evinrude.
3. April 28, 1945. Passed here alone up from Lees Ferry to Hite, Utah.
4. June 1, 1945. Down stream alone from Dark Canyon to Lees Ferry.
5. July 29, 1945 Bea Whittlesey & Harry Aleson. Dark Canyon to Lees Ferry.
6. April 27, 1946. Bering & Barbara Monroe, Georgie White, Harry Aleson. Hite to Lees Ferry.
7. May 1946. Down. Hite to L.F. Art & Ethel Greene, Isabella Kays, H.L.A.
8. Aug. 22, 1946. Down. Hite to L.F. Charles 0. Sensibaugh & H.L.A.
9. Aug, 25, 1946, hiked in from Hole in the Rock, via Davis with C.O.S.
10. Sept. 6, 1946, Down. Hite to L.F. Dr. Dean & Lila Brimhall, Hal & Frances Osborne, H.L.A.
11. Sept. 22, 1946. Down. Hite to L.F. Ralph A. Badger, H.L.A.
12. April 1947. Passed here alone, up river from L.F. to Hite.
13. May 1947, Down. Hite to L.F. Bering & Barbara Monroe, H.L.A.
14. June 1947. Up river from L.F. Georgie White & H.L.A.
15. June 1947. Down river from Mi 106 Georgie White & H.L.A.
16. Oct. 1947. Down. Hite to L.F. M.S. Munson, Miles Munson, Hal Marsh, Harry Aleson
17. May 1, 1948. Down. North Wash - L.F. Lou Fetzner & Harry Aleson
18. May 30, 1948. Down Escalante River from Calf Creek to L.F. Georgie White, Harry Aleson
19. May 30, 1949. Down Escalante River from Calf Creek to L.F. Lou Fetzner, Harry Aleson.
20. Aug. 1949. Down. North Wash - L.F. Dr. David Dolese, Patricia Brown, Tom & Mary Courtis, Eleanor Irvine, Paula DeLuca, H.L.A.
21. June 15, 1950. Down Escalante River from Harris Wash to L.F. Randall & Cyria Henderson, Georgie White, Charles Lindsay, & H.L.A. (2 - 7man neoprenes)
22. Aug. 1950. Down. Hite to L.F. Charles Fetzner & Harry Aleson,
23. Oct. 1, 1950. Down. Hite to L.F. Lone Glen Canyon Trip. H.L.A. Base Camp while up Escalante R.
24. Oct. 1951. Down. Hite to L.F. Dr Dolese party of 6
25. June 1952 Down Hite to L.F. Edward Gooch
26. Nov 14-15, 1952 Dick & Dudy & Pard Mick Down Hite to L.F.
27. June 27, 1954 - K K Bechtel, Peter & Jan Walter Haluk Carter Breusing Hite to L.F. Dave Winkler vi(?) Frank & Willard Wright
28. Paul ???? Timmehaus June 23-55. Hite to L.F. Walt & Prex Kammer Don Pellman; Ginny Schwartz Ann Klinkman. Ann Bingham

Robert reads in shade. After packing up we drift down to photograph pictographs visited night before.++ Don't stop at bar opposite to see old Moki Trail or on bar further downstream to note abundent flints (see LMOC). Drift on. Stop at canyon on LB at Mi. 86.3 but decide not to go in. Jim White had told me of ruins in the first canyon on the left past the Escalante R., but not being sure if this is the right one, decide not to explore. Note springs on RB at Mi. 84.65 & Mi. 84.55. Neither looks especially good. Stop on sandbar by spring at Hole in the Rock. See that flood some time since last summer has made several changes in the stream bed. Go up and look at register to see if we have missed anyone in Glen while in side canyons. Apparently we've seen everyone. Eat lunch & rest in shade. Later in

the evening we move up to ledge upstream from camp to read and rest in shade. Have a very good dinner of spam and mashed potatoes. After dinner we unload the boat for trip across river tomorrow and try to get packing better organized. Robert fishes - no luck. Get to bed fairly early for trip tomorrow up Cottonwood Valley. Nice moon up.

July 3 - Mile 84.35 RB (Hole in the Rock): We get up early for trip across river. After breakfast unload boat. Robert rows across going 1/10 mile downstream. We go up thru brush and come out 100 yds. upstream from start of old Mormon dugway. First we go over to look at old boat made of tin and tar used by Kluckhohn in the 20's [1928] on his trip to Kaiparowits and Richardson in '39 (?). The boat probably originally belonged to prospectors [Billy Hay]. It is past the hogan on the bar about 100 yds. downstream of dugway start. We head up dugway into canyon with Robert carrying lemonade & hot chocolate for lunch. The dugway starts off bar on LB at Mile 84.15 and goes over Kayenta ledges into canyon at Mi. 83.9. This was necessary because of waterfall at end of canyon. Old road is hard to follow after it enters the canyon and probably followed the stream bed except for a few places where they had to go around ledges. Come to flatter area on top and go to left of fin of rock to keep from going up box canyon on right. Soon come to another section of built dugway in front of defile seen from top Hole in the Rock. In defile are many Mormon names and dates, most are Jan. 26, 27, and 28, 1880. They are scattered for several hundred feet along wall on left. Few petroglyphs also on wall. We go through defile to sand on top. To the left is a hole in the wall - two holes - one about 25 feet in diameter, the other about 50 feet in diameter. Harry names them One-O Two-O Sipapu (LMOC). Could this have given Hole in the Rock Its name? We continue on into Cottonwood Valley. About 1 1/2 miles from where Cottonwood Valley reaches the Colorado R. we go up canyon on left. Canyon soon has water in it. Follow main stream to box end with large pool. water enters pool mainly by seeps. Rest about an hour in shade and climb up talus once to get picture. Robert cuts leg. Return back down canyon to Cottonwood Valley, passing 2 caves. Continue up Cottonwood. About 4 mi. from Colorado come to old corral on right. Little further come to small spring. For the most part the stream bed is dry with occasional pools. Creek soon branches (4 1/2 mi. from Colorado) and we go up the right fork. In 1/4 mi. bends to left. At bend find tree which had been cut long time ago. Mormons? Little over 1/4 mile come to flatter area at end of rock mass between stream branches. Robert and I start to work our way up the wall to our right. Very steep in places but come out on rim just east of large canyon branching from Cottonwood. Wonderful view down Cottonwood Valley to Hole in the Rock. Head for high point where there is some strange black sandstone. Walk about a mile to the SW toward the San Juan. Can't quite see the San Juan but decide not to go further. Wonderful view showing north side of Navajo Mt. and San Juan canyons to south. Grand view of Kaiparowits, Waterpocket Fold, Henries ("Little Rockies") and Wilson Mesa. Very Windy on top. Robert's "hat" (T-shirt) which he has been using since rat took his (Hall's Crossing) working fine. Was able to follow route from corral to high point on excellent air photo of upper end of Cottonwood Valley taken by Dick Sprang flying with Joe Moser, both of Sedona. Head back into Cottonwood Valley. No sign of old Mormon road where we went, could rim out further up on right; however, they supposedly left on RB wall just past defile. Return down canyon and photograph arch, and dugway west of defile. Robert finds nice poisonous plant in defile [Datura?]. After we take a while finding boat, I row across losing another 1/10 mile. Robert tows boat 1/4 mile back to camp by taking out bow line and then pulling boat up to stopping place. Long pull! Rest, eat dinner, and go to bed early after a hard day.

We **July 4 - Mile 84.35 RB (Hole in the Rock):** We sleep late and then pack up boat to leave after breakfast. Robert checks plants and brings botany notes up to date. Leave record of our visit to Hole in the Rock in register in wall of old trading post (?) [Cowles and Hall].

July 24, 1955
Robert Robertson
Gus Scott
Spending a month in Glen. July 3 hiked to end of Cottonwood Valley, over to San Juan, and back.

On wall near trading post wall is JESSE 0 SPENCER. Shove off. Stop at Mile 83.25 on RB to look at old roadbed [Robert B. Stanton's Hoskaninni Co.] which extends from about Mi. 83.2 to Mi. 83.45. Drift on with bad winds for next several miles. Water in Llewellyn Canyon (RB Mi. 81.9)? No sign of arch [Miser or Jack's Arch] high on LB rim which Dick told me to look back upstream for just before the San Juan R. Stop at San Juan. Start up talus to see if I can get to top to look for inscription left by Bernheimer on top of Kayenta at the jct. Gets steep near the top and since I would have to go a ways up canyon to reach top, decide to return to boat. San Juan seems to be flowing very good. Both S. J. and Colorado very clear for them since no rain lately. Pass Cottonwood Canyon or Elmer's Cone Canyon [Reflection Canyon] on right at Mi. 77.0. Note odd triangle Glen up wall on r. at Mi. 76.4. Stop on right at Mi. 76.15 in front of short box canyon for camp. Start off on hike into Hidden Passage or Narrow Canyon (Goldwater). See first Hyla arenicolor. Canyon is very narrow and beautiful with nice water flowing. We go around several bends to first short waterfall. I wade through neck deep pool to waterfall and then we decide to return to camp. Robert collects thistle and I get one of the cliff lizards to take back. Identify him as a Tree Lizard (Uta ornata) as we thought. Bad up-river winds at dinner. Find we have left shovel at Hole in the Rock. I work on notes and Robert makes list of pictures to be taken in the Bahamas while in sleeping bags.

July 5 - Mile 76.15 RB (Hidden Passage): After a late breakfast I went to take a shot of Hidden Passage while Robert did most of the cleaning up. After packing up we went up canyon where we camped (above Hidden Passage) 1/10 mile to wash in stream. Rowed across to Music Temple, No water in stream except in a few places.

Rounded bend into amphitheater. Pool and sand cluttered with cans, paper and other signs of humans. Amphitheater not as pretty as many we have been in on trip. On rook by register found following names, initials, and dates:

1. 1871. F. M. BISHOP
2, F. S. DELLENBAUGH. 1871-72
3. J. K. HILLERS. 1872-71
4. "W."* C. POWELL. 1871 UM
5. F. S. D. 1871
6 J. F. STEWARD 1871
7, W. D. JOHNSON
8. D E (?)
9. _. / D (UNN) 1871

* W broken off by members of 1951(?) "Y" trip.

No sign of either Howland or Dunn other than possibly last above. Dellenbaugh said both were In Music Temple. Copy record left by 1953 "Y" trip.

July 22, 1953 page 16

3rd Annual Rainbow Trek conducted by the Phoenix YMCA. Trip made in 4 rubber assault boats, containing 23 people. Trip from Hite to Lee's Ferry.

Numbers are from 1-403 to 20-422; my number 14-416.

Also copy of record left by 1954 "Y" trip.

July 24, 1954 page 39

4th Annual Rainbow Trek conducted by the Phoenix YMCA in 3 rubber assault boats from Hite to Lee's Ferry with 18 people.

Numbers run 1 to 17.

Robert left record of our visit.

July 5, 1955 page 69

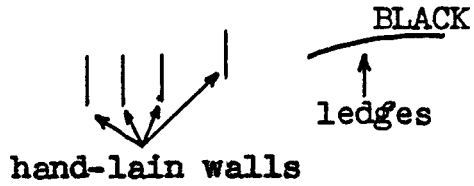
Gus Scott & Robert Robertson. Smallest (!) expedition down the river this year. Hite to Lee's Ferry. One Month.



Klondike Bar: The 1890 prospectors got all the gold!

Plan to climb Navajo Mtn. Studying botany, ornithology, herpetology, malacology & archeology. Hiked to end of Cottonwood Valley, over to San Juan. Wonderful view of Navajo Mtn., Kaiparowits & Henries. Been up 13 side canyons.

Lots of stuff left by human pack rats in register. Take sheet of Socotwa's [South Cottonwood Ward] schedule for information. Return to boat & shove off. Pass Nevills' Mystery Canyon on left at Mi. 73.55 up which "Doc" & I went to waterfall last year. We camped on sand bar opposite mouth with "Y". Round bend and have wonderful view down canyon up Oak Canyon to Navajo Mtn. Pass Dick & Dudy's arch "The Eyebrow" on right rim at Mi. 72.5. Stop (LB Mi. 71.4) just above Oak Creek to look at black rock at the mouth that Marston asked me to check on. Robert finds that it is sandstone with an odd varnish weathering. Take a few samples. Nice run through small riffle at Oak and larger one at Boulder. Nice keyhole glen on r. at mile 69.45. Land at mouth of Forbidding (Aztec) Canyon (RB Mi. 68.6), eat lunch and rest In the shade. There is an outboard pulled up on ledges with passengers evidently up at Rainbow. "Poison oak" has about dried up. Later we move just inside mouth of Forbidding where there are 4 hand-lain walls to look for names and rest in shade. Find JAS BLACK FEB 1909 that "Dock" [Otis Marston} asked me to look for. It is on ledges past 4th wall.



RB-MV 705 has been painted in white paint over most of the name. There was perhaps another name above Black's but it was hard to make out. Also at mouth were several other names, initials, etc.

1. KOLB BRIDGE
2. LUTE C. RAMSAUR
   L.A. CAL.
   AUG. 24. 22.
3. W. A. RAMSAUR
   AND
   W W JONES
   8/25 - 22
4. E. C. KOLB 30 1?
   E. L. KOLB AUG 30 13 16(?)

Nice Mud Sucker in pool at mouth. One of the members of the party at the bridge soon comes around the bend, It's Howard Welty of Oakland. They came up by outboard from Les's Ferry. Spending 4 days. Spent the night at Rainbow. Talk of the river, his trip through Grand archeology, etc. Soon Dr. Howard Miller and Sally Gore (remainder of party) appear. Rest in shade and

then move to camp for dinner. Afterwards go over and have nice talk with Welty, Miller, & Gore about panning for gold, river, outside world, etc. Try to tell them where to find steps in Padre Creek at Crossing of the Fathers which they missed coming up by looking around Kane Creek. Bed little later than usual.

July 6 - Mile 68.6 RB (Forbidding Canyon): Get up early for breakfast. Dr. Miller shows me how to pan for gold and then we help the three of them shove off down canyon. They plan to be back at Lee's Ferry in 8 hours. Load up pack with equipment for climb up Navajo Mtn. over 7000 feet above us. [Equipment list not included]

We plan to spend 5 days on the trip. First day - upper Bridge or Oak Canyons; second day - top of Navajo Mt.; third day - down north side to Surprise Valley in Nasja; fourth day - down Nasja to San Juan, or Oak to Colorado; fifth day - build raft and float down either San Juan & Colorado or just Colorado to mouth of Forbidding. Plan a day of rest when we return. Leave a note for river party and Kent Frost or Don Hatch before we leave.

River Party: July 6, 1955

Did you happen to pick up shovel we left at Hole in the Rock?

Kent Frost or Don Hatch: If you land while we are gone (Navajo Mt.) could you leave names of members of party, boats, dates, etc.

Gus Scott
Robert Robertson

We have a pack to carry and two blankets rolled into a horseshoe, which we trade off since pack seems very heavy. Forbidding is a beautiful canyon and has a wonderful stream which we cross quite often. Stop at large spring in Forbidding just below entrance of Bridge Canyon. Continue through the Narrows where there are some wonderful pools where we cool off. Just on the other side or right (LB) there Is a small ruin. I go up to check ruin and find Harry's HLA. Cross over to opposite wall just upstream to look at hand-lain wall. Photograph larger ruin & we go on. Several small, nice springs enter creek on this side and then bed dry. Less than 25 minutes walking time from Narrows we stop at a small spring on r. bank where someone has left a tin cup for the water to drip into. In about 30 minutes walking time from ruin & Narrows we get first view of Rainbow (Marston). Stop at spring on right 100 yds. below bridge for lunch. I go up to register to make notes and get information "Dock" asked me to get.

Present book starts on page 95 with number 3345. Beginning date is April 8, 1941. Earlier pages have been removed. No record on details of discovery or former small book.

1. 3373 Tommy Box 2600 N. Holliston Altadena Cal
3374 L. Allen Box Jr.
3375 Evelyn Box
Boat down San Juan April 9, 1941
Other members:
3376 Hazel Lyman - Blanding, Utah
3377 Norman Nevills - Mexican Hat, Utah
3378 Lynn Lyman - Blanding, Utah

2. Mexican Hat, Utah to Lees Ferry, Ariz. Two boats "Rainbow Trail" & "San Juan". June 8, 1941. Rain & hail storms today!
3430 Rose Montgomery 3828 Amesbury Road Los Angeles.Second trip (2972)
3431 Ervina(?) E. Montgomery
3432 Ernest Ger. Ilg 227 Wapallo Lane Altadena, Calif. "Auagezeichned(r?)" HOB 1950
3433 Chas. F Hottes 406 W. Iowa Urbana Ill
3434 Eugene E. Blickenstaff Mojave,Cal. Oberlin, Kansas Blending, Utah "Some Culvert"
3435 Norman D. Nevills Mexican Hat, Utah 12th trip

3. Boat Trip.- Mexican Hat - Lees Ferry 191.5 miles 1 boat "Rainbow Trail"
3598 Mrs. France Q. Wilson. Sr. 1003 N. Buckeye Abilene, Kansas
3599 France Q. Wilson Jr.
3600 Norman D. Nevills Mexican Hat) Utah
Remarks: Blistered, Walked up from Colorado River, 13th trip Sept. 6, 1941

4. No Nevills party of Oct. 7 or 8, 1941 No N.N. between Sept, 23 & Dec. 9, 1941 3640 to 3677

5. Boat trip - Mexican Hat - Lees Ferry 2 boats - 2 men Left Mexican Hat Dec. 91 1941 will arrive Lees Ferry Dec. 20th Special exploratory & camp site construction trip. Gorgeous weather today – warm!
3676 Preston Walker Daily Sentinel Grand Junction Colo. Water pony (transportation) Great trip
3677 Norman D. Nevills Closing 1941? Mexican Hat Utah Water pony Grand trip!

6. No N.N. May 3, 1942
May 14 .1942 Boat trip - Mexican Hat to Lees Ferry "Rainbow Trail" "Hidden Passage
3691 June Chamberlain 823 Nason Street Santa Rosa Cal. A grand trip.
3692 Francis P. Farquhar 2900 Garber St. Berkeley Calif.
3693 Ed Hudson 160 W Ramsey St Banning Calif. Rainbow Trail (T) Satisfaction of a 12 year desire.
3694 Neill C. Wilson 822 Walnut Ave Burlingame Cal. King of river man Norman Nevills.
3695 Preston Walker Daily Sentinel Grand Junction Colo
3696 Norman D. Neville Mexican Hat, Utah

7. Boat trip Mexican Hat to Lees Ferry May 24, 1942
"Hidden Passage"
3702 Sa(y or g)nel MacMeekin 3515 Fillmore. San Francisco Cal
3703 Virginia Kass 2714 Clement St. San Francisco Calif.
3704 C(?)yil MacMeekin 3515 Fillmore

3705 Norman D. Nevills Mexican Hat, Utah

8. Boat trip - Mexican Hat to Lees Ferry 191.5 miles June 5, 1942
3716 Preston Walker Daily Sentinel Grand Junction, Colo. "Walker's Folly" (boat)
3717 Moulton B. Fulmer 722 W. Jackson Muncie Indiana "Hidden Passage." boat 2nd trip "swell trip"
3718 Janice Fulmer 722 W. Jackson Muncie Ind. Hidden Passage boat. Well worth the 2nd trip
3719 Norman D. Nevills Mexican Hat, Utah "(HPB) 18th trip

9. Boat trip - Mexican Hat to Lees Ferry 191.5 miles 19th trip 2 Boats "Hidden Passage" & "Rainbow Trail" June 14, 1942 3724 Annaley N. Redd La Sal Utah Hidden Passage boat
3725 Chas Redd La Sal Utah
3726 Robert Welles Altadena, Cal. Boat
3727 Carlotte Welles Westbrook Conn.
3728 Muriel Welles Altadena Cal.
3729 Lucy Welles
3730 Preston Walker Daily Sentinel. Grand Junction Colo
3731 Norman D. Nevills Mexican Hat Lodge

10. Boat trip - Mexican Hat to Lees Ferry June 24, 1942 "Hidden Passage" & "Rainbow Trail"
3742 Edna P. Heringer Mill Valley Calif. and Tiburon Calif June 24 1942
3743 Lucy Dee Trask La Grange Illnois. Hard but worth it.
3744 Gladys E. Trask 430 Sunset Ave La Grange Illinois. Boat & foot Boat is best
3745 Arthur C. Trask 430 Sunset Ave
3746 Preston Walker Daily Sentinel Grand Junction Colo
3747 Norman D. Nevills Mexican Hat Lodge P.O. Bluff, Utah (Slept all night on top of bridge)
#3840 & #3841 Kay & Lorin join party here to go on by boat to Lees Ferry Lorin to join army Bet those molars got a workout! 3874

11. No N.N. party of July 6, 1942.

12. No N.N. party of May 24, 1944.
No Nevills party at bridge between June 24, 1942 & party with Marston on June 10, 1944.

There is a note in the register: "Pages 161 & 162 missing when received in GRO" There are no names missing in the register. See Elmer, Bill, Dudy and Dick's record of Oct. 9, 1951 (7591-7594). Get Jim & Georgie White's address: 435 W. Laconia Blvd., L. A. My previous dates here and numbers are: June 3, 1952 - 7783; July 23, 1953 - 8850; July 25, 1954 - 9727. Averaging near 1000 people a year. Above the register this is written on the bridge: The world's greatest natural bridge 309 ft. high 277 ft. span discovered and surveyed Aug. 14, 1909, and there is a BM nearby stating the altitude as 3732.61 ft. Robert and I leave record of our visit:

10747 Gus Scott 1208 W. Rancho Dr. Phoenix, Arizona 4th trip 10748 Robert Robertson Nathan's Point, Hopetown, Abaco, Bahamas (West Indies). Rubber boat from Hite July 6, 1955 (One month).

After spending a while longer at the spring we head up canyon. Little over a mile up take branch to left up Bridge Canyon on trail around north side of mountain. Stream is dry except for occasional pools and running water. Note trail entering on right (probably short cut from Redbud Canyon). A little further trail heads out of Bridge to Oak and we decide to go back to last water a few hundred yds. back for camp. Before dinner I climb hill back of camp and have wonderful view of Bridge drainage up Navajo and north side. Also good view of lower Bridge and red rocks above Oak & Nasja. Leave 3 small rocks on large boulder on top. Go to bed immediately after dinner. Each of us only has a blanket - looks like a cold night.

July 7 - (Bridge Canyon): Cold during night so I got up and fixed fire, which I slept by remainder of night. Headed up canyon early. Went left toward Oak Canyon on trail and then cut up over Navajo domes toward mountain. From hill of previous night it looked possible to climb Navajo up Bridge drainage if we could get to the base of the mountain. I thought it best to go up domes to left in case canyon had a waterfall in it. Also thought it be best to go up Bridge rather than Oak which meant going around a large sandstone block between the canyons. At first going was easy but got harder. At one place used rope to help Robert over steep place. Near end going was too steep and dangerous so we decided to go back trying to find way into canyon. Hated to lose what looked to be great height. Had to go all the way back to the trail before being able to gain entrance into the canyon so decided to go back to last nights camp to fill up with water. Lose of 3 hours. Headed into canyon. Walking not bad. Occasional pools. Came to nice spring at top of the Kayenta before beginning climb up right bank wall. Up much talus and went along cliff several times. Trail very steep, but at all times possible. After several hours and much rest reached ridge on divide between Bridge and Oak that we had aimed for. Had lunch and rested on ridge just above sandstone block. Grand views of both canyon systems and Kaiparowits. Over 6000'. In late evening start up climb to top. Easy at first, but gets very steep. View more wonderful all the time, usually down a steep talus. Climb. I get very tired and Robert goes ahead and waits while we make frequent stops. Gets dark soon after sun goes down so we camp at base of cliff at about 9000 feet. Both of us very tired and thirsty. No wind. After a little Bonito, Apricot juice and water we build fire which we hope to keep going all night for warmth and get into blankets on fairly steep slope.

July 8 - (Navajo Mountain): We managed to keep the fire going all night between occasional sleep and thereby kept warm. Get up before sun on Navajo and with only a sip of water head up the mountain. We have less than a cup each of water left. Because of this and the difficulty of going down the north side we have decided to return to the boat via Rainbow Lodge and War God Spring on the south

slope. By going to the left and then up, the cliff wasn't as difficult as we thought it would be. Above the cliff it is leveler for a while and then we hit a large talus. We go up the talus several hundred feet and then reach the crest about 9600 feet. We are near a high point on the crest on a ridge that runs west from the true summit. Grand view south, west and north. Can see White Mesa, San Francisco Peaks, Kaibab, Vermillion Cliffs, Boulder Mt., Kaiparowits, Henries (Little Rockies), etc. Many interesting buttes & outriders of Cummings & Kaiparowits in lower river. We follow ridge to high point that faces north. Horseshoe tracks and other signs of man. I go to viewpoint on north slope to get photos. Wonderful view down on maze of canyons very hard to follow. Rainbow Bridge easily seen in Bridge Canyon. Kaiparowits is 2500 feet below. After trying to follow the many canyons we walk through a forest of pines, firs, spruce & aspen toward the top. Many interesting plants and birds on top. Robert picks up a piece of rock which looks like it may be a fine-grained andesite although no igneous rock is supposedly exposed on this laccolith. The top is an open area where trees have been cleared out. Dakota sandstone on top - no sign of Carmel or Entrada on north slope; little Morrison. Good view of Monument Valley to the east and Paiute Canyon system to the south, but no view of canyons to north. Top is 10,354 feet, river at mouth of Forbidding was 3235 feet which means a climb of 7119 feet or 1 2/5 miles. We find trail down south side of mountain and have lovely walking through the forest. Descend steep switchbacks in juniper to bench little over 8000 feet. In open area below we lose trail and head toward likely looking canyon. Find a trail by canyon. Follow trail SW down canyon, believe we have missed War God - too far west. Very thirsty. Trail leads to spring which Robert spotted by seeing sedge or rush (?). Spring is probably 2 mi. SW of War God. We drink lots of water & rest several hours in the shade. Decide rather than stay here for the night to head for plain below or Rainbow Lodge. See car on road to Lodge below. Follow down canyon, which is very easy in our present physical and mental condition after water. On plain we find horse trail which probably leads to War God around mt. We hit road and very soon are at Rainbow Lodge. There are 3 uranium prospectors there who give us cold water & 3 lbs. of wonderful peaches. We could not arrange anything nicer after a climb up Navajo. They are Glen Wenz, Jack Butts, and Wright. 2 are still out down at the bridge. They have two trucks, a jeep and a plane. Very good equipment and a nice camp. We sit around and talk for a while. Soon John Erickson comes in with his father, Dr. Erickson, in Horse Canyon. He eats and then takes supplies back to Horse Canyon where he will stay the night. All are from the bay area. Later we listen to a radio to get news of the outside world. Nothing but rumors of war, etc. as usual. Sleep on level area back of Lodge burnt 5 years ago.

July 9 - (Rainbow Lodge): Got cold during the night so I built fire to keep warm by. Robert & I up early and had hot chocolate. When prospectors get up they insist we have breakfast with them. Grand meal! Don't see arch on Cummings. The Dr. & son John come in from Horse. We talk of plants and animals while they eat. They have caught a beautiful Collared Lizard. The Dr. is quite a character. Safeway. We finally have to go, hating to leave these good companions. Hope they have luck in their prospecting. Nothing on Navajo. Make good time as we pass the three canyons before Cliff. Stop at top of Cliff - Yabot Pass. Down to First Water where we rest. Yabot Pass only stop. Find gastropod shell with an arthropod in it in stream. See several Moki Steps up RB wall - one near stream. Probably not new find since many people have gone this way. Pass man & woman from Tacoma, Washington & give them salt the Dr. gave us to give them. There are two hogans at the end of Cliff where you turn through Redbud Pass. Also arch. Stop to look at petroglyphs & pictographs [Bernheimer's Painted Rock camp] on wall back of hogans. Some very good. Through Redbud to water in r. canyon. Continue along making good time to Rainbow. Note several horses up by old camp. Talk to horse wrangler at register. Go down to spring [Echo Camp] & talk to boy from Illinois in with National Geographic group. Ralph Grey(?) and Parker(?) soon come to spring. They are covering the bridge by horse after having been up with Art Greene. They leave in the morning. Learn that the first part of the register is with the ranger at Navajo Nat. Mon. at Betatakin. They leave to go back for camp. Sleep near the bridge under a juniper. No wind - warm & nice. Bridge very pretty in the moonlight.



This exploring is tough work!

July 10 - (Rainbow Bridge): After breakfast go over to look at register. See that we have just missed Don Hatch and party, which was here yesterday. Take down names of his party.

Eggert - Hatch River Expedition

Green River, Wyo - Temple Bar, Lake Mead
June 11, 1955 - to here on July 9, 1955
10769 Charles Eggert
10770 Alden Galloway
10771 Anthony Tuttle



The register at Padre Creek

10772 Bruce Lium
10773 Don Hatch
10774 Frederick Wood

Don Hatch's address is: 1278 Driggs Ave., SLC. Get name and address of the Dr.: Ralph E. Erickson, Box 445, Kentfield. Calif.

Got name and address of member of party we saw on June 20 & 21 (Ticaboo) to see if glasses found in Ann's Canyon were Genny Schwartz's. Walter F. Kammer, M.D., 1005 W. Parkway, Muncie, Indiana. Left record of Robert and my visit.

10775 Robert Robertson Nathan's Point, Hopetown, Abaco, Bahamas (West Indies)
10776 Gus Scott 1208 W. Rancho Dr., Phoenix, Ariz.

On return to boat after hike up n. side Navajo Mt. & back via Rainbow Lodge July 9-10, 1955.

Go back to spring for a while before we take off down canyon, We stop in the Narrows for fruit punch and a delightful hour or so swimming in the many nice pools. There is an oil seep at the large spring at the Narrows. Nice walking back down Forbidding passing many large pools. At camp are six cans of sausage and note left on cans by Don Hatch.

You may keep this sausage if you want. We think it's terrible stuff! Read "ingredients" first. Or just throw in the river! We all wish you an exciting and safe trip.

Don Hatch

He also left names of members of party.

From Green River Wyo. to Lake Mead Low H20
Don Hatch SLC. Utah
Bruse Lium
Tony Tuttle - Mass.
Fred Wood - Conn
Charles Eggert - N.Y.
Cid Sumner - Mass.

On note about shovel he wrote, "Didn't see one." on checking the boat we find the shovel in the front compartment. We go around by hand-lain walls and spring to rest & read. Get photograph of "BLACK" for Marston. Later go out to put boat back in water. Boat was high and dry when we arrived due to rapidly falling water. Have to unload first. After dinner it gets very windy and much sand Is blown around. Very nice to be back on river again, almost like being home. Go up canyon a ways to get rose. During the night we are awakened by a few drops of rain.

July 11 - Mile 68.55 RB (Forbidding Canyon): Sleep late and then breakfast. Open up 1.5 lb. can of sausage Don left. Robert eats very little and doesn't like it; I eat quite a bit and save rest for lunch. Fill up with water and pack up boat to leave. Shove off and Robert rows to opposite shore. On wall (RB) opposite mouth of Forbidding is RAINBOW BRIDGE T C WIMMER. Was Wimmer member of '21 survey party? Nice run through riffle. Stop on RB at Mile 67.6 to go up canyon on right at 67.8 [Cascade Canyon]. From Dick's river maps I had taken down that there were ruins in this canyon in last bend on right (river map). We go to mouth but find no ruins right at the mouth. Evidently the ruins are a little further up canyon but we decide not to go since would have to walk through pool difficult to get down to. Drift. on to stop in beautiful glen on r. at Mi. 66.6 which has a narrow opening. We take short walk to end where there is a pool with seeps around. Eat lunch. Air photo taken by Dick of the two canyons (Mi. 66.5 RB and Mi. 66.2 LB) [Driftwood and Cathedral Canyons} just below here is very good. Drift to a stop (Mi. 65.25) on Klondike Bar (Mi. 65.1 - 65.9) (?) to pan for gold for a photograph. I believe there is a step trail coming down to Klondike. No color in pan'. Water in canyons on left at Mi. 64.2 and Mi. 63.5 [Little Arch and False Entrance Canyons]. Winds have been very bad all day but they get worse and travel is very slow. I row and then Robert rows. See ruins on RB at Mi. 59.4, which Dick had told me about. They are in two groups, one building looking to be in good condition. Pull in canyon [Grotto Canyon] on left Mi. 67.8 for camp opposite Wildhorse Bar. The "Y" ate lunch here in '53 and '54. Canyon has water in it. As in nearly all side canyons in Glen there is a sand bar at the mouth cut with a small stream. Fix dinner and go to bed early with some hot chocolate. Good ideal

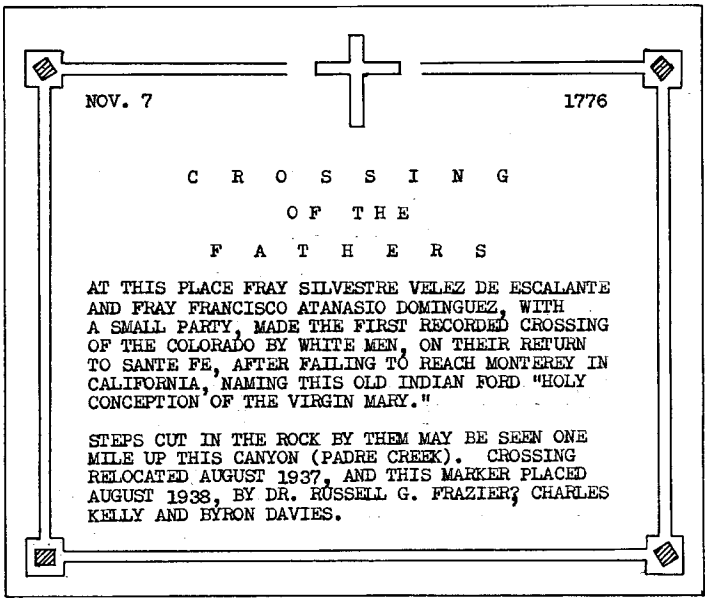
July 12 - Mile 57.8 LB (Wildhorse Bar): Up late and go into the canyon to get water. See green Piper flying around which may be Glen's. Get early start down river. Quick run to Rock Creek. Stop (RB Mi. 55.75) to look for ruins and petroglyphs. Glyphs are just back of where we stopped, also some pictographs. On wall Is NA 2689 and RB-MV 715 in white paint. Follow along wall to cave (Mi. 55.8) where there is a small ruin. Mainly a few low walls remain-

ing. Metate in place. On rock is NA 2691 and RB-MV 716. Were these ruins, glyphs, etc. along the river cataloged? Be very nice to have list. We search along the wall toward Rock Creek for hackberry (7) bush back of which I believed Dick's river record was, but we didn't find. Water in Rock Creek. Several rocks across river. Slow run down to West Canyon. Beautiful Snowy Egret (Egretra thula). Fast run to Last Chance. Water in Last Chance. We camped on RB Mi. 48.4 in 1953. Slow run next 1.5 miles and I go to sleep. See window high up on LB rim. Window is on LB of canyon which enters opposite upper end of Meskin Bar on the back part of butte which sticks out here. Approximately Mile 45.5. High up near top of mesa in large cave (app. Mile 46.0) looks like a ruin. Very hard to tell through binoculars. Chances are very great that it is not. Face Canyon (RB Mi. 44.4) has water. Camped on sandbar (RB Mi. 43.5) in 154. Pull into back watter of Kane Cr. for camp. Water in Kane is muddy. Eat dinner and then Robert and I climb up the bill toward Padre to look at view. Many buttes stick up around. Nice view up river. Many sand bars in river. Fix air mattresses, which have been going flat this last week, when we get back to camp. Have Mormon Tea (Squaw Tea) just before we go to bed.

July 13 - Mile 40.55 RB (Kane Creek): After breakfast drifted to Padre Creek (RB Mi. 39.95) which is the "Crossing of the Fathers" and not Kane Creek as it is marked on the river maps. Go up canyon, Mouth of creek is muddy. Canyon makes right turn 1/2 way to steps. Nice flow of clear water in the creek. Several oil seeps. Steps cut by Escalante party are on RB little over 1/4 mile up. Robert registers in book left by Harry and Encinata(?) scout group by cairn at start of steps.

1119 Gus Scott 1208 W. Rancho Dr. Phoenix, Arizona
1120 Robert Robertson Nathan's Point, Hopetown, Abaco, Bahamas (W. Indies)
One month from Hite by rubber boat. (?)

We go up steps a short ways to a second group. Steps very poor, Moki better. We go up canyon thinking there may be more steps entering canyon, but since it opens up and wouldn't seem too difficult to enter we return down steps to boat. Robert lets boat down to plaque placed by Frazier, Kelly, and Davies, which I photograph and copy. Slow run as we drift to Labyrinth Canyon (LB Mi. 35.45) for camp. Do much swimming on the way. Rest in the shade before heading up canyon. Canyon soon branches, we go up r. fork. Canyon ends shortly under slight overhang with pool beneath. Both Jim White and members of Nat. Geographic had told us not to miss Labyrinth. Grey of Nat. Geographic had said it was a beautiful amphitheater with walls 1500 feet high rising straight above. Not believing this to be the case for several reasons we check the river map, which shows the highest point to be seen in the amphitheater to be only 480 feet above the river, However, not being satisfied I decide to do some triangulating with an old compass and pencil Robert found. With boy scout compass and pencil Robert & I measure angle to high point and then by going 100 feet back from first position take second measurement. First angle = 47°; second angle = 41°. All measurements taken from height of 5 feet. See figures [Not included. Calculate height at 464.3 ft.].



While there is no doubt considerable error in this method, we still do not get a cliff of 1500 feet. We go back and head up main branch. See first Spadefoot (Scaphiopus hammondi). Go through narrow place in canyon, which seems very narrow first time through. Opens up again. Come to narrow place, which goes up about 100 feet. Enter. Pass under several large boulders and follow fault line. Canyon turns to right. Canyon is only shoulder width in places and can see only a small slit of light above and none in spots. Slit enters on right and then left. Very wierd traveling in narrow slot. Tiring since we have to lean against the walls most of the time but not difficult. We are near Arizona line. After about 1/2 mile of very slow traveling come to "open" area and decide to return. Sorry we didn't get to end. Have big dinner and get to bed early.

July 14 - Mile 35.45 LB (Labyrinth Canyon): Get up very early and off to early start. Robert fixes up the tarp over the middle compartment so we have some shade. Stop at Warm Creek (RB Mi. 27.8) to get some water. Robert goes through window and when he steps on "solid" stream bed goes in the mud up to his hips, water cans and all. Decide to wait and get water at spring at Mile 20,85. We walk over to Goldwater's inscription on the wall (RB Mi. 27.75).

ARIZONA WELCOMES YOU / UTAH

See Harry's record just to left.
HLA
7-42
2-45
4-45
6-45
8-45

Drift on to wonderful spring that gushes out near water line on the RB about Mile 20.85. Spring hard to spot.

Marked with cairn and "WATER" written on rock. Fill up with water. Eat lunch while drifting. Camped on RB Mi. 18.7 in '54. Stop at Galloway's Cave (Nevills' Outlaw Cave)(RB Mi. 17.?). In cave is:

N GALLOWAY
JAN 6 1894
1894
OC 25 1897

Oldest name is C (?) WRIGHT, ?E? 23, 1893. Also W W JONES, Aug 19, 1922, and "THIS EQUIPMENT BELONGS N. D. NEVILLS PLEASE LEAVE AS FOUND." Several 1931 dates and more recent. Wonderful collection of lizards in and around cave - Chuckwalla, Holbrookia, etc. Cave rather spoiled by humanity. Stop at Wahweap (Sentinel Rock) for camp. Windy around dinner. After dinner go to look at names back of Sentinel Rock. There is BERT LOPER 07 08 11 12 21(3) 32(?) 39 44 47 48. Also FRAZIER '34-'37, KELLY '32-'37, and DAVIES '37. Go to bed early and talk about genera, etc.

July 15 - mile 16.65 RB (Wahweap Creek):. Up early. Fix breakfast and shove off. We read Romer - trying to learn out vertebrate classification, and swim while we drift. Robert has fixed up another awning with the tarp today. It is over the front compartment and 1/2 middle compartment which works much better than the previous top since you can row. Still fairly early we stop at a spring LB Mi. 8.4. A little muddy near the water and hard to get to but spring very good. See mullein. Robert collects numerous plants to my joy. Drift on and about 1 get to sandbar (RB Mi. 3.05) where we plan to camp tonight. Rest in shade and try to get notes up to date. Start to fix dinner. Big wind comes up which blows sand off bar everywhere. Collect pans that have blown into the river, put food in the waterproof bags, and Robert and I sit it out under the tarp in the boat. Much sand with a few drops of rain. Robert gets out to pull up boat once. After 60 minutes it calms down enough so we think we can cook dinner. Find mashed potatoes ruined by sand entering waterproof bag. Get fire going when gust of wind comes up blowing sand in Spam and pans, paper, & salt in river. Grab Spam, new batch of mashed potatoes, peaches and head for boat after securing things. Robert cleans sand off Spam and we eat in boat. Many black clouds above and windy but no rain. After 30 minutes it's calm again. We clean up and prepare sleeping bags. Take walk along beach. This is our camp 21 and last night on the Colorado under the stars. This month river trip cost about 65¢ each in food per day. Get to bed late under a clearing sky.

July 16 - Mile 3.05 RB: After a late start clean up camp and away we go. Pass spring on left bank at Mi. 2.4. See beautiful Yucca on RB. Duck Bob. Pass under river gaging wire over - river. Sev. houses on right. See old boiler of boat used to carry coal to Lees from Warm Creek in mud. Pass another wire. Pull up under large tree opposite old Lee's Ferry Fort and unload boat. Take some equipment to top and rest in shade. Lunch. Robert and I walk down to look at the Paria Rapid. Bigger than anything in Glen. Would like to run it. Perhaps John would like to go. Just as we start to go back a car comes over the hill, a honk and a yell. It's John Ross. Drive back to fort and start bringing equipment to station wagon. After packing we swim for the last time this year in the Colorado, dress, and leave for the Grand Canyon. Stop at Art Greene's for tire. Dinner at Cameron. Spend the night at the south rim camping ground. Fix John a river breakfast the next morning. Robert disappointed in Canyon after view from Navajo and commercialization. Stop at Yavapai for lecture and Naturalist Workshop before leaving for Phoenix.

EQUIPMENT FOR RIVER TRIP [list not included]

COLORADO RIVER RUN-OFF
AT LEE FERRY 1955 [truncated]

June 20	28,400 cu. ft,/ sec.
July 1	18,900 [cfs]
July 16	7,111 [cfs]

End

GRAF ZEPPELIN

One Sunday morning I chanced to hear,
a rumbling and a tumbling in the r'atmosphere.

One Sunday morning I chanced to hear,
a rumbling and a tumbling in the r'atmosphere.

a'ratmosphere.

People were flocking everywhere, gesticulating, and gazing,
and pointing in the air. T'was the Graf Zeppelin,
which had come to pay a visit to Trinidad.

I gazed at the Zeppelin contemplatively,
and marvelled at man's ingenuity.
The roaring of the engines were all I heard,
as it floated in the air like a giant bird,
and in between;
as the mighty airship. The pilot, and the sailors,
and the passengers were seen. They were waving little flags,
which they had. Paying a visit to Trinidad.

I gazed and acknowledged him back to me,
how wonderful the work of man can be.
To see that huge object in the air,
maintaining perfect equilibrium in the r'atmosphere,
wonderfully. Beautifully, gloriously, decidedly
defying all the laws of gravity,
was the Graf Zeppelin which had, come to pay a visit to Trinidad.

As I gazed at the Zeppelin, something touched me hand.
I turned and saw an old decrepit, poorly man.
He said to me, he pointing at the Zeppelin,
"Massa can you tell'm what is dat ting,
it is too hard for me to understan at all,
he no have no ting or limb _ _ _ _ ,
and still he never passed.
He was speaking of the Zeppelin,
which had come to pay a visit to Trinidad.

Status of the Campaign To Decommission Glen Canyon Dam

by John Weisheit

The 20th century has been noted in many scientific pa pers, concerning the study of tree-rings (dendrochronology) and the reconstruction of the historic flow regime for the Colorado River, as the wettest century of the past millennium. Other papers cite the present drought of the Colorado River basin, which began in the fall of 1999, is not the most severe drought on record. Even the surprisingly dry year of 2002 pales in the comparison.

The big reservoirs behind Glen Canyon and Hoover Dam continue to draw down. Now, besides impacts to endangered fish and to our federal reserve lands such as the Grand Canyon, human cities and farms are at risk.

It is possible that the reservoirs will refill. But looking forward to such an occurrence is irrelevant because in terms of measuring of Colorado River time in decades and centuries, the river will behave statistically as it has for the last millennium. Climate change, as scientists have forecasted, will increase the odds that the Colorado River will become less productive on the supply side. And if climate change doesn't stress the system, then human growth in metropolitan cities surely will. And then comes the bigger reality: the dams will need to be decommissioned because they are old or water storage has been replaced by sediment storage.

Decommissioning isn't a choice and it never was. It is something we have to deal with and it has to become part of the management plan for the users of the Colorado River. This is why the campaign to decommission Glen Canyon Dam is legitimate and this is why it will continue.

Right now the Bureau of Reclamation is performing an Environmental Impact Statement (EIS) on the operations of Glen Canyon Dam and Hoover Dam. The only proposal that addresses the need for long-term management was submitted by the staff of Living Rivers. The document is called "The One-Dam Solution" and has 70 citations.

I recommend that you read this report (and the others) and get ready to provide comments yourself when the Draft EIS comes out sometime at the end of 2006. Please visit these web pages to download the comments that were submitted during public scoping. The EIS is called "Shortage Criteria" or more succinctly, the Development of Management Strategies for Lake Powell and Lake Mead Under Low Reservoir Conditions. Here are the downloading urls:

http://www.usbr.gov/lc/region/g4000/strategies/list.html
http://livingrivers.org/pdfs/TheOne-DamSolution.pdf

Following is the letter written to BoR by Living Rivers and Colorado Riverkeeper with the support of 144 groups both non-profit and profit (200 groups support a Glen Canyon Dam Supplemental EIS).

November 30, 2005
Mr. Bob Johnson
Regional Director
Bureau of Reclamation, Lower Colorado Region
Attention: BCOO-1000
P.O. Box 61470
Boulder City, NV 89006-1470

Mr. Rick Gold
Regional Director
Bureau of Reclamation, Upper Colorado Region
Attention: UC-402
125 South State Street
Salt Lake City, Utah 84318-1147

Dear Mr. Johnson & Mr. Gold,

Living Rivers, Colorado Riverkeeper, and the 144 undersigned organizations submit the following report, The One-Dam Solution, as scoping comments for the development of management strategies for operations at Lake Powell and Lake Mead, on the Colorado River, under low reservoir conditions.

With current demand for Colorado River water nearly at the river's historical annual flow of 13.5 million-acre feet (MAF) and rising, and government-sponsored scientists anticipating average annual flows to decline 18 percent by 2040, the prospect of ongoing low water conditions for Colorado River reservoirs is a near certainty. The average flow of 60 percent into the system for the past six years is firm evidence of this.

For more than 25-years, government scientists and administrators have warned that shortages would be occurring now. This action is the first to reexamine the flawed operational strategies that have been in place as far back as 1922 when the Colorado River Compact allocated 11 percent more water than the Colorado River has to give.

Reexamining these two reservoirs is critical, as they constitute more than two-thirds of the system's storage capacity, which with declining inflows and increased demand are proving excessive.

Meanwhile, these two reservoirs can cause the loss of upwards of ten percent of the river's average annual flow due to evaporation—valuable water for critical habitats and water users downstream.

Furthermore, the challenges facing the future operations of these reservoirs go beyond water allocation and storage inefficiencies. Sediment entering Lake Powell will eventually compromise Glen Canyon Dam's safety. Despite recent warnings that this could happen sooner than the 40-year-old estimate of 2060, there has been no comprehensive monitoring or analysis conducted to address this inevitable problem.

Lastly, despite more than $200 million already spent, no gains have been made to restore the critical habitat for endangered species in Grand Canyon National Park impacted by Glen Canyon Dam's operations. The mandates of the Grand Canyon Protection Act and the Endangered Species Act in particular are being ignored to maintain Lake Powell even though it is proving to be both wasteful and

unnecessary for water storage.

It is therefore critical that the Bureau of Reclamation broadly reexamine the operations of these facilities in accordance with preparing an Environmental Impact Statement to address the following:

1) Pursue transfers of Lake Powell and Lake Mead storage to groundwater aquifers.

2) Develop a sustainable sediment management program for Lake Powell and Lake Mead.

3) Determine the costs and benefits of decommissioning Glen Canyon Dam to restore natural flows through Glen and Grand Canyons.

4) Identify new water allocation guidelines to reflect the amount of water the Colorado River actually provides, how it should be distributed and what amounts are needed to protect critical habitats in Grand Canyon and elsewhere.

A water management crisis is looming on the Colorado River. The federal government, as Water Master, has the responsibility to help avert this. Most of the issues addressed in the attached report are not new, but continuing to ignore them will only worsen the impacts once the crisis arrives.

Thank you for the opportunity to submit these comments. We look forward to assisting the Bureau of Reclamation in developing this Environmental Impact Statement concerning the protection of water resources from the Colorado River in times of shortage.

Sincerely yours,
John Weisheit
Conservation Director, Living Rivers
Colorado Riverkeeper

Attachment: The One-Dam Solution
Submitted July 26, 2005 at Henderson, Nevada

On behalf of the following groups:

A Critical Decision, Alabama Environmental Council, Alaska Coalition, American Wildlands, Animas Riverkeeper, Appalachian Forest Coalition, Audubon Society of Greater Denver, Ballona Institute, Black Warrior Riverkeeper, Blackwater/Nottoway Riverkeeper, Bluewater Network, Boulder Regional Group, Buckeye Forest Council, Californians for Western Wilderness, California Save Our Streams Council, Casco Baykeeper, Castle-Crown Wilderness Coalition, Center for Biological Diversity, Choqueyapu Riverkeeper, Citizens of Lee Environmental Action Network, Citizens Progressive Alliance, Coalition for Jobs and the Environment, Coastal Law Enforcement Action Network, Cold Mountain & Cold Rivers, Coloradans for Utah Wilderness, Colorado Plateau River Guides, Colorado White Water Association, Columbia Riverkeeper, Conservation Northwest, Coosa River Basin Initiative, Devil's Fork Trail Club Dogwood Alliance, Earth Action Network, Ecology Center, Electors Concerned about Animas Water, Endangered Habitats League, Erie Canalkeeper, Flagstaff Activist Network, Forest Guardians, Forest Watch, Forests Forever, Foundation for Global Sustainability, Four Corners School of Outdoor Education, Free the Planet, Friends of Living Oregon Waters, Friends of the Animas River, Friends of Blackwater Canyon, Friends of the Earth, Friends of the Eel River, Friends of the Estuary at Morro Bay, Friends of Hurricane Creek, Friends of the Milwaukee River, Friends of the Nanticoke River, Friends of Yosemite Valley, Gifford Pinchot Task Force, Glen Canyon Institute, Goods From The Woods, Grand Canyon Private Boaters Association, Grand Riverkeeper, Great Egg Harbor Watershed Association, Great Old Broads for Wilderness, Greenaction for Health and Environmental Justice, Green Delaware, Green Party of Utah, Green Party of York County, Hells Canyon Preservation Council, Hudson Riverkeeper, Hurricane Creekkeeper, Indiana Forest Alliance, Inland Empire Waterkeeper, International Rivers Network, International Society for Preservations of the Tropical Rainforest, Johnson County Green Party, Jumping Frog Research Institute, Kern Valley River Council, Kettle Range Conservation Group, Land Institute, London Canalkeeper, Lone Tree Council, Los Alamos Study Group, Louisiana Bayoukeeper, Lower Neuse Riverkeeper, Maricopa Audubon, Milwaukee Riverkeeper, Montana River Action, Morava Riverkeeper, National Organization for Rivers, National Water Center, New Riverkeeper, New River Foundation, Northwest Rafters Association, Northwoods Wilderness Recovery, Neuse River Foundation, Ogeechee-Canoochee Riverkeeper, Orange County Coastkeeper, Oregon Natural Desert Association, Outdoor Adventure River Specialists, Outward Bound West, Patapsco Coastkeeper, Patrick Environmental Awareness Group, Puerto Rico Coastkeeper, Raritan Riverkeeper, Red Rock Forests, Restore: The North Woods, Ridgeline & Open Space Coalition, River Runners for Wilderness, Riverhawks Rocky Mountain Peace and Justice Center, Russian Riverkeeper, Sacramento River Preservation Trust, Salt Creek Watershed Network, San Diego Coastkeeper, San Luis Obispo Coastkeeper, Santa Monica Baykeeper, Satilla Riverkeeper, Save the Illinois River, Siskiyou Project, Snake River Alliance, South Riverkeeper, South Yuba River Citizens League, Southern Appalachian Forest Coalition, Southern Utah Wilderness Alliance, Spirit of Sage Council, Swan View Coalition, Taking Responsibility for the Earth and Environment, Taxpayers for the Animas River, The Clinch Coalition, The River Project, Umpqua Watersheds, Upper Coosa Riverkeeper, Upper Neuse Riverkeeper, Ventura Coastkeeper, Virginia Forest Watch, Waterkeepers of Austrailia, West/Rhode Riverkeeper, Western Lake Erie Waterkeeper, Western Lands Project, Western Watersheds Project, Wetlands Action Netork, Wild South, Wild Virginia, Wild Wilderness, Wilderness Watch and Wildlaw.



Press Release

November 8, 2005
For immediate release
Contact: John Weisheit, 435-259-1063
Dr. Robin Silver, 602-246-4170

Federal Government Notified of Intent to Sue Grand Canyon Fish v. Glen Canyon Dam

Living Rivers and the Center for Biological Diversity today notified the Bureau of Reclamation and Fish and Wildlife Service of their intent to sue over violations of the Endangered Species Act resulting in the demise of endangered native fish in Grand Canyon National Park.

For more than a decade the Bureau of Reclamation has been required to modify the operations of Glen Canyon Dam on the Colorado River to reverse the dam's downstream impacts on Grand Canyon's famed river ecosystem. However, as outlined in a letter sent to Department of Interior officials today, these efforts have failed.

"Since the Fish and Wildlife Service issued its Biological Opinion on the dam's operations in 1994, the Bureau of Reclamation's actions have merely made things worse," says Living Rivers Conservation Director John Weisheit. "One more fish species is effectively extinct in the Canyon, and another is on the verge."

Just eight native fish species once lived in Grand Canyon's desert river corridor, six of which could not survive anywhere else in the Colorado River. Now only four species remain, one of which, the Humpback Chub, has declined to just a few thousand fishes.

In 1992 Congress passed the Grand Canyon Protection Act to reverse this decline. Following the completion of an Environmental Impact Statement, three years later, the Glen Canyon Dam Adaptive Management Program was established to guide the Bureau of Reclamation in implementing recovery guidelines set forth by of the Fish and Wildlife Service.

Now, some 13 years later, the United States Geological Survey has evaluated this program and has confirmed what many scientists have been saying for years, that recovery is not being achieved. Released on October 25, their 220 page "The State of the Colorado River Ecosystem in Grand Canyon" report states:

"...it is clear that the restrictions on dam operations since 1991 have not produced the hoped for restoration and maintenance of this endangered species

"Overall, about 15% - 20% of the adult humpback chub are dying each year. If this mortality rate and the dramatically reduced recruitment rate of young chub experienced since the early 1990s remain unchanged, there will be a decline in the adult population of humpback chub from the present 3,000 - 5,000 fish to a level of 1,500 - 2,000 adult fish over the next 10 - 15 yr.

"...the MLFF [Modified Low Fluctuating Flow] operating alternative has not effectively mitigated the influence of regulation with respect to either the thermal and hydrologic changes or the fine-sediment supply limitation of the downstream ecosystem."

"It's outrageous that the public has invested more than $200 million to help the Bureau of Reclamation restore the river habitat in Grand Canyon, and all they have to show for it is fewer fish." says Dr. Robin Silver, Board Chair of the Tucson-based Center for Biological Diversity. "It's time they re-tool their strategy before Grand Canyon's river ecosystem is lost forever."

The groups are demanding that in light of the mounting evidence of no progress, the Fish & Wildlife Service is compelled by law to immediately reinitiate consultation and devise a new strategy to ensure recovery of Grand Canyon native fish, particularly the Humpback Chub. Key issues that must be addressed are:

* Restoring a water temperature regime that once fluctuated seasonally from near freezing to 80 degrees Fahrenheit, but now is a constant 47 degrees year-round.

* Restoring river flows that fluctuated seasonally from 3,000 to 100,000 CFS (cubic feet per second), but now can fluctuate daily from 8,000 to 20,000 CFS.

* Restoring the sediment and nutrients that nourished Grand Canyon's aquatic habitat, 95 percent of which is now trapped by the dam annually.

* Controlling non-native fish which have flourished in this new environment, competing with, and preying on, the native fish.

"The Colorado River through Grand Canyon is one of this planet's most precious gifts, but the Bureau of Reclamation remains hell-bent on destroying it," adds Weisheit. "This ecosystem may not survive much longer with that dam in operation, but we could certainly survive were that dam not there."

More than 200 groups from across the country now advocate the decommissioning of Glen Canyon Dam as the best alternative for restoring the river ecosystem in Grand Canyon National Park.

For more information:

60-day notice letter
http://www.livingrivers.org/pdfs/CBD_LR_Notice.pdf
Biological Opinion: Glen Canyon Dam
http://www.livingrivers.org/pdfs/BOgcd.pdf
USGS SCORE Report, released on October 25, 2005
The State of Natural and Cultural Resources in the Colorado River Ecosystem
http://www.gcmrc.gov/products/score/2005/score.htm
LR Press Release, October 24, 2005
Grand Canyon Restoration Program, a Failing Grade
http://www.livingrivers.org/archives/article.cfm?NewsID=690
Glen Canyon Dam Adaptive Management Program
http://www.usbr.gov/uc/rm/amp/index.html
Living Rivers
http://www.livingrivers.org/
Center for Biological Diversity
http://www.biologicaldiversity.org/swcbd/

Colorado Plateau River Guides
PO Box 344
Moab, UT 84532

Forwarding and return postage guaranteed. Address correction requested

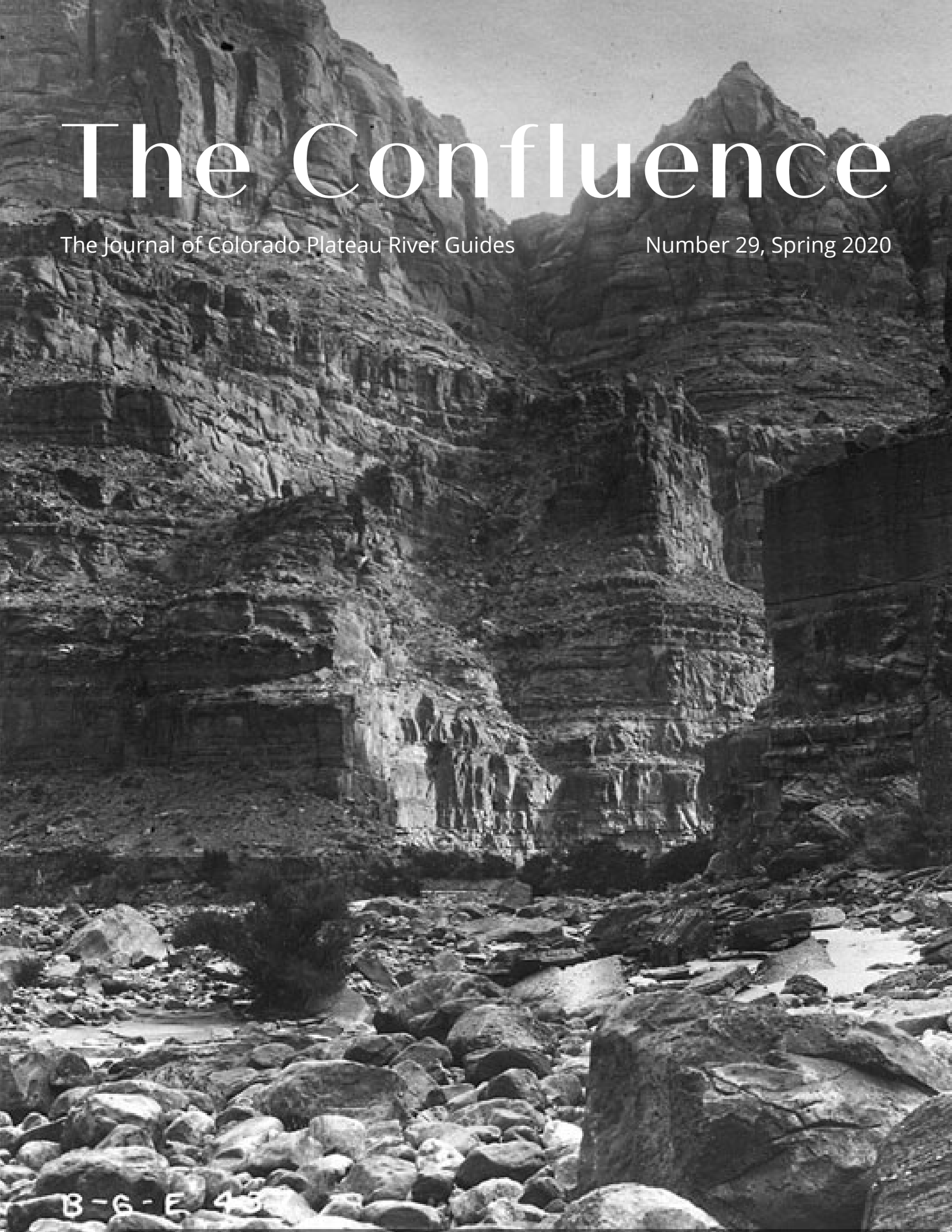


New Ferry at Sand Wash 1929
Photo: Arden Stewart Collection

The Confluence

The Journal of Colorado Plateau River Guides

Number 29, Spring 2020



The Confluence

...wants to be the quarterly journal of Colorado Plateau River Guides. CPRG is a 501(c)(3) river and guide advocacy organization.

General Membership

Open to anyone who loves to work and/or play on the Colorado Plateau.

CPRG Board

Jake Deslauriers — Resford Rouzer
Marshall Dvorscak — Marianne Becnel
Richard Rootes — Geddy Desmond
Colin Evans (President)

A SPECIAL THANKS to our donors:

Richard Rootes — Eddyline Welding

Oars

Contact Us

420 Kane Creek Blvd Moab, Utah 84532
coloradoplateauriverguides@gmail.com
riverguides.org

Managing Editor Geddy Desmond

Printing Times Independent

Note: Printed on Hammermill Fore MP

The mark of responsible forestry

We are always looking for member content!

DISCLAIMER

The opinions and statements made within the pages of The Confluence are those of the author(s) and do not necessarily represent the position of the guide membership, the board of the Colorado Plateau River Guides, nor our fiscal sponsor. If you wish to share an opinion, please send your comments to coloradoplateauriverguides@gmail.com.

Scan the QR code for access to past editions ---->

On The Cover

Dark Canyon entering Glen Canyon. Taken during the 1909 river expedition of Nathaniel Galloway and Julius Stone, accompanied by photographer Raymond Cogswell. Their three month journey took them from Green River, Wyoming to Needles, California. The expedition is generally considered by historians of the Colorado River to be the first that was undertaken purely for pleasure, similar to modern river runners.
Published by J. Willard Marriott Library, University of Utah

On The Back

Dark Canyon entering Glen Canyon. Taken on October 8, 2015 @~7,000 CFS.

The Prez Sezs

Friends,

Good news, The Confluence is back! (That's about all I've got in that category) Issue 29 arrives on our screens instead of our hands, in a strange and difficult time. As the streams started to thaw and we began to dust off our jeans and pliers, whoops, I mean our board shorts and pelican boxes, our community has been confronted with the reality and struggles of a global pandemic. There is little comfort we can find in this situation other than the fact that we are not alone in this experience. In the spirit of not being alone, we are proud to be able to share this work with you, and hope that it provides education, inspiration, memories, and comfort during a time when all of that is needed. With the exception of this publication, all of our 2020 projects have been either delayed or cancelled. We are shifting our focus as an organization to see how we can best provide assistance to our community during these trying times. Please stay tuned with us for updates, and read within as well. We have printed and distributed a hard copy to lifetime members and benefactors, we will also provide this in digital format. The Confluence will be for sale when events and projects come back online. The hard copy will be a well deserved nod to our lifetime members, and a welcoming gesture to our new readers. In 2017, a group of river enthusiasts got together to reignite the old Colorado Plateau River Guides organization. Israel Garcia, Lars Haar, Casey Montandon, Sarah Sidwell, and Laurel Hagan laid the foundation and did the grunt work for getting CPRG 501 C3 status.

We thank you for your dedication to the project and your trust in us carrying on your work. In the past, CPRG played an important role in the upper basin guiding community, offering resources for education, and tools for guiding such as interpretive trips and a journal of stories and information. We are proud to provide the latest issue of that journal. It is our intention to produce biannual publications of the Confluence as we get started. We are already looking ahead to issue 30, and we encourage you to get involved in the project. I would also like to sincerely thank Robert Tubbs for his contribution of the Black George Oral History found within this issue. We look forward to publishing more of your work and helping with this important historical documentation. A big thanks as well to John Weisheit for his continuing support and help with The Confluence journal and his good grace of letting continue everything that he started. Issue 29 seems like an appropriate place to introduce the new board members of CPRG. We are an all volunteer board, and I can't begin to thank everyone enough for their countless hours of meeting, brainstorming, and working towards making these projects a reality. Resford Rouzer is the marketing director at CFI. He is also a KZMU board member. Resford moonlights as the Secretary of the CPRG board and his knowledge of the non-profit world has been invaluable to the existence of CPRG.

Marianne Becnel is a medical assistant at the Moab Regional Health Center and a Moab City Planning Commissioner. She serves as the CPRG treasurer and is continuing to work with health care providers to make sure our guides have access to annual, free skin cancer screening as well as other resources (stay tuned!). Richard Rootes has been guiding on the Colorado Plateau for many years and we welcome his insight and dedication to our project and congratulate him for recently attaining the status of retired river guide. Richard happens to be a live interpretive information machine and I encourage anyone to hop on his boat during a training trip if the opportunity arrives. Richard spearheaded the river running book project with the Grand County Library. Jake Deslauries brings a wealth of professional knowledge about the functions of a non-profit organization. When he is not busy keeping us grounded in reality, Jake is the Project and Partnership Coordinator for the USU Conservation Corps. Marshall Dvorscak is a lifelong river runner turned local business owner. He owns and operates Moab Gear Trader, an outdoor gear store that sells new & used outdoor gear & clothing. His business acumen has played an important role in our reprisal of CPRG. Go buy our sticker at his shop, support the non profit, and legitimize your van, bike, or ammo can. Finally, a big thank you to Geddy Desmond, former river guide turned GM of the family-owned Real Green Clean, who has spearheaded the Confluence project. And whether he likes it or not is the editor in chief of this publication.

We are excited and proud to deliver this important journal to you again, and hope that you will become a contributor in the future. My name is Colin, and I like to do river stuff. Currently, I am a professional bozo at Tex's Riverways. We hope everyone remains safe and healthy, and we look forward to seeing you back on the river soon.

Lots of love,

Colin Evans, *Board Chair*

In This Issue

Black George Simmons.....4

Public Lands and Tourism in Rural Utah.....21

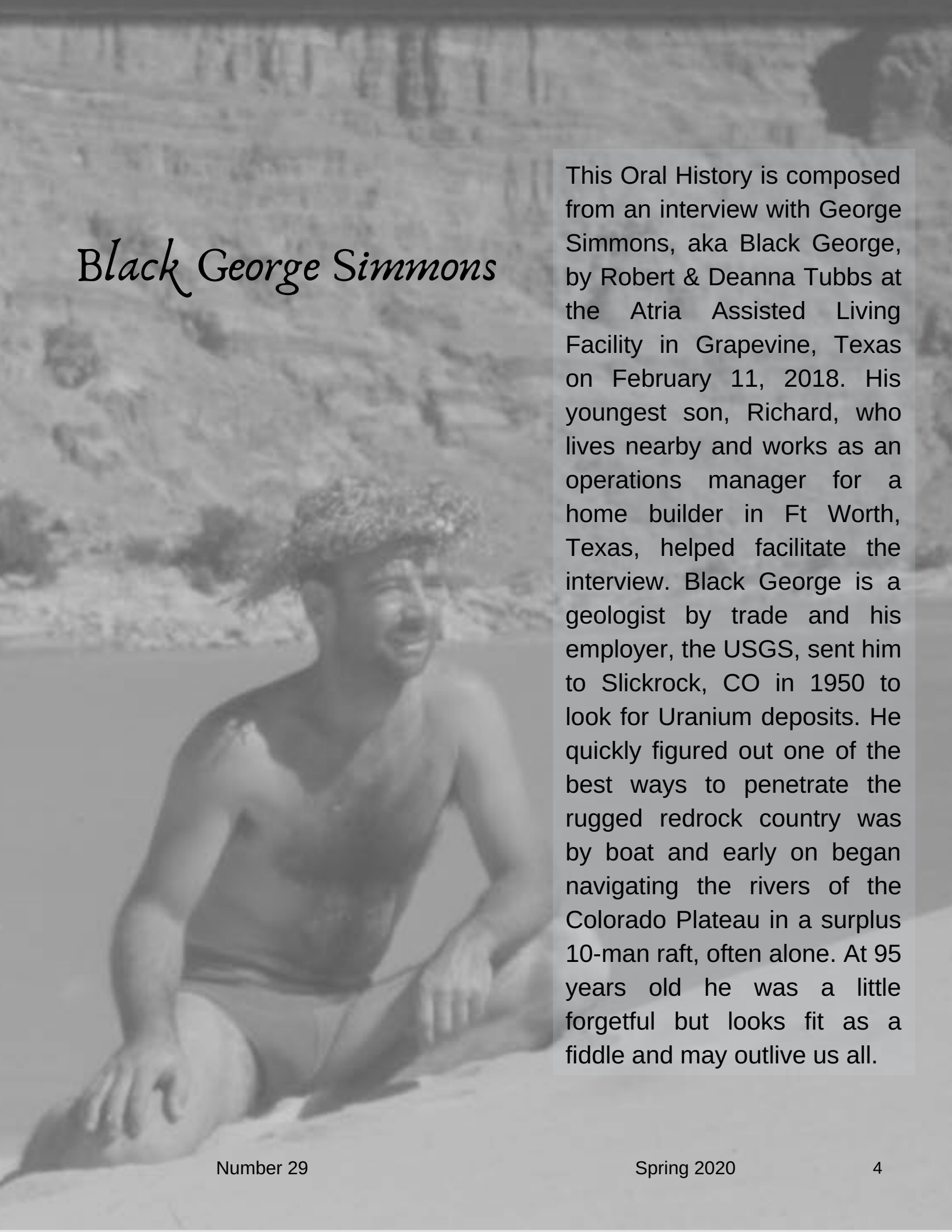
The Claw.....25

Science Moab: Really Big Water.....29



Millie Crag Bend, Galloway-Stone Expedition, 1909 Photographed by Raymond Cogswell

Black George Simmons



This Oral History is composed from an interview with George Simmons, aka Black George, by Robert & Deanna Tubbs at the Atria Assisted Living Facility in Grapevine, Texas on February 11, 2018. His youngest son, Richard, who lives nearby and works as an operations manager for a home builder in Ft Worth, Texas, helped facilitate the interview. Black George is a geologist by trade and his employer, the USGS, sent him to Slickrock, CO in 1950 to look for Uranium deposits. He quickly figured out one of the best ways to penetrate the rugged redrock country was by boat and early on began navigating the rivers of the Colorado Plateau in a surplus 10-man raft, often alone. At 95 years old he was a little forgetful but looks fit as a fiddle and may outlive us all.

Tubby: What brought you to the river?

Black George: Well, I have a good friend named David Gaskill and his wife Gudy Gaskill. I did a lot of mountain climbing, not really climbing just scrambling with them, and she started running rivers just to see what the country looked like.

Tubby: Where were you living at the time?
Black George: I think I was living in Salt Lake.

Tubby: And where'd you meet the Gaskills?

Black George: I met Dave Gaskill in 1942 at a summer field camp out of the University of Colorado which was up beyond Boulder, CO. I've been going with them since that time. Dave was actually...when I met him he was living in Kansas City.

Tubby: When was your first river trip?

Black George: My first raft trip was on the Yampa with Gudy Gaskill and a lady from Pennsylvania, a friend of hers – Helen Hartell. The three of us, and that was in September '49.

Tubby: That would be low water, September.

Black George: Yep.

Tubby: Where did you get your boats?

Black George: They were army surplus and I got them for nothing – sort of cheated for them. You could get them from the USGS. If they thought they were for government work, they'd give them to you.

Tubby: So you got a whole set of boats from the government?

Black George: They had a bunch. I think they called them, ten-man sized. They're about 14 feet long.

Tubby: So you just took them home...

Black George: ...inflatables. So we'd just take them, yeah. I had two or three of them.

Tubby: Did the Gaskills have their own boats?

Black George: Yeah.

Tubby: Same thing, ten-mans?

Black George: No, they had some other ones. They had some fives and sevens.

Tubby: Small.

Black George: Yeah, pretty small.

Tubby: How long was that first Yampa trip?

Black George: Not very long, seemed like about three days.

Tubby: Is that where you learned to row?

Black George: Oh, no. I learned to row when I was about eight years old. I lived in New Orleans. My father used to go fishing. They'd rent a cabin cruiser, and the guy who owned the cabin cruiser had a bunch of skiffs stashed out in the bayous. And we'd go out to where he had the skiffs and pick them up and go around to different places in the bayous to go fishing. So I used to row my father.

Tubby: Okay. He'd fish while you rowed?

Black George: Yeah.

Tubby: So when it was time to go down the river, you had no worries. You ...

Black George: No, I already knew how to row.

Tubby: Did you have to build your own rowing frame?

Black George: Yes, they were all made out of two by fours. We had two long ones like that (hand gestures), that would sit right on the sides of the boat. I can't remember the oar locks.

Tubby: Where did you get your oars?

Black George: Army surplus. My first trip started at Mantle Ranch. There was a way you could come in by a long back road ...didn't go up to the head of the canyon.

Tubby: Okay, so you put in at Mantle.

Black George: Yeah, the first trip.

Tubby: Okay, so you didn't put in up at Deer Lodge.

Black George: No, I went there on the second trip through.

Tubby: You did this Yampa trip and you must have liked it.

Black George: Oh, yeah!

Tubby: Then you said, “I want to go everywhere.”

Black George: Got right on to the USGS Exploration of the Colorado River, we’d use information off of those reports as to where we were going to go.

Tubby: And where were your next trips?

Black George: Let’s see...went down the Yampa first. Next trip was a solo trip through the Cataract Canyon.

Tubby: Solo, just you?

Tubby: When was that?

Black George: I guess it was 1950.

Tubby: And you were how old then?

Black George: Well I was born in ’23. {He was born September, 9, 1923 in Kansas City, Missouri}

Tubby: Okay, and you had no qualms about going down the river by yourself?

Black George: No.

Tubby: How long did you go - a week?

Black George: Let’s see, the one down the Colorado I think was eight days. It took me three days to get down to the confluence with the Green. The water was really low then. I put in at Moab.

Tubby: What time of year? In the fall?

Black George: Yep.

Tubby: What were the rapids like - pretty rocky?

Black George: I would say the rapids were much easier at low water. I would start in over at one bank and come in about one-third of the way across and break through; the river would be feeling like that; I would go in about there; take that hump over that wave and there was usually a back water there and kind of slack stuff next to the side. I tried to get into that so I wouldn’t ... I wasn’t taking the heavy stuff. Later on I would deliberately go into the heavy stuff. To start out I wasn’t sure what was going to happen! (laughter)



Boats from Black George's 1956 USGS trip. It seems entirely possible that these exact frames are still in commercial use today.

Tubby: Did you stop and look over the rapids?

Black George: Oh, yeah. Stopped and looked at everything.

Black George: I had the USGS river maps were made in 1923...5, I forget when. But I had good maps.

Tubby: You were using the plan and profile plus the maps?

Black George: Yeah.

Tubby: Yeah, those came out in the early twenties. Do you remember anything special about the rapids underneath Lake Powell like Gypsum or Dark Canyon Rapids?

Black George: Yeah.

Tubby: What were those like? Because you were one of the few guys who ever saw them.

Black George: I can remember both of those. Dark Canyon, that was pretty rough. I came way over on the left side. You get over on the right there and it really kind of funneled in and got pretty big, so I stayed on the left so I wouldn't hit the big water. When I did ride big water, I'd usually come in about a third of the way across and move over like that and you wouldn't get in the main trough but you get pretty close to it.

Tubby: Do you remember Gypsum Rapid?

Black George: Yes. Gypsum had a bad reputation but none of it was real bad in low water or I would have never made it!

Tubby: Do you remember any other rapids down there in the lower end other than Gypsum and Dark? I've heard there were rapids at Bowdie Canyon.

Black George: Yeah.

Tubby: Maybe Clearwater Canyon had a rapid, Rock Fall?

Black George: All of those I could cheat kind of.

Tubby: None of them were very hard?

Black George: No, they would be if you went down into the middle of them. I'd just get about a third of the way out and take whatever came.

Tubby: Do you remember Capsize - Number 15?

Black George: I remember the name of it, but I don't remember having any trouble there.

Tubby: That first trip down Cataract sounds pretty amazing by yourself.

Black George: I did most...I didn't live with anyone who did any boating. People I boated with were they started the boating. They would mostly go down Glen Canyon. They didn't do much of the rapid stuff. They'd do the Yampa and ...

Tubby: Any other rivers you did early on?

Black George: I did everything on the Green.

Tubby: Starting from where?

Black George: Well, I made one trip all the way from Green River.



At least 1 crew on Black George's 1956 Cataract Canyon trip opted to line their boat down the left side of Capsize.

Tubby: Utah or Wyoming?

Black George: Wyoming. I made one trip from there but there's nothing for about maybe 60 miles down to where you go into the Uinta [Mountains].

Tubby: Right. At Lodore?

Black George: No, Flaming Gorge.

Tubby: Uh-huh. So what year would that have been?

Black George: In 1953.



So this was a thing. Dave Arnold lashing boats together at Big Drop 3 on a trip with Black George in 1952

Tubby: You would have done Ashley Falls in Flaming Gorge.

Black George: Yeah, yeah.

Tubby: Do you remember that one?

Black George: Yeah, I thought Ashley Falls was overrated.

Tubby: Really! Why was that ...it was easy?

Black George: There was kind of a rock pile in the middle. You'd go down one side or the other and then come in...

Tubby: That was that? Huh. How about Lodore? When you went from Green River, Wyoming how far down river did you go?

Black George: Just to the mouth ...what's the name of that town to the north in Utah?

Tubby: Manila, UT?

Black George: Right after Flaming Gorge. I can't remember the name. We came out there near...I can't remember the name of the town in Utah.

Tubby: Okay. You passed the Yampa confluence.

Black George: Yep.

Tubby: And then you go through Split Mountain.

Black George: Yeah.

Tubby: And you come out near Jensen.

Black George: Jensen, yeah.

Tubby: So you took out at Jensen.

Black George: Yeah.

Tubby: Were you by yourself?

Black George: Yeah.

Tubby: In your good 'ole surplus ten-man.

Black George: Yeah.

Tubby: How long did that trip take?

Black George: That was eight days.

Tubby: You did a lot of rivers by yourself.

Black George: Yep.

Tubby: Mostly in the fall.

Black George: Yeah.

Tubby: Do you think Ashley Falls would have been harder in the spring?

Black George: Yeah (laughter). I did that stretch one spring.

Tubby: You did a spring trip?

Black George: There was a lot of cheating!

Tubby: That was in Flaming Gorge. You did it in the spring.

Black George: One spring, yeah.

Tubby: Wow, sometime later in the 1950s?

Black George: I can't remember. I was living in Salt Lake when I started running then I moved down to Carlsbad, New Mexico. So I made some trips from there, but they were always up on the Green somewhere. On those I'd be by myself.

Tubby: You were still with the USGS in Carlsbad?

Black George: Yeah.

Tubby: How did you do your vehicle shuttle when you were by yourself? Someone would drive you in?

Black George: Yeah.

Tubby: And they'd just meet you in a week or eight days at certain locations?

Black George: Yeah, one time I shuttled myself and hitchhiked back. Every river trip's a story.

Tubby: Did you ever get back to the Yampa after Warm Springs was formed?

Black George: Yeah, I've been down through it. I never did think much of Warm Springs. It was low water. I didn't think much of Warm Springs.

Tubby: Overrated, huh?

Black George: Yeah.

***

Tubby: So, tell me where you grew up.

Black George: New Orleans. My father was a professor of journalism at Tulane University. We moved to New Orleans in 1924, so I grew up there. I was there until I was 18 years old. Then I went into the service for a couple of years. I came back and went to school at Tulane in New Orleans.

Tubby: Growing up did you spend a lot of time in the outdoors?

Black George: I liked the outdoors, but we lived right in the city of New Orleans, so the most outdoors I had was Audubon Park.

Tubby: What drew you to spend your life field mapping for the geologic survey?

Black George: I got interested in geology - I don't know when. The family used to travel in the summer time. I just liked it in the mountains in Colorado.

At Tulane I started out in geology. They did mostly oil work and I wanted to be outside. While at Tulane, I went to the University of Colorado's geologic field camp out past Golden, CO - about ten miles past Golden. I just liked the outdoors. I didn't want to be inside all the time.

Tubby: You were finishing your degree at Tulane, but you went to the University of Colorado's field camp?

Black George: Yeah. I graduated Tulane in 1948. Looking around I found a university that I thought had a good outdoor program at Washington State for graduate school, and I really started my career from up there. I had summer jobs with the Washington State Geological Survey.

Tubby: Doing mineral work?

Black George: Yeah, I was looking for mines and mineral deposits.

Tubby: Hard rock? Copper?

Black George: Hard rock...copper, lead, zinc.

Tubby: Maybe some gold?

Black George: Yeah, gold - silver: always interested in the precious metals.

Tubby How about the war? Did it get in the way? Did you serve in the war?

Black George: I was in the naval reserves there for about three and half years, but I didn't go overseas. It was all over the [east coast] - I was in an anti-submarine [unit]. I was a tail gunner on a dive bomber {the Douglas SBD Dauntless aircraft}.

Tubby: Where'd you fly out of?

Black George: Several places in Florida, also up in Rhode Island.

Tubby: So this was a few weeks a year?

Black George: No that was full time. Yeah, '43...I guess I went in full time in '43, but I got into the naval reserve in '41. I was going to school in Tulane, and they had a ROTC unit. That's where I started out.

Tubby: Where were you stationed when you were full time?

Black George: I was at three different bases in Florida. I was at Key West.

Tubby: That sounds nice!

Black George: Oh, that was great! I'd like to be down there around Christmas time. It was just great! I was there and I was at, let's see, Opa-Locka just outside of Miami about twenty miles. Then I was at Jacksonville for about three months. Then I was at Rhode Island at a place called Matunuck, that's where we pulled Liberty... but there's, ...a, ... can't remember the base in Rhode Island. Not at the big base; it was a small one. {He was stationed at a now decommissioned airfield located about 3 miles south of where Quonset Point Naval Air Station is today}

Tubby: Where did you go for Liberty? Did you go to New York?

Black George: It was a little far down there, but went to New York a couple of times. Mostly went down there... can't think of the name of town now... on the coast {Likely Providence, RI}.

Tubby: Okay, and then you were always a tail gunner?

Black George: Yeah.

Tubby: Was that fun?

Black George: Yeah, I liked it!

Tubby: Yeah, I would think so! But you never got to fly the plane?

Black George: Yeah, he'd give you the controls sometimes.

***

Tubby: When did you start with the USGS?

Black George: I guess I started with them in 1950. I was just out of school; getting a master's degree from Washington State.

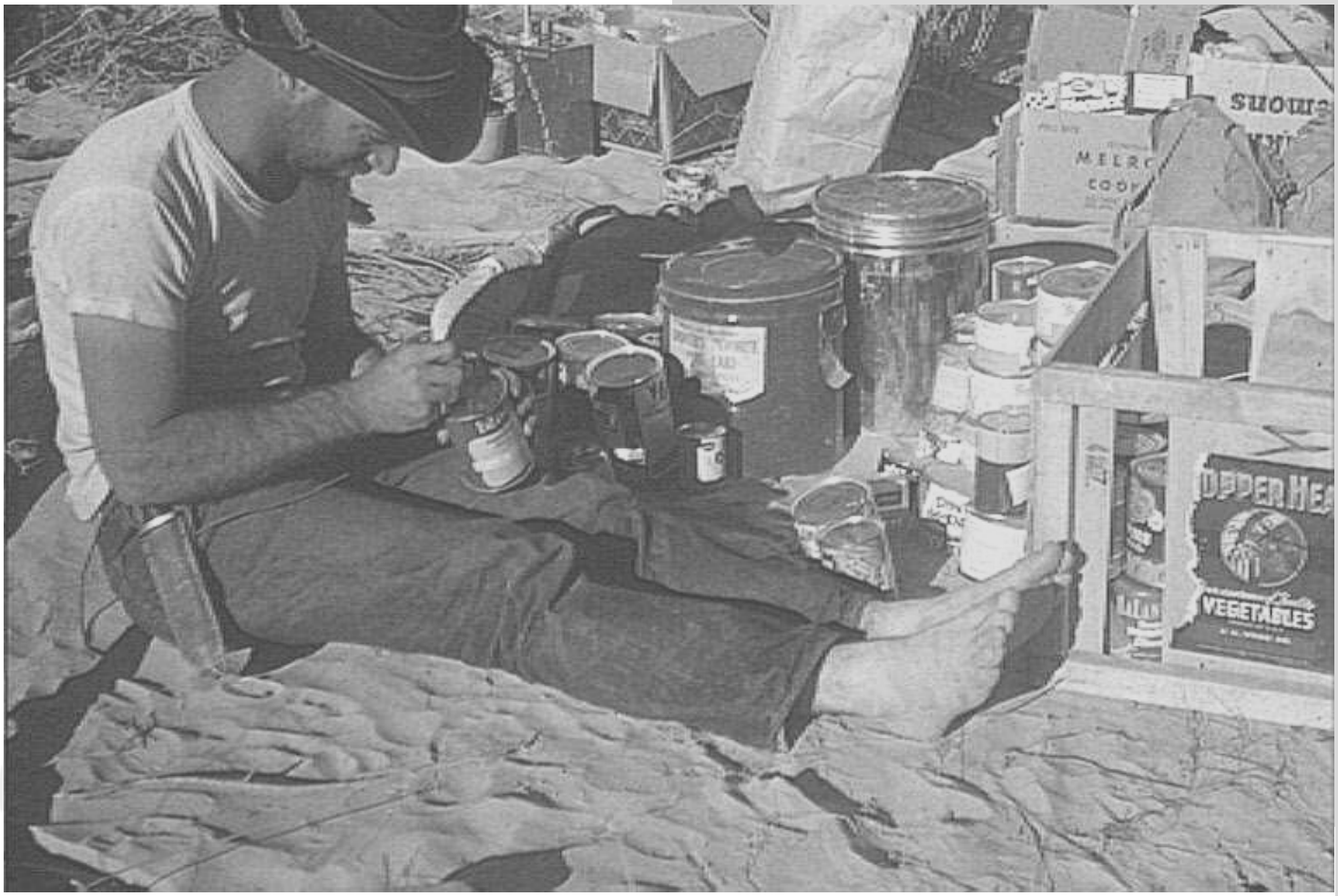
Tubby: When you went to work for the Geologic Survey, did you know that you'd be field mapping? Was that the agreement?

Black George: Yeah. When I first started with them... I was living in Washington State and staying in Denver visiting all the oil companies trying to find a job, and then I got a call from Spokane USGS saying they could use me for fieldwork up in Montana. So I hitchhiked from Denver up to Boulder, Montana. After the summer was over, I guess they decided I was capable of doing geologic work, and so the USGS hired me and I moved on to SLC. I got a variety of experience there. I had a great job. I was working for the regional geologist. People would call in, write in, and ask questions about things, and I would go out and see if I could answer them, you know.

Tubby: That would be good work.



Black George and mother in South America



undated photo of...supplies

Black George: So that was a lot of fun! Then I got sent down to a real project. I worked there in Salt Lake for two years. Then I got sent down to Carlsbad [NM]. USGS had a long term project down there in connection with the potash mines. So I was there two years. Then the uranium boom started up, and I was moved out to a uranium camp in Western Colorado. That was Slickrock. I was with the USGS in a uranium exploration camp in Slickrock, CO in 1949 or maybe 1950 {more likely 1953 or 1954}. We were looking for ground that was favorable for deposits - thicker sandstones of the Morrison Formation especially those that were carbonaceous. That is where the bulk of the ore occurred. It was sort of a reconnaissance mission.

Tubby: How long did you stay out there?

Black George: I don't know...four years... three or four years. We had our main camp for looking for uranium there. The USGS and the Atomic Energy Commission both had teams of geologists and there then were lots of random people looking to get rich. (laughter)

Tubby: People like Charlie Steen.

Black George: Yeah.

Tubby: Did you ever meet him?

Black George: No. No, I don't think so, but I was out there when he made his big find.

Tubby: Did you ever do any trips on the Dolores River?

Black George: Yes.

Tubby: Where did you go there?

Black George: Well, you can go upstream... I made a geologic map of the Dolores mining district. I mapped the canyon wall all the way through the Slickrock district...out to Disappointment Valley. From way up where you cross going up to the Glades. I've run that from that crossing all the way down the river. I trashed a 10-man raft on the Dolores. There's a real shallow, rocky rapid and I went over there and I ripped the bottom off the boat. I was living just up the hill three miles at the time.

Tubby: You mapped by yourself?

Black George: Yeah. We had a camp of around 40 people. It was about three miles up towards Egnar from the [state hwy 141] bridge at Slickrock, CO. Those were good days. I sure liked living out there. The weather was good and there must have been three families with smaller children out there at one time; you could just turn them loose and let them go!

Tubby: That was you, you had small kids?

Black George: Yeah.

Tubby: I don't think there's anything there anymore.

Black George: No, there's nothing up there. I've been up there a bunch of times since and never seen anything.

Tubby: When you were working was there a post office in Slickrock?

Black George: Part of the time there was. I think when I first started there, but we would get our mail up...what's the name of that store up there ...Egnar.

Tubby: How about Nucla or Naturita? Were those big towns?

Black George: They were. They were busy but they were sort of a separate part of the world over there. We had a camp over there but [I'd] never go over there.

Tubby: You never went over that way.

Black George: No...cause the boundary of our district was that ridge between Disappointment Valley and ...I can't remember all the names.

Tubby: Was the mine in Uravan? Was that in operation?

Black George: Yeah, Uravan was sort of the main center for field operations. USGS had a big establishment there in Uravan.



USGS camp near Slickrock

Tubby: When was your first Grand Canyon trip?

Black George: I can't remember...let's see...I think '55.

Tubby: Who was with you?

Black George: I was by myself.

Tubby: You did Grand Canyon by yourself?

Black George: Yeah, I didn't do the whole thing. I got out at ...where you hike down?

Tubby: Phantom?

Black George: Yeah, first trip was just the upper part of Grand Canyon.

Tubby: And you left your boat at Phantom?

Black George: Yeah.

Tubby: Did you come back and get it the next year?

Black George: I'm trying to figure... a couple of years later... one trip I made I'd only been down there, I hadn't been down the Grand yet all the way through and there was a caving outfit from California and they were looking for a boatman. And that's how I got my boat down at Phantom Ranch, and I got them to pack it out for me. The horse brought it up to the South Rim and I was there to get it.

Tubby: Where did you go caving?

Black George: On the way down you come through Marble Gorge and there are quite a few caves, easy to get to. By the time you get to the Grand Canyon, they're pretty much inaccessible [except] from the river. Raymond DeSossier was in charge of it. He didn't know anything about boating; he was just the leader of the trip.

Tubby: So they went caving in Marble. Did they go into Vasey's?

Black George: Vasey's Paradise. Yeah, there's a lot of caves around there.

Tubby: Was that a long trip?

Black George: I think 10 or 11 days...

Tubby: When did you come back to Grand Canyon?

Black George: I think I've done four trips through the canyon.

Tubby: Your other trips down Grand Canyon, were they with friends or commercial?

Black George: They've been with friends. One of them was a trip with friends, but they belonged to a climbing group in Denver.

Tubby: Colorado Mountain Club?

Black George: Yeah.

Tubby: And that was also in the '50s, before the dam?

Black George: No, I think that was after the dam.

Tubby: That was after the dam. Did you notice any changes from your earlier trips from before the dam to the ones after?

Black George: No because most of my trips in the Grand were on low water. I don't know if you could tell what was low.

Tubby: How about the beaches? What were they like back in the day?

Black George: There were great beaches.

***

Tubby: Did you ever go below Hite, go through Glen Canyon?

Black George: Yeah, I've been through... got to go through Glen Canyon before the dam.

Tubby: By yourself?

Black George: No, I went with some friends and we came down the San Juan until we hit Glen. And then followed Glen on down to where you got out...

Tubby: At Lee's Ferry.

Black George: Lee's Ferry.

Tubby: When was that?

Black George: 1957. I'm not sure about that.

Tubby: Did you hike to Rainbow Bridge.

Black George: Yeah. It was alright. We carried our water. There was enough water you could drink it out of the stream there.

Tubby: Do you remember when they built Glen Canyon Dam? Did you have any feelings about that?

Black George: I remember it, oh yeah. The people I boated with we were all against it. You see, Glen Canyon was really great. You could drive down a little ways and go up the side canyons. [They] were all beautiful - natural bridges.

Tubby: Being with the USGS, did you ever say anything about it?

Black George: The group I was with just was into mapping, and we didn't have anything to do with the dams.

Tubby: Your friends, did you ever meet any other parties while you were on the river or was it often you would see no one else?

Black George: No. On some trips you'd see nobody, and then there were a couple of commercial operators out of Salt Lake. Sometimes you'd see them in Glen Canyon.

Tubby: Do you remember who they were?

Black George: If I heard their name, I probably would.

Tubby: Jeez, who was running back then... well Georgie was doing trips. Georgie White.

Black George: Yes, uh.

Tubby: And then Jack Curry at Western would have been running in late 50s early 60s, I guess maybe Ken Sleight?

Black George: Yeah, Ken Sleight was pretty well known. I've seen his trips.

***

Tubby: Tell me about the San Juan:

Black George: San Juan. Yes, my first trip on the San Juan was a solo. Where did I start?

Tubby: You could start at Bluff, Mexican Hat, or maybe Montezuma Creek.

Black George: That's where?

Tubby: Montezuma Creek? That is near Aneth oil field.

Black George: Yeah. We'd start just below Aneth and go all the way down.

Tubby: Were there any rapids?

Black George: Yeah, in high water there were a couple of formidable ones, but I never made a high water trip on the San Juan, so they were all easy stuff.

Tubby: I heard there was a pretty big one that's underneath Lake Powell. I don't remember the name of it. The USGS 1921 expedition where Bert Loper was the lead boatman [ran it]. That was supposedly challenging.

Black George: I run through there but there wasn't anything very formidable when I went through.

Tubby: Did you see other boats?

Black George: I had a...what we called a yellow man seven... that I ran most of the stuff in, but later on I ran in these black neoprene that we called ten-man rafts. Those were the two. Most of the stuff was done in the yellow boats.

Tubby: Were those government surplus?

Black George: Yeah.

Tubby: And they called them yellow sevens?

Black George: Yeah.

Tubby: So it was a yellow seven man.

Black George: Yeah, I've done a lot of rowing in yellow sevens.

Tubby: Did you take a yellow seven through Cataract?

Black George: Yeah. My first through there was a solo trip in a yellow seven.

Tubby: That was '52, maybe?

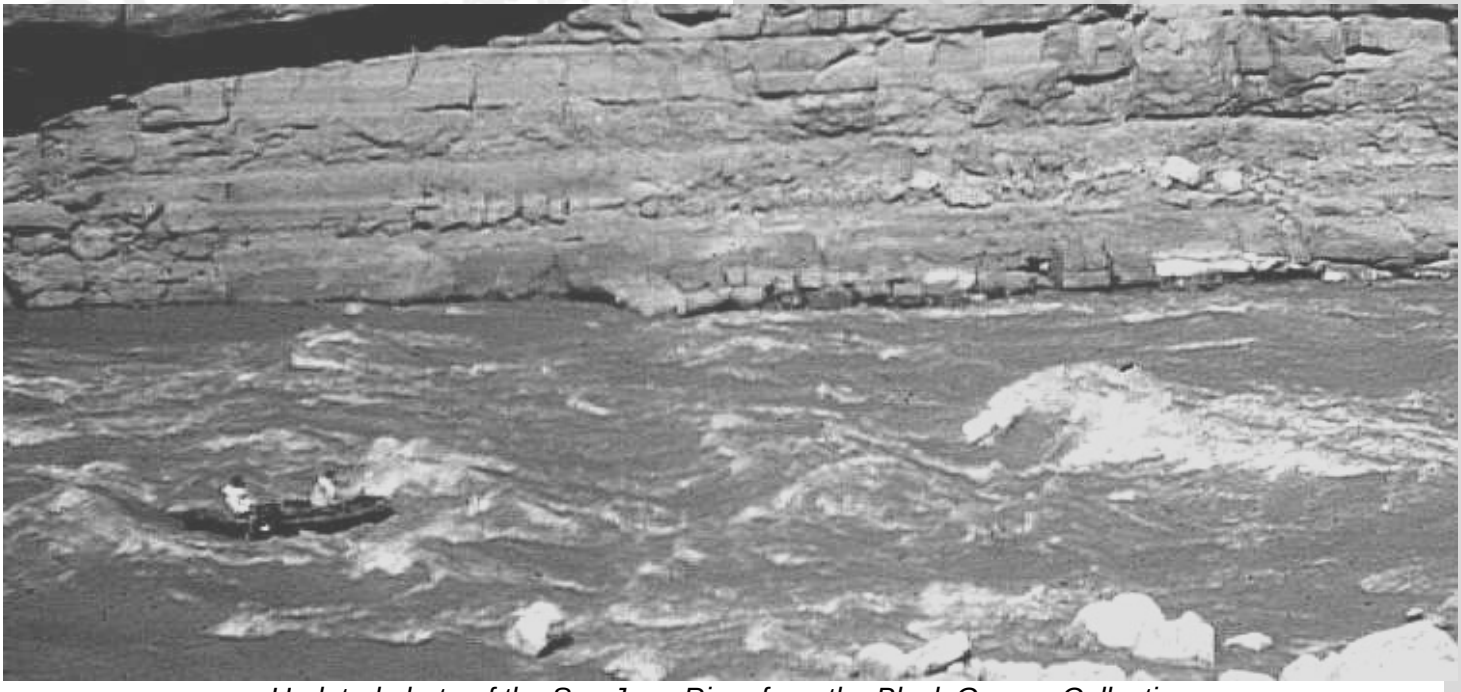
Black George: About then. '52.

Tubby: A friend of mine has your map from Cataract Canyon in 1952 where you've put a bunch of notes on it. He has a copy of that. Do you still have that map?

Black George: I don't know where any of my boating stuff is.

Tubby: And then there's also your journal from the 1956 trip? That is on the Canyonlands [National Park] website.

Black George: In 1956 I was working in Slickrock and in charge of mapping. We had two projects looking for uranium on both sides of the Colorado River, but they didn't have anybody with boating experience so they brought me in to sort of run their trip down the Colorado River from, let's see, we did Cataract Canyon. We ran that stretch from Moab down to Hite.



Undated photo of the San Juan River from the Black George Collection

Black George's USGS career took him to South America, Africa, Saudi Arabia, and all across the United States. Everywhere he went he took his raft to aid in his geologic field mapping efforts. In the jungle and areas with a humid climate, vegetation covers the rocks and the best outcrops are often along the rivers. During those years he also kept returning to the Colorado Plateau for river trips, usually with the Gaskill family.

Tubby: My understanding is you worked for the USGS overseas as well.

Black George: Went to Brazil. The uranium boom had kind of come to an end. They had enough to blow everybody in the world up! (laughter) They didn't need any more uranium. The uranium project folded up and the geologists were transferred to all kinds of different things. The USGS was trying to keep itself intact. They had a big organization they didn't want to give up. So my best chance was to go down ...foreign geology was one of the few places that the survey had money, and a lot of people didn't want to go overseas. I thought it was great, so I went down to Brazil.

Tubby: What did your wife think?

Black George: She didn't like the idea at first, but after she got down there, she really enjoyed it.

Tubby: Was your family with you?

Black George: Yeah. We were about 20 degrees south of the equator there. The youngest boy, Richard, was three when we were down there. Portuguese was really his first language. He grew up speaking English and Portuguese. He was fair headed, and boy, the Brazilians, they were crazy about him. They were dark skinned, dark haired. There was this little fair headed kid just speaking perfect Portuguese! (laughter)

Tubby: Right, right! A little out of place! Where'd they go to school?

Black George: There were a lot of Americans there and they had a community school. I forgot what they called it. There were a lot of government programs down there, and we had our fingers in all kinds of Brazilian pies at the time.

Tubby: Did you have a USGS camp where you were living with other Americans or were you on your own?

Black George: No, we had an office in Belo Horizante – Beautiful Horizon. Then we had field camps scattered all around. So I had a house in Belo Horizante. Brazil's got a lot of mineral deposits. There's one state called Minas Gerias - General Mines.

Tubby: And that's where your family stayed?

Black George: Yeah, they stayed there. They stayed in Belo Horizante. Where I worked was a field camp and I rented a house in a little town called Barao de Cocais. There had been a ... there's a lot of mining done nearby there. In older days there's a man from Austria, a Baron. The town was named for him – the Baron of Cochise. The Brazilians had made quite a bit of money out of the mining operation. Brazil had some of the biggest iron deposits in the world. They were developing some of those. I worked doing general geologic mapping in the area of iron deposits.

Tubby: And the geologists were Brazilian and American both?

Black George: Yes, but there were just a few Brazilians. They kept pretty much to themselves, and we had a big office in Belo Horizante, and our group, we had a big library with all kinds of stuff and [mineral] specimens there.

I was in Brazil for four years. I ran a few rivers there.

Tubby: You took your boat with you to Brazil?

Black George: Yeah.

Tubby: (laughter) You were thinking ahead!

Black George: There were a lot of rivers that nobody's ever run.

Tubby: What part? Were you over towards the mountains? Or were you in the Amazon?

Black George: Oh, well I was in the Amazon drainage but there's a big country out there! It's about the size of the United States, I guess, maybe a little bigger.

Tubby: Yeah. So tell me about those trips.

Black George: In those days I never really did anything difficult. It was really handy because I had a driver - he'd drive me in and take the vehicle around to where I was coming out and wait there a couple of days.

Tubby: Did you do those trips by yourself?

Black George: Yeah.

Tubby: Do you remember the rivers names?

Black George: The main was the Piracicaba, it is a main tributary to the Amazon.

Tubby: Were you in the Andes at elevation – was it more of a mountain trip?

Black George: There's kind of a step in topography there, and I was at about 3,000 feet.

Tubby: Do you remember the other rivers?

Black George: Yeah, let's see the Rio das Velhas - the River of Old Women.

Tubby: Well now, was that a good one?

Black George: Oh, yeah. There were lots of rapids!

Tubby: And all those trips were by yourself in a 10-man?

Black George: Yeah. Let's see...in the 1950s. I left Brazil in 1960. I'd say these trips were taken between 1957-1960.

Tubby: In western Brazil?

Black George: No, I would say interior. It was great climate - never got over 100 degrees and it never froze.

Tubby: Humid?

Black George: Seasonally

Tubby: Now when you did your river trips down there, was it for work or for fun?

Black George: Both.

Tubby: So you were mapping while you were boating?

Black George: Sometimes. The boating was not sponsored by the Brazilians. I did it all by myself, but I could bring in an assistant along to take samples and stuff like that. They shuttled my cars. It was pretty good.

Tubby: Did USGS give you some boats? Had a yellow seven or a ten man?



Black George: I used all my own stuff but I had all the support I needed. I could have anything I wanted.

Tubby: How'd you cook? Did you cook on a campfire?

Black George: No...carried a portable stove.

Tubby: Once you finished up in Brazil was there a big report or were you just in the middle of an ongoing project?

Black George: I might have a copy of that report here. Look around...yes, those are USGS professional paper on what I did in Brazil.

Tubby: You were doing mineral exploration?

Black George: Yes.

Tubby: Did you do a lot of drill holes or just field mapping?

Black George: No, I didn't do much drilling, mostly surface mapping.

Tubby: When you finished that up, you came back to the United States for awhile?

Black George: Yes, USGS had a mapping project in cooperation with the state of Kentucky, so when I came back from Brazil, I moved to Berea, Kentucky. There's a good little college there.

Tubby: Was Brazil your only overseas assignment?

Black George: No, I worked briefly on a UN project in Liberia a few years later. After our time in Kentucky we moved back to Denver for a few years before I went to Africa. The mineral deposits division I worked in had its headquarters in Denver. I just came back and started working from there. Whenever they needed property investigated, then go I'd out and...

Tubby: Did your family go with you to Liberia?

Black George: No, I was over there three months at a time. I did a lot of river boating, in fact, I used them for the work. Everything was covered by jungle. Most of the rock outcrops were along the rivers. We'd go down the rivers in low water - just before the rainy seasons.

Tubby: So you got more government boats?

Black George: Yep! I got practically everything done from the boats. I made numerous trips. I went over there one time on a two year assignment. Another time was just for three months.

Tubby: Your boys never went to Liberia with you?

Black George: Yeah they went with – when I was there on the two year assignment I had my family.

Tubby: That's something else.

Black George: Yeah.

Tubby: What language did they learn over there?

Black George: English. Yeah, the native languages - we never bothered with them.

Tubby: Oh, so what did you like better Brazil or Liberia?

Black George: Oh, Brazil was great. I liked Liberia - most people didn't. Everywhere you'd go they'd just ask you, "What are you going to do for me? What are you going to buy me for Christmas?"

Tubby: You were Santa!

Black George: Yeah, I liked Liberia but didn't care for the Liberian people.

Tubby: So that was in the late 1960s?

Black George: Some of it may have been in the 70s. I'm not sure. I'm looking around to see if I had that Liberian diary. I don't see it.

Tubby: Do you remember the names of the rivers you were on in Liberia?

Black George: Hummm...The Cavalla runs along the boundary of Liberia and the Ivory Coast. I ran about 120 miles on the Cavalla.

Tubby: Do you remember the rapids on the Cavalla River?

Black George: There were rapids here and there. There were some pretty good rapids! They'd usually be just below where a side stream came in ...usually a dry one.

Tubby: Were you the only boatman or were there other boatmen? Or was it some of the locals?

Black George: I always travelled with a local, kind of a guide. Sometimes they might row the boat, but I wasn't dependent on them.

Tubby: Did you run the rapids or portage?

Black George: Yeah, I liked to run them.

Tubby: That project, were you by yourself or with a team of geologists?

Black George: There was a long standing team over there. USGS had an office and there were several geologists working there. Most of their mapping would be in either mines or in roads cuts. Then the boats just gave us access to a lot more, but they didn't do boats until the end of the project.

Tubby: Was that your suggestion?

Black George: No, no. I was just part of the boat project.

Tubby: After that you came back to the United States, where were you living then?

Black George: Denver, working with the USGS office there.

***

Tubby: When did you get married and raise your family?

Black George: I was married to Celia when I was still in the Navy. I think that was 1946.

Tubby: Where is your wife from?

Black George: Upstate New York – Penn Yan in the Finger Lakes region.

Tubby: How many children did you have?

Black George: I had three boys. One of them died in his thirties and my youngest, Richard, lives here in town. His oldest brother, Clarke, is four years older and lives in Arvada, CO.

Tubby: I'm sorry to hear that. Was your wife with you every time you moved?

Black George: Yeah, but she never got into boating.

Tubby: Do you remember when you got divorced?

Black George: I had been married about 25 years {= 1972}.

Tubby: How long before you got remarried?

Black George: About a year and a half, I think.

Tubby: Has she passed or...

Black George: No, my second wife has a writing career of her own. She lives in ... I think she's in Moab. I don't know. I haven't kept track.

Tubby: Did you divorce from her as well?

Black George: Yes.Deanna

Tubby: Did she write about you?

Black George: I don't think so. (laughter) She probably threw things at me!

Tubby: What's her name?

Black George: I'm not sure what she...she was writing under the name of her second husband. She called herself Virginia McConnell. I don't know what she calls herself now.

Tubby: When you came back from Liberia, were your boys in college by then?

Black George: Yeah. Let's see. I guess my oldest boy had started.

Tubby: So you left him behind here in the United States.

Black George: Partly came back here so they could go to school.

Tubby: Where did they go to college at? Did they become geologists?

Black George: No, I was hoping they would. The youngest one became a geologist, but he found out he could make much more money in real estate [and keep a steady job].

{Black George and his family lived in Berea, KY for 4 years in the early 1960's after returning from Brazil. His boys were in grade & middle school there. His oldest 2 boys Clarke & David went to university at Colorado St briefly in the 1970's. His youngest son, Richard, went to Western St College in Gunnison, CO for two years and finished up his bachelor's geology degree in 1977 at Ft Lewis College in Durango, CO}

Tubby: So what do your sons do now?

Black George: Well, let's see. One of them is home builder here in Fort Worth. I take dinner at his house every Sunday.

Tubby: Are you going there tonight?

Black George: Probably, what time is it? I'm surprised he hasn't been by now. I go at mid-day.

{George's oldest son, Clarke, worked in maintenance at Lutheran Medical Center in Wheatridge, CO and is now retired}

***

Tubby: It must have been in the late 1970s that you were in Saudi Arabia?

Black George: Yeah, two years working on a surface mapping project. I had a place in Jeddah, but I was about half time in the city and about half the time out in the field at a desert camp.

Tubby: Was your family along?

Black George: No I was...this was much later. I was divorced and I was remarried. My second wife was with me part of the time I was in Arabia. Most of our hired help were Saudis, but we didn't do much with them socially. I had a driver. I drove myself over there for awhile, but they preferred for you to have somebody there in case something happened, they could take care of you.

Tubby: What were you mapping?

Black George: Just doing general geologic reconnaissance. We were slanted towards the minerals, but the country had never had any detailed mapping done.

Tubby: Did you get to name some formations? Did you name the Black George formation?

Black George: No, I didn't do that, they would frown on that. The USGS has a pretty strict way for naming the rock units. You wouldn't dare name anything for yourself. It's got to be named for some local [geographical] feature where the...supposed to be some local feature where the rock is well exposed and where it's been studied.

Tubby: Did you learn some Arabic there?

Black George: No, I learned a little, but I couldn't carry on a good conversation. You'd learn mostly greetings and things. They're pretty strong on their greetings.

Tubby: Was it unbearably hot?

Black George: I guess it was, but I was never bothered by the heat. I would just usually plan my work for a little later in the day if it was during the hot season.

Tubby: Did you meet many of the Bedouin in the desert?

Black George: Yeah you'd run into them from time to time, but they were kind of afraid of strangers and foreigners but extremely hospitable. If you're wandering across the desert, you are free to stop at any place that there's a camp, and he'll be expecting to give you water or what not. So you have refuge any place somebody's located.

Tubby: Did you get to see many camels?

Black George: Yeah. I got on one one time!



Dolores River Trip May 1956

Tubby: What was that like?

Black George: I had a helper, he was a man who would drive me around, and he was afraid something would happen to me, so he'd hold the reigns! (laughter)

Tubby: How far did you go?

Black George: Not very far. Just mostly to get on there, and then he'd take a picture of me.

Tubby: Have you ever gone back overseas to any of the places you worked?

Black George: No. It'd be pretty good - had a real good time in Brazil. The people were just a lot of fun... good sense of humor.

Tubby: Did you learn the language?

Black George: Yeah, I can still speak a little Portuguese - I think (laughter).

Tubby: We should take you back and find out.

Black George: Yeah, the last part of the time I was in Brazil, I was there by myself. I'd go for a month at a time without speaking English.

Tubby: After Saudi Arabia you came back to the USGS office in Denver?

Black George: Yeah, I was in Denver when I retired. I put in 31 years with them.

Tubby: Doing the math that would mean you retired from the USGS in about 1981.

Black George: Yes, I was doing summer field work in Michigan until I retired.

In retirement Black George embarked on a second "career" as a volunteer ranger at Bryce Canyon and Canyonlands National Parks in Utah through the 1980's & 1990's. He was on the winter ski patrol at Bryce for 3-4 seasons and also put in numerous years as a summer seasonal ranger in Canyonlands. At one point he put in 2 solid years at Canyonlands. He also spent time in the Big Bend country of Texas but not as a ranger.

Tubby: So, we have to sort out the origin of "Black" George before we go.

Black George: I don't know where it came from.

Tubby: It's a nickname though? It's not your given name?

Black George: Not a given name.

Tubby: Your son said you wanted to put Black George on your door here at the living facility and they wouldn't allow it. (laughter)

Black George: I don't know about that.

Tubby: You don't know where the nickname came from?

Black George: I can't remember - a long time ago. {His son Richard recalls he used to tell folks it came from dark days in his past when he played piano in a New Orleans bordello. Not true, but a good story.}

Tubby: When you were a little boy though, huh?

Black George: No.

Tubby: Later?

Black George: Somewhat later - about 30 years later, maybe forty.

Tubby: Okay, so it was during your USGS days.

Black George: Yeah, before they were over.

Tubby: So, when was your last river trip?

Black George: Maybe ten years ago.

Deanna: Which river?

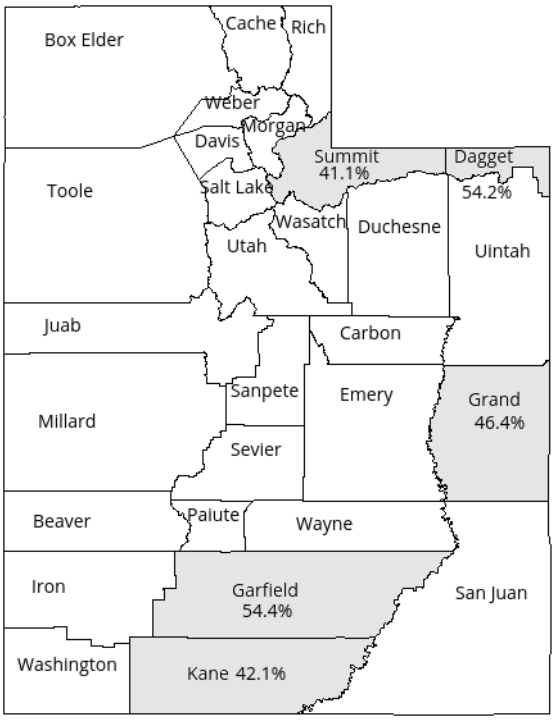
Black George: Grand Canyon. I was just a passenger on a private trip.



PUBLIC LANDS AND TOURISM IN RURAL UTAH

By Geddy Desmond

Many people outside the state associate two things with Utah; Outdoor recreation and the LDS Church. While both play an important role, the subject examined here is a bit more in depth. According to the World Travel and Tourism Council, tourism contributed $1.4 trillion to the U.S. economy in 2014. This industry is of crucial importance to Utah largely because so much of Utah's land is under the management of some federal agency (i.e., NPS, BLM, DoD). Tourists who come to Utah to take advantage of the federally managed lands spend money in Utah towns on leisure and hospitality, which is essentially the only way the state can benefit from the presence of federal land within its borders. Congressional Research Services indicates that 63 percent of the land in Utah is second only to Nevadas' 80 percent. However, Nevada has far fewer National Parks and ski resorts than Utah, which makes a big difference for rural regions of Utah. Direct economic benefit from the use of these lands (such as forestry and mining) is also removed from the state and local governments. Federal land usage under the management of the NPS is monopolized even further by limiting the ways the land can be used to recreation and tourism. The Utah Office of Tourism reported the share of total jobs in Utah in 2014 that fall under the category of Leisure and Hospitality only ranks 33rd, nationally, at 11.9 percent. This disparity between the percentage of federal land in the state relative to the percentage of jobs created by the federal government in Utah give clues about the challenges in creating diversity in rural Utah economies.



Private Leisure and Hospitality Jobs as a percentage of Private Employment, 2016

But federal land management in Utah doesn't necessarily explain the growth in tourism and the the outdoor industry in the rural parts of the state. Nor does it affect counties in Utah, uniformly. According to the Utah Department of Workforce Service, from 2012-2014 the top four counties in Utah for tourism based on the percentage of total jobs in Leisure and Hospitality are Daggett, Garfield, Grand, and Summit. Considering how these counties rank, comparing and contrasting recent major statistical changes across all four might better illustrate the degree of variation that exists in how each county and it's citizens are affected by federally managed lands and a general increase in tourism in the U.S. While some statistics are better at illustrating effects of tourism on an economy than others, one of the most basic statistics available is general population growth.

Simply put, do people want to live there and/or can they afford to? Not only do people want to live there but are there jobs available for them. The percentage of total jobs in Leisure and Hospitality is the best indicator of a county's reliance on tourism for its economic sustenance but may also suggest a less than stable year-round economy due to the nature of seasonal tourism in a mild climate like Utah.

Top 20 Direct Tourism Jobs in Utah, 2016

Sector	Direct Jobs
Foodservice	20,420
Accommodations	17,706
Amusement & recreation	8,941
Travel arrangement and reservation services	5,802
Air & rail transportation	5,271
Scenic and sightseeing transportation/support activities for transportation	4,631
Retail - general shopping	4,107
Local, state, and federal government employment	3,963
Promoters of performing arts and sports and agents for public figures	2,419
Retail - gas stations	1,856
Performing arts companies	1,519
Automotive repair and maintenance	1,493
Commercial sports except racing	1,370
Retail - grocery stores	1,329
Automotive equipment rental and leasing	1,155
Motion picture and video industries	717
Transit and ground passenger transportation	687
Independent artists, writers, and performers	506
Museums, historical sites, zoos, and parks	382
Real estate	298

Source: Kem C. Gardner Policy Institute analysis of U.S. Travel Association data

An important aspect of the jobs that are available is how well the jobs pay. Changes in median income might suggest whether or not jobs created or lost as a result of tourism correlate to an increase or decrease in income over the same time. Another important way tourism might affect local economies is in the value of real estate, which directly affects cost of living. Some of the other categories examined here look at changes in the difference between residents who own their homes versus those that rent and the changes in rental rates.

Changes in these percentages are also strong indicators as to whether or not the jobs and pay are stable or year-round. Changes in poverty will also be considered.

According to the University of Utah Policy Institute, Daggett County ranks number one in the state for percentage of jobs in tourism at 69.6 percent as of 2014. Reports from Utah State University show that 78 percent of the land in the county is under federal management (excluding percentage of land under water). Most of the land is National Forest which offers 700 campsites. The primary draw to the county is Flaming Gorge Reservoir, which is managed by the National Forest Service and the Bureau of Reclamation. Daggett County also happens to be the least populous county in the state, containing only the town of Manila. According to the U.S. Census information, Manila has a population of about 331 as of 2015 and a total county population that has hovered around 1100 since 2010, indicating little population growth. Poverty has remained below the state average of 12.8 percent, despite household income being much less ($47,100 per year) than the average of $59,800 per year. However, median income has increased here by more than 25 percent since 2010. The statewide increase has been much slower at roughly $1,000 per year. Interestingly, a 2016 economic study of the county performed by Headwaters Research revealed that most of the recent growth in this county came from an increase in proprietorship and education services beginning around 2008. One theory is that the recession of 2008 eliminated many jobs which led many of the newly unemployed to go into business for themselves from lack of available jobs. Perhaps a general boost in tourism has allowed the proprietors to thrive in guided services. Another interesting note about Daggett County; as of 2014, less than 24% of the homes in the county were occupied.

In 2010, U.S. Census Bureau figures show over 30% were occupied. This suggests an increasing number of second homes and short-term rentals as the number of homes built continues to increase. U.S. Census Bureau figures also reveal that long-term rental rates have also increased at double the rate of the state average since 2010 at about $50 per year. So far, it seems the net effect of tourism in Daggett County has been positive but relatively small for most, considering the increase in median income over the past few years, the already low rates of poverty, and the increase in tax revenue related to tourism. The lack of National Parks in the vicinity mitigate the unintended consequences of a large increase in traffic and the displacement of people and industry that seems to come with such a designation. The University of Utah Policy Institute ranks Garfield County second in Utah in the percentage of total jobs in tourism at 54.7% in 2014. U.S. Census Bureau figures show the population of this county declining from 5,172 people in 2010 to approximately 5,009 in 2015. About 89% of the land in the county is under federal management. Panguitch is the county seat and it's population has also recently been declining. This county contains portions of three National Parks, a National Monument, a State Park, National Forest, and BLM land. Bryce National Park is the single most visited attraction in the county and services can be provided to tourists visiting the National Parks in Panguitch or Tropic. According to the National Park Service, visitation has been increasing in Bryce N.P. since at least 2012. Median income in 2014 was a little over $44,000 per year which is what it was in 2010. Also in 2010, poverty in Garfield County was below the state average at 9.8%. Poverty had risen to 13.6% by 2014. U.S. Census Bureau figures show the only other growth in the county was in the Accommodation and Food Services industry which already happened to be the largest industry in the county.

Stagnant income combined with increasing poverty might suggest the growth in Accommodation and Food Services hasn't necessarily made living any better and may have actually decreased living conditions as workers struggle to keep up with even a small increase in cost of rent and property value. Grand County, Utah might be the most well-known example of an economy struggling with explosive tourist growth. 44.4% of all jobs in Grand County are in tourism. U.S.Census data shows the population has been increasing slowly but steadily since 2011. About 71.8% of the county is under federal management. Moab is the largest town in the county and provides a convenient location to stay or shop for those wishing to take advantage of Arches N.P., Canyonlands N.P., the Colorado River, the Green River, or many others. NPS figures show visitation in Arches N.P. alone grew 40% between 2010 and 2015, from about 1 million visitors to 1.4 million visitors. There has also been an increase in visitation related to non-NPS outdoor recreation such as off-roading, mountain biking, rafting, and rock climbing. The U.S. Census Bureau data gives us a lot of insight here, too. To begin with, rent in Grand County has been at or near the state average since at least 2009. Per capita income for 2014 was $44,239 and has seen some small growth but remains nearly 30% below the state average. However, the percentage of citizens living in poverty in Grand County has been increasing steadily since at least 2009 and had reached 16.3% by 2014, well above the state average of 12.8% which has been rising at the rate of about 0.5%, annually, since 2010. By contrast, poverty in Grand County has increased at double the rate over the same time. Looking closely at per capita income in the county might help explain the increase in income AND poverty. Per capita income includes labor and nonlabor earnings.

Here the 2016 Headwaters Economics data reveal that nonlabor earnings are nearly equal to earnings from labor and continue to grow. Most nonlabor earnings come from rent collected. Therefore, the per capita income for the county is higher than it might otherwise be if so much income wasn't coming from nonlabor income (rent). Growth has not necessarily meant better paying jobs but it has meant there has been an increase in the rental market. This means that those that can afford to buy rental property have benefited, whereas those that rely on labor for income have found more and more of their income going to pay for a place to live. This would explain the continued rise in the local poverty with median income so low relative to rental rates. These numbers suggest that Grand County is gentrifying as a result of the demand for National Park usage, what activities are offered in the vicinity, and the relative remoteness of it's location. Summit County ranks fourth on the list at 41% of total jobs in tourism. This is also the most populous county examined in this text at approximately 39,600 people. Only 41% of the land in Summit County is under federal management. Summit County illustrates the fact that just because a county might have a high percentage of jobs in tourism doesn't mean that the county is mostly federally managed land as all federally managed land was not created equal. The biggest attraction in this county is Park City, the town and ski resort. As matter of fact, this county has three ski resorts, Park City Mountain Resort being the largest in the U.S. according to Utah.com. Park City is also home to the popular Sundance Film Festival. The majority of the jobs in this county that are tourism related are associated with snow sports, some of which take place on private property. Growth here seems to have been generally healthy.

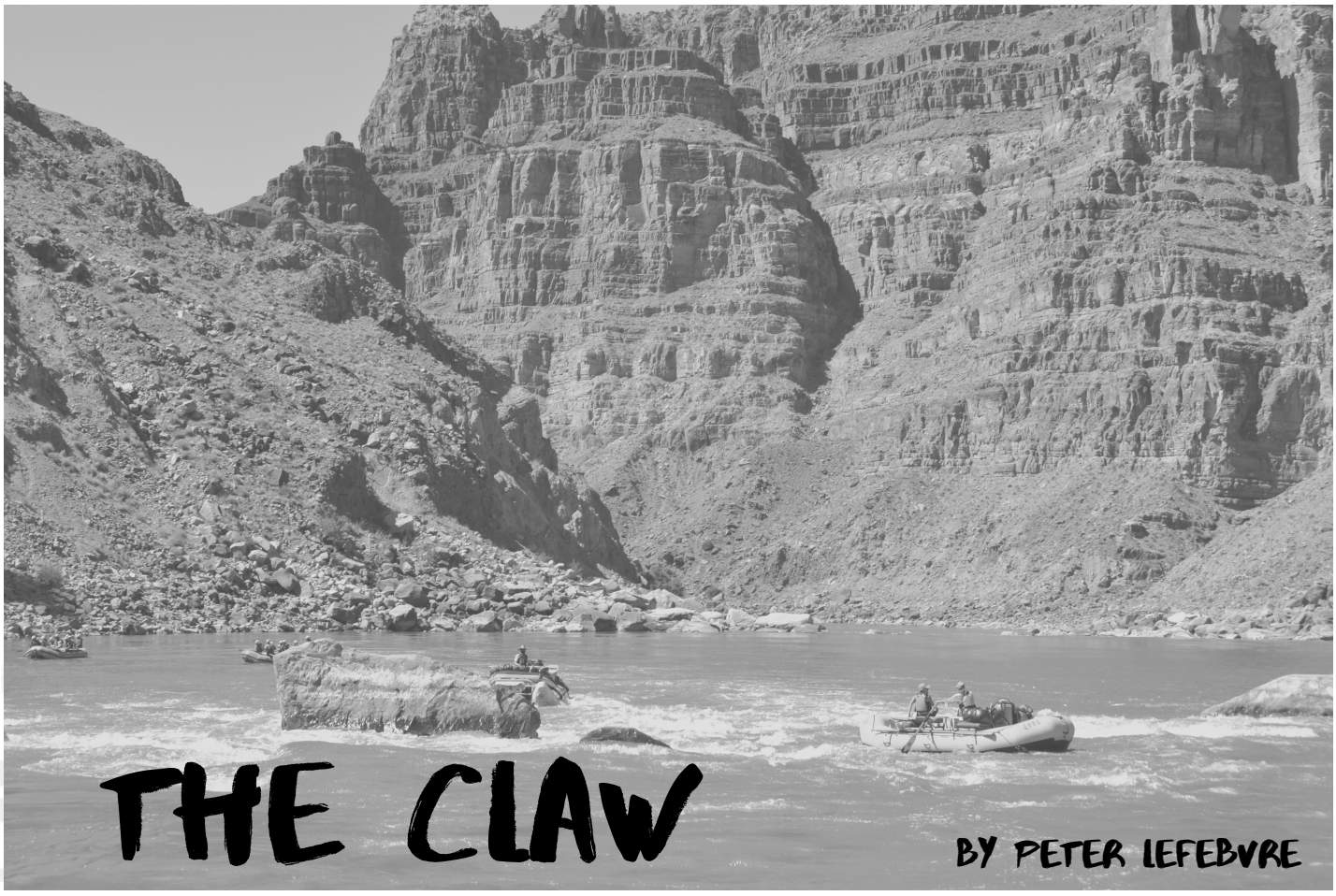
Census Bureau data show population, income, and property values have increased, moderately, while poverty has held relatively steady and was at 8.4% in 2014 and has stayed well below the state average at least as far back as 2009. Getting good information on housing in ski communities around Salt Lake City will always be a challenge because so many of the people who work in the tourism industry in ski communities such as Summit County actually live in Salt Lake City and commute to the resort for work. This might help to explain why the nature of such seasonal work doesn't reflect on the number of citizens living in poverty. The diversity of industry in the county also provides some healthy growth with better paying and more stable jobs.

Average Daily Room Rates by Top Travel and Tourism Counties

County	2015	2016	% Change
Garfield-San Juan-Wayne	$100.27	$107.70	7.4%
Grand	$131.58	$142.20	8.1%
Salt Lake	$104.63	$106.96	2.2%
Summit-Wasatch	$229.68	$241.80	5.3%
Washington	$104.16	$109.86	5.5%

Source: STR, Inc. Republication or other pre-use of this data without the express written permission of STR, Inc. is strictly prohibited.

Looking at the top four counties in Utah in terms of percentage of jobs in tourism, what is clear is that the number of jobs in tourism alone doesn't explain socioeconomic growth patterns in rural parts of Utah. Industrial diversity and locational desirability go a long ways in determining the types of economic growth a rural area can have. At least in the examples reviewed here, the most holistic growth with the least negative effects of poverty in county's with disproportionate reliance on a tourist economy comes from areas with the most diverse economic industries that rely less on rental income.



(The Claw in low water 2012)- My wife Jamie sliding past The Claw Rock in the low water of 2012.

In the beginning, there was no claw...

just a few lil features called The Black Hole, Little Niagara, and Satan's Gut. Any boatmen that have rowed the mighty high water of Cataract Canyon, and look forward to rowing it again, can be haunted in the stills of winter by thoughts of the Big Drops. As the snowpack gets deeper, and spring returns, discussions of how high the water will get can start to surface at dinner parties and the local watering hole.

Many boatmen would agree that the Big Drops were hard enough. They had plenty of features that could flip whatever boat you were in, before the introduction of The Claw. The Drops were already "$&!# your pants" scary. Plenty of people, guests and guides, have broken out in a cold sweat scouting from "Poop Rock" on the long walk from Big Drop Beach. Then "the powers that be" decided to throw yet another curveball into the mix... In May of 2008 a large boulder dislodged from the crumbly walls above Big Drop II and crashed down into the churning waters below. I have not heard rumors of anyone being there when it happened, but what a sight it would have been!

Now, the name The Claw refers more to the wave created by the rock at certain levels, then the actual rock itself. All waves are created by a few factors: gradient, constriction, a rock, or a combination of all three. Some waves tend to be gentle and glassy, providing that weightless rollercoaster feeling causing you to giggle. Other waves have more “white” water that you crash into and out the other side. These can be real soakers, followed by audible laughter. Other waves are not really waves at all. We call them holes. This is when you ride water over the top of a rock, down the backside of it, and crash into a pile of recirculating water behind it. Holes can be rather violent features, easily flipping boats, and to be avoided at all costs! The Claw, being a combination of the latter two, was a crashing wave-hole with a nasty attitude. Starting around 20,000cfs (cubic feet/second) The Claw was a nasty pour-over/hole. As river levels rise The Claw would get into its prime. Anywhere from 30,000 to 60,000cfs it resembled a hand with claws curled forward ready to catch something. These claws would open and close, in a viscous cycle, as a wall of water would rise-up and crash back down with extreme force.

After the runoff subsided in 2016 (it peaked around 50,000cfs) and the water stabilized at the usual fall flow of around 7,000cfs, I remember thinking that The Claw Rock looked a bit lower in the water. Not easily judged as you’re floating by it, I decided to try to find some photos that had The Claw Rock in it, and recreate the same photo. I also decided on one trip to camp down at Kolb Camp and take a look at some of the new rocks that fell into the river in the early spring of 2016 (large rock-fall from the right wall).



(Deaner and the claw 2012)- Christen Dean at the helm of a snout with The Claw Rock behind him. 2012

So, the first picture is a view looking upstream at The Claw Rock with one of the new rocks that fell in early 2016.



(Claw 1)- Taken 3/29/2016, flow 6,500cfs. You can see The Claw Rock in its original position, with the fresh new triangle rock sticking up to the lookers left. Between the two of them is the pour-over rock that remains the same in all three photos.

The second picture is a similar view from the fall of 2016. You can tell the Claw is lower in the water, and the fresh new rock has also rolled over, and is just a pour-over.



(Claw 2)- Taken 8/24/2016, flow 6,200cfs. Here you can see the triangle rock has rolled, the pour-over remains the same, and The Claw Rock has shifted. It sits lower in the water, even at a slightly lower flow. It has way more green algae on it and it has a slightly different appearance.

The third photo was taken in the fall of 2017, and in that photo The Claw Rock is no longer visible above the waterline. One rock that stays the same in all three photos, and is very helpful as a constant, is the pour-over rock just viewers left of The Claw Rock. The water peaked around 50,000cfs in 2017 and it must have been enough force to roll that big ole boulder over, although I do know a guide that swears he knocked it over by running into it so many times!



(Claw 3)- Taken 11/13/2017, flow 6,700cfs. There's that pour-over rock, but The Claw Rock is fully covered with water. RIP

Like river guides, some rocks have long careers filled with excitement, standing the test of time and high water, sticking around year after year to see what the river brings. Others see a handful of high-water seasons and roll downstream into the retirement pond below. Such is the case with The Claw. In the grand scheme of things The Claw actually had a short run. I actually know a few boatmen that used to run Cataract, heard about The Claw, and never actually got to see it. Just shy of ten years The Claw was around from May of 2008, had an adjustment in 2016, and then finally rolled over in the runoff of 2017. I, for one, will not miss dodging that feature any more.

-Peter Lefebvre-

Really Big Water: An interview with Dr. Vic Baker exploring the 2,000-year history of floods along the Colorado River.

Since record keeping began in the 1920's, the record high water years along the upper Colorado River peaked around 100,000 cubic feet per second (cfs). That's a ton of water. But that's nothing, says hydrologist and geoscientist Dr. Vic Baker, compared to the paleo record of floods. Vic and his team from the University of Arizona have been exploring floods that passed through Moab over the last 2,000 years. The team documented 44 large flood events, two of which were over 300,000 cfs. Science Moab host Kristina Young sat down with Vic to talk about how he and his team measure these past floods and what they mean for how we manage the Colorado River today.

Kristina: How long have we been measuring floods along the Colorado River?

Vic: Flooding has been observed basically since people arrived. The recorded floods start when the European settlers came into the area. They started recording flood flows at Lee's Ferry in the 1920s. These floods were in the vein of the usual semi-annual flooding of the river, which got up to about 100,000 cfs below Lee's Ferry. In the normal flood regime of the Colorado River, you'd get a fairly large flow every year based on snowmelt. And this contributed to the morphology of the canyon floor. Basically, it removed coarse debris, maintained a sort of channel to the river. But of course, this water was not being used and it bothered people that wanted to use that water for purposes of development. I think Herbert Hoover famously said that every drop of water that flows to the sea is wasted. They talked about the ravages of the floods that occurred downstream in areas like Yuma. So the idea of putting dams in the river started and became really well developed in the 1930s. This meant that they needed more records of the flooding. And so more detailed recording of Colorado River floods started around that time.

Kristina: What does a flood of around 100,000 cfs look like for the river system and for areas along the river? How far would that water come up?

Vic: It would be generally confined to the channel. In Moab near the north end of the valleys where the river comes in, that water would come up to like the base of the bridge that goes over the river there. It would be around the margins of the uranium tailings pile and it would flood some of the low-lying areas to the north. They wouldn't get into the area of Moab proper. The concern was being voiced about the tailings pile, which was there from 1950s, 1960s, when uranium mining what happening. They evaluated what a larger flood would do, it's called a probable maximum flood. This probable maximum flood is calculated by engineers. It's really a fake flood because it's not something that ever happened. It is determined by experts and they try to think of the most extreme conditions that would be possible for nature, and then they do calculations to see where that would get to. That flood might have gotten in the Moab area to about 300,000 cfs, about three times as big as a semi typical Colorado River annual flood. And that would actually get into the boundaries of Moab and it would also have impinged against the uranium tailings pile, which was concerning.

When that problem of the uranium tailings pile was being addressed, it was thought that the probable maximum flood was the most extreme thing that nature would do, and it was sort of discounted as an unlikely hazard.

Kristina: A lot of your work has looked at paleo flood hydrology, and I'm wondering if you can explain what is meant by paleo floods?

Vic: Sure. Happy to. I invented the word.

Kristina: Well done!

Vic: The basic idea is that instead of us being so clever that we think we can say what floods will be, we let nature be the expert.

In other words, we look to see the evidence that nature has presented of the biggest floods that have really happened. Nature happens to be a very good recorder of the most extreme floods. When a really big spectacular flood happens, particularly in a high energy situation like a mountain canyon, the evidence is preserved for a long period of time.

So we started looking at these extreme events and we found that when you have a river in a narrow canyon, the water doesn't spread out widely. Instead, the water depth goes up very greatly with the increasing flow. Then the water is moving at much higher velocities and much more energy. So it carries very coarse sediment with it.

In areas that we call slack water, areas that develop at a high flow. These are zones where velocity drops rapidly, like at the mouth of a tributary valley. All that coarse sediment drops out and that sediment is a record of that extreme flood.

The flood also leaves erosional marks, it leaves gravel bars, it leaves a variety of kinds of evidence. So part of paleoflood hydrology is kind of like a detective at a crime scene.

You have evidence of this extreme happening and you put together the clues that tell you what actually occurred.The modern record of flood measurement is so short that it doesn't include rare events. And even when the rare events do occur, the measurement devices get destroyed. So we don't have decent records of extreme floods. The only way we can get those records is from nature. So if extreme floods are important, we have to use paleoflood hydrology to understand them.

Kristina: Can you, generally speaking, go into what these methods for measuring the flow and volume actually are that you're using for paleoflood hydrology?

Vic: Well, when the water rises in a stream, it goes to a level that we call the stage. In hydrology we're interested in the relationship of the stage to the quantity of water moving in a given period of time. That's called the discharge. So we have to develop a stage-discharge relationship. And in conventional measurement, you have flow in the stream and you use a meter to measure the velocity of that flow. If you know the average velocity in a channel and you multiply that by the cross-sectional area through which it moves, that'll give you the discharge.

For these paleo floods, we can find out the stage, because if we have a stable channel that is a bedrock channel like many of the streams around here, then the stage is basically what's evident on the landscape. So we could just go out and measure that. That gives us the area. And what we need is some way of determining the velocity.

We can see from multiple cross sections how the water surface has changed. And of course, it slopes on a downhill direction and that is a measure of the rate of energy given off by the water. And that rate of energy given off can then be related to the velocity. We use hydraulic relationships.

These are now computerized and those are the tools we use for determining the paleo flood magnitudes. The other important thing, though, besides the hydraulics is the advances we've made in it being able to determine the ages of the floods, measuring exactly when they happened. There is new technique that's come in the last decade or two, and this is a technique that relies upon the technology that basically makes the light in your cell phone. It is a technology related to quartz and luminescence. It allows you to date to the time when the court's grains were transported by the flood. The way it works is quantum mechanics. And of course, as Richard Feynman famously said, 'no one understands quantum mechanics'. So I'm not going to try to explain the process. It does work mathematically, though.

Kristina: Can you tell me about what these investigators and interpreters are finding out in nature? What was flooding like in the history that's still present on the landscape?

Vic: The general thing we find is that floods tend to cluster in time. That the big floods seem to occur in certain preferential conditions.

Floods in many cases have been very much larger than what our theoretical studies have shown. But there are cases where they have been smaller.A good example is the flooding being hypothesized in regards to the uranium tailings pile, which was being assessed with an estimated probable maximum flood of about 300,000 cubic feet per second.

The paleo flood study we did upstream of the northern entrance of the Colorado River into the basin where Moab is located, produced a 2000-year record of natural flooding. And in that 2000-year record, we had 44 large different paleofloods.

Nearly all of them exceeded the level that supposedly represented by what's called the hundred-year flood. And two of them exceeded the probable maximum flood.

In other words, in two thousand years, they were two floods that were larger than the probable maximum flood. So this engineer-calculated probable maximum flood was definitely not the largest probable maximum flood. And that was a big concern because the hydraulics that were done showed that that was the flood that spilled the nuclear waste. Our studies show that it's much more common flood than was being hypothesized.

Kristina: How big were these two floods that have exceeded this probable maximum flood event?

Vic: That maximum was about 300,000 cubic feet per second and these were a little bit bigger than that. But as I said, this is only a 2000-year record. That site does not go back further than that. So we don't really know about other large flood events that could have happened earlier.

Kristina: What conditions made it so that these very large flood events happened?

Vic: We can't answer that question by just looking at that flood event. You solve that by looking at the whole context. You look for corroboration. You look for other things that were going on at the same time. You eliminate possibilities. You think about how things might come together. There's much more research to do to see how and why those things came about.

We are beginning to do that. We're trying to develop new techniques to look at other ways of understanding the environment at the time these floods occurred, because we know when they occurred.

We have other evidence of what the environment was like from evidence like tree rings, which tell us what growth conditions were like for trees. These are going to be related to climatic conditions that promoted the tree growth. And we can try to relate the time period in which these extreme floods occurred to these other factors. Then if in the future such combinations of factors were to occur, we could suspect that maybe we'd have a chance to get these kinds of conditions.

The role of science, in my view, is to provide a reliable source of wisdom that comes from understanding the natural world. And this wisdom can inform decisions, because you always have to take into account what could happen.

Kristina: Because the river is so altered now, and not just the river but the landscapes around the river, is it reasonable to say that what happened in the past is still possible?

Vic: Most of the country in the Colorado River Basin has not been modified in terms of the landscapes related to extreme flooding. Tremendous amount of areas of landscape are National Forest, National Parks. That's were a lot of the snowmelt is being generated. The extreme floods override a lot of the human disturbance of the surface, particularly over a large area.

Now, of course, dams do interfere with the process. Dams are operated in certain ways, for certain purposes. One of the issues with dams is that people are often told that the dam is going to provide flood protection. What people aren't told is the full story.

Now, of course, dams do interfere with the process. Dams are operated in certain ways, for certain purposes. One of the issues with dams is that people are often told that the dam is going to provide flood protection. What people aren't told is the full story.

The Colorado River dams, the overriding importance of those dams is holding water for supply and secondary use is hydropower generation. And then they are used for recreation. All of those work best if the dams are full. If the dams are used for flood control, they should be empty. Because then there's the capacity to hold that water. So you have a conflict. Let's say we are worried about a drought and want to have a ready water supply for California and everywhere else, so we'll fill our reservoirs as an insurance policy.

Well, then what happens if a really big flood happens and the reservoirs are full? And you aren't able to empty them fast enough? Which is an issue. Then the dam could fail and you will have a flood far worse than nature could ever have generated on that river. At least until the next ice age, when maybe you could have a situation that could produce such a big flood.

The main point here, though, is that the scientists who do paleoflood hydrology are interpreting things that are being presented to us by evidence. So it's not like they are just creating what nature is supposed to do.

So this is very different than trying to simulate the future with a model which depends on the assumptions that people make with that model. I'm not saying that that's wrong to do. I'm just saying that if you have the possibility to use nature to check that, you would be very foolish not to use the nature part as a check.

Science Moab is an organization dedicated to engaging people with the science happening around Moab and the greater Colorado Plateau. Learn more about our organization at sciencemoab.org.

This interview was made possible through a partnership with the Center for Colorado River Studies. Parts of the original interview have been edited for clarity. You can listen to the entire interview with Vic Baker at sciencemoab.org/radio. Funding for this interview was provided by the BYU Charles Red Center for Western Studies and the show was produced by Peggy Hodgkins and KZMU.



The interviewer, Kristina Young, and Science Moab on Tap host Natalie Day on the, definitely not flooded, Daily. Photo by: John Caldwell



Dr. Vic Baker from Arizona State University. Photo by: Science Moab



