

Canyon Legacy

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Number 5

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River History of the Colorado Plateau



Canyon Legacy

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WITHIN...

Water is the single most important element to the survival of in-
habitants of a desert environment. But the river systems of the Col-
orado Plateau have done more than provide precious moisture. They
have shaped the landscape and the character of the region as well.
Man's involvement with these waterways, from early explorations to
contemporary river running adventures, has resulted in a unique
lifestyle, and a regional history that is rich and colorful.

Canyon Legacy is pleased to present this special edition devoted to
RIVER HISTORY OF THE COLORADO PLATEAU.



"Trin Alcove," Green River, September 7, 1871.
E.O. Beaman photograph, U.S. Geological Survey photo no. 57-PS-722A,
National Archives, Washington, D.C.

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Within	Inside front cover
Contents	1
John Wesley Powell's Journal: Colorado River Expedition, 1871-1872 by Don. D. and Catherine S. Fowler	2
Why? by Dave May	13
A Foolhardy Undertaking: Utah's Pioneer Steamboaters by Roy Webb	14
Green River Crossings by C. Gregory Crampton	23
Women on the River by Angela Bautista	28
Commercial Outfitters by Mitch Williams	32
John Wesley Powell Museum, Green River by Jean Akens	35
Cataract Canyon Raft Station and Rescue Cache by Dave Minor	36
Quaternary Corner by Saxon Sharpe	38
Books of Interest	40
Next Issue	Inside back cover
Cover - The CLIFF DWELLER, formerly the CITY OF MOAB, 1906	

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River History, was funded in part by a grant from the Utah Endowment for the
Humanities. (Many thanks UEH, J. Akens, editor.)

JOHN WESLEY POWELL'S JOURNAL:

Colorado River Expedition 1871-1872

"For lovers of the Canyon Country, John Wesley Powell is of first importance, both for his daring river trips and for giving names to much of the country. The authors are pleased to be able to present this journal as a contribution to the celebration of John Wesley Powell and his comrades and all other river runners, past, present, and future."

Don and Catherine Fowler

by
Don D. Fowler and
Catherine S. Fowler

On 22nd May 1871 John Wesley Powell and ten men set out in three specially built boats from Green River Station in Wyoming Territory.¹ Their aim was to follow the Green to its confluence with the Colorado River and continue beyond the Grand Canyon to the Virgin River mouth. Their purpose was to gather geological and topographical data on this largely unknown region.

Two years earlier, on 24 May 1869, Powell and nine men had started in four boats from the same place with similar aim and purpose. Early in the trip a boat had been lost at "Disaster Falls." One boat was abandoned at Separation Rapids where three men left the party, fearing death by drowning in swift Grand Canyon waters. They climbed out the north rim, and were killed by Shivwits Indians. There were reports that the entire party had been drowned. When the survivors arrived at the mouth of the Virgin River--on 30 August 1869, after a fourteen-week passage-- they found a search party fishing for their remains.

Scientific data were collected on this first trip, but not enough, and some records were lost. Primarily, Powell had learned that the Green and Col-

orado were navigable, and he gained a good general impression of the region. He felt that a second trip was necessary to make observations on which to base accurate topographic maps, and to conduct a thorough study of the area's structural geology and physiography.

Powell hired ten men to make the second trip. Almon H. Thompson--Powell's brother-in-law and a school teacher--was in charge of topographic work. E.O. Beaman of New York was the photographer. John F. Steward, with whom Powell had collected fossil shells in the trenches before Vicksburg, was the geologist. Frederick Samuel Dellenbaugh--seventeen years old and distantly related to Thompson--was to be artist and boatman. Thompson's topographical assistants were Captain Francis Marion Bishop and Stephen Vandiver Jones. Both men were friends of Thompson and were acquainted with Powell. The latter's first cousin, Walter Clement Powell, was assistant to Beaman. Andrew J. Hattan--cook and boatman--had met Powell in the Army. Another boatman, John K. Hillers (called "Bismark" by his companions) whom Powell met in Salt Lake City, later became a photographer and remained associated with Powell until 1900. The tenth man,

Frank Robinson, left the party early in the trip at Brown's Hole to return home. Of the ten, only Beaman was professional; the rest were interested amateurs.

For the second trip, Powell had three boats built, similar in design to those used on the first trip, but with watertight compartments at the ends and in the middle for buoyancy. The boats were named *Emma Dean*, for Powell's wife, *Nellie Powell*, for Mrs. Thompson, and *Canonita*.

In 1875 Powell published his famed *Explorations of the Colorado River of the West and its Tributaries*... Part two of this volume--"On the Physical Features of the Valley of the Colorado"--is a remarkably clear and concise discussion of the geology and physiography of the canyon country. It was a pioneering work in terms of the area studied and in a number of its concepts.

The first part of this work is a compilation of Powell's and Thompson's journals, some newspaper articles Powell had written during the first trip, and some articles subsequently written for *Scribner's Magazine*. This "Part First" is written as if it were a narrative



Start of 1871 River Trip. May 17 or 18, 1871, Green River, Wyoming. Left to right: *Canonita*, E.O. Beaman, A.J. Hattan, W.C. Powell; *Emma Dean*, S.V. Jones, J.K. Hillers, J.W. Powell, F.S. Dellenbaugh; *Nellie Powell*, A.H. Thompson, J.F. Steward, F.M. Bishop.

E.O. Beaman photograph, U.S. Geological Survey photo no. 57-PS-506, National Archives, Washington, D.C.

of the 1869 river trip. In fact, Powell includes incidents and observations made during both the 1869 and 1871 trips (as well as a continuation of the 1872 trip through the Grand Canyon), together with the exploration of Kanab Canyon and the Parunaweap Canyon-Zion Park area in the fall of 1871. All incidents are dated 1869. There is no mention of the members of the second river trip, nor even that there was a second trip.

This "telescoping" of events has exercised the indignation of historians and others for many years. Clearly, such a document is not a historical narrative. It is, however, a narrative of adventure and is written in such a tone. One must agree with Powell's biographers² that his probable purpose in writing "Part First" as he did was to

excite the attention of the public and the Congress, thereby creating a friendlier atmosphere for continued support of his intended programs. In view of all his subsequent accomplishments as geologist, anthropologist, conservationist and administrator of scientific endeavors, Powell can perhaps be forgiven this foray into the realm of public relations.

We have not attempted to reconcile the journal printed here with Powell's *Explorations*, that is, to sort out which incidents related as happening in 1869 actually occurred on the second trip as, for example, the naming of the "Cliff of the Harp." Our purpose, rather, is to present excerpts from the historical record of Powell's second river trip.

The Powell expeditions are well documented. The 1875 *Explorations* were later revised, rearranged, and expanded by Powell and published as *Canyons of the Colorado* in 1895. In 1908 Frederick Dellenbaugh published *A Canyon Voyage*, an expansion of his own journal. In 1939 Thompson's journal was published by the Utah Historical Society. Between 1947 and 1949 the Society also published most of the extant diaries and journals from both the 1869 and the 1871-1872 trips together with some newspaper articles written by various members of the two expeditions and biographical data on the men themselves.³

Powell's own journal of the second trip was not published because--according to the editors--of its fragmentary nature. This fragmentation was owing, in part, to Powell's being away from the river for extended periods during the second trip. Another probable reason for its fragmentation is that a section of the journal was misplaced in the Bureau of American Ethnology archives for a time, and hence was not seen by the Utah Historical Society editors.

What is printed here, then, are segments of Powell's journal for the time he was actually on the river during the 1871 and 1872 trips. In preparing the journal for publication we have corrected Powell's infrequent spelling errors, added punctuation as necessary to clarify meaning, expanded his abbreviations, and occasionally inserted a word or letter in brackets. Since most of the mountains, canyons, buttes, cliffs, and other formations were being named for the first time by the party as it proceeded, we have attempted to indicate the sources of the names given. We have included, in brackets, the present name of a formation or feature if it differs from the name given by Powell.

I. JOURNAL FROM GREEN RIVER TO BROWN'S PARK, 22 MAY-9 JUNE 1871

May 22 [Monday]

Started from Green River Station at 10 a.m. The good people of the town came out to see us start and gave three cheers as we left the bank. We ran down against a stiff breeze to noon camp running around on a bar just before stopping. After dinner we, in running around a bend to sight the *Nellie Powell* and *Canonita*, ran very

hard on rocky wall carried by current. Camped at cabin.⁴

23 [Tuesday]

The rain on our faces waked us at daybreak this morning and it continued to rain and snow until 10 a.m. Started after dinner against strong wind. Camped in cottonwood grove.

24 [Wednesday]

Started early. Stopped at 9 a.m. Steward and I climbed to foot of Needle Butte. Found fossil fishes. Creek comes in from east. Had beautiful view of the Uintahs looking down the valley of the Green. The summits of these towers, cliffs, and needles at the general level of the country. Camped at mouth of Black's Fork.

25 [Thursday]

Run today with low round hills on either side and low cliffs near river occasionally. Broad quiet and deep river. Lovely ride. Come to Deer Island⁵ and kill three. Camp on left bank in beautiful meadow.

27 [Saturday]

Steward and I hunt fossils and trace strata. Thompson takes his boat down to Flaming Gorge. About 3 o'clock Thompson and I go to take a look at Horseshoe Canon. Camp...at Flaming Gorge.

28 [Sunday]

Steward...and I trace strata and collect fossils from camp in Flaming Gorge⁶ to Henry's Fork near old cabin and return at night.

29 [Monday]

Come down to lower end of Horseshoe Canon. Our first rapid is here. Came down to

head of Kingfisher Canon.⁷ Thompson and I walked...to Kingfisher Creek. Had a view of the mouth ...where its pure waters emptied into the turbid Green. From this point had a fine view of the Green winding around at the base of bright red cliffs forming a vast amphitheater and a long line of huge cliffs to the northwest with the wooded valley of the Kingfisher Creek and the crystal stream winding in the midst and the green domes of mountains with patches of cedar and pine on the south of the valley.

31 [Wednesday]

Ran down into Kingfisher Canon. Bold rocks of grey sandstone tower on the right; on the left crags and rocky slopes with scattered cedars, pinons, and firs. A beautiful meadow valley with clumps of alder. The Kingfisher comes in on the right through a narrow canon valley with steep walls, the valley itself filled with alders and willows completely hiding the creek. Then the creek emerging from its own canon meanders across the little park, its banks fringed with willows. The river flows at the foot of the cliff on the left and is hedged by a border of willows from the meadow on the right. Looking down river the walls seem almost to close where the river turns to the left around Beehive Point. And out through the canon you can see the green and wooded slopes of distant mountains and a single snowbank like a long white cloud dropped from the skies and caught by the mountain ridge. After taking pictures we rounded Beehive Point and camped at head of Red Canon.⁸

JUNE

2 [Friday]

Down into Red Canon. Thompson's boat is

upset by running too near rock on right. Lost compass, sponge, and camp kettle. Passed two creeks. Run down to first portage and complete it.

3 [Saturday]

Captain Bishop and Jones climb wall to right and tell of long wooded grassy slopes back to snow-clad mountains and of streams running down from these mountains through beautiful valleys. The cliffs on the north side of the river are more bold, often nearly vertical to top, 1,500 to 1,600 feet high. Sometimes lines of pines and firs are arranged on narrow shelves formed by the strata. Or trees will be grouped irregularly up gulches coming straight to the river. At other places the gulch will come down obliquely to the face of the wall and have its groups of trees. The slopes on the south side are more gentle, often hollowed out between projecting cliffs that seem like huge stairways built from the river to the regions above, built for the giants of the elder days but now half in ruins.

4 [Sunday]

Come down to point on left where we let down with ropes. Afterward passed two boats tied up, oars laid away. These are the boats abandoned by the prospecting party two years ago.⁹ Camped on island for dinner and remained the day. Thompson and I climbed mountain. Had view of the Notch and Green River below. Good view, too, of the Uintah and the grassy slopes down to the Canon. These are dotted with beautiful pine groves and clumps of fir with meandering creeks coming down from the mountains into the Green. Sat up late and told stories of Army life.¹⁰

5 [Monday]

Ran down over rapid river to point where two



Ashley Falls, Green River, from upstream. June 5, 1871.

E.O. Beaman photograph. U.S. Geological Survey photo no. 57-PS-439, National Archives, Washington, D.C.

creeks come in...Francis Creek first, Cactus [Creek]¹¹ below. Come on to Ashley's Falls and made portage.¹²

6 [Tuesday]

Came down to noon camp where we had beautiful view of run and amphitheater slopes. River very swift. Grand ride from the falls to Red Canon Park.

7 [Wednesday]

Thompson, Steward, Bishop, Clement, and I climbed mountain which we named Mt. Lena¹³ at Bishop's suggestion. Had a fine climb first along a little brook then up a point to right among the cacti and painted cups then along the cliffs of the canon of Ashley's Creek, which we crossed. Then up the mountain over rocks, among rocks, around rocks, through fallen timber. At last on the summit. What a view! The Wind River mountains on the north, 150 miles away covered with snow, the Wasatch and Uintahs on the west. These peaks glittering in the silver sheen of everlasting ice...and mountains and valleys in dim perspective in every direction. Then the ridges of upturned formations standing in long lines curiously curved and fretted and painted in bright and glowing colors. The geological record of the ages since life began. 27,000 feet of wave-built rock turned up to one view. Whoever saw at one view so long and so grand a record? None before.

8 [Thursday]

Came down to Christian Hillman's cabin in Brown's Park [Brown's Hole]. After dinner Thompson and I went out among the rocks. Boys at work in camp on notes, maps, photos, etc. to be sent to Green River City.¹⁴

II. JOURNAL FROM BROWN'S PARK TO MOUTH OF UINTAH [DUCHESE] RIVER, 11 JUNE-7 JULY 1871

JUNE

11¹⁵ [Sunday]

Left Harrell's Camp and came down through Swallow Canon.¹⁶

13 [Tuesday]

Out on the beautiful river again winding among groves of cottonwood with meadows here and there and mountains all about. We lashed our boats together and quietly floated down with the current while I read "The Lady of the Lake" aloud.

14 [Wednesday]

After dinner Thompson, Clement, Bismark [Hillers], and I climbed mountain on left of the gate of Lodore.¹⁷

15 [Thursday]

Jones and I climbed Mt. Cullow.¹⁸ First over the river cliff, then through the cedars to old Indian trail, then along this trail to the divide. Then along divide to summit. Hot! Dry! Hard work! But grand view!!

17 [Saturday]

Out into Lodore. Camped under box elders at "Winnie's Grotto."¹⁹ Enjoyed greatly the scenery and read Longfellow by firelight. Was lulled to sleep...by the roar of the falls below.

18 [Sunday]

Beaman took views of Winnie's Grotto, a stream of light pouring into the huge fissure. Away back in the fissure is the grotto, an amphitheater in the rock with the water oozing out from a thin, soft stratum or seam and trickling down the sides covering the rocks in places with mosses and other water-loving cryptogams. In the fissure gulch above are lodged some huge boulders. Looking far overhead from below you see an irregular, jagged, and crenulated ribbon of sky.

Then we ran down Disaster Falls.²⁰ Beaman took pictures of the falls...and of the "Corral of Lodore." As we came up to the falls Thompson and I started a flock of sheep, eleven in number. They ran back into a huge hollow in the wall of the canon and we found the signs that they had lived there for a long time. So we gave the place the above name. Then we camped in the old ground among the cedars.²¹

20 [Tuesday]

Loaded boats and made portage opposite Wreck Island,²² dined, then ran down to mouth of Cascade Creek [Pot Creek?]. Then down to...where we camped [in 1869]. A huge vertical wall of rock rose from the opposite side of river. As I was lying on my blankets about 10 p.m. I saw Vega come over the wall. And so high was the cliff that the bright star seemed to come down into the canon. Only a narrow strip of heavens with a few constellations could be seen. And the jaws of the canon threatened to devour these. The cliff opposite was named the "Cliff of the Harp."²³ A peculiar point of rocks above was called the "Wheat Stack."²⁴

21 [Wednesday]

We ran down to the old camp...at the head of Triplet Falls and the foot of Dunn's Cliff.²⁴

22 [Thursday]

Thompson, Bishop, and I climbed to the summit of Dunn's Cliff. Our way was up a deep gulch among pines and firs. Then along a high, ragged ledge of limestone to a point opposite Mt. Dawes. Away out here at the highest point...we found a monument that must have been erected many years ago.²⁵ After taking observations, etc., we descend to camp coming along the foot of the limestone ledge and lower shelving rock, then down the gulch to camp; a wild running descent.

23 [Friday]

Made portage around Triplet Falls and ran down to the head of Hell's Half Mile²⁶ and let down one boat. The upper portion of the fall is more precipitous and was called Boulder Falls, being filled with huge boulders that have been rolled down from the gulch on the left. Men very tired tonight.

24 [Saturday]

Thompson with the men let down the two other boats. I climbed the left wall along shelf on the ledge around to Alcove Brook. Started a sheep...that made a jump to gain the summit of a rock and fell off into the river, say about 40 or 50 feet. But got up and, struggling to shore, bounded away. On leaving Alcove Brook I started across the mountain and reached the head of Boulder Gulch up which...smoke was rolling in dense clouds. So I took my way farther down the river and had hard, weary climb to camp where I found the men just finishing the portage at one p.m. After dinner we ran down to the mouth of Leaping Rock [Rippling Brook] and camped.

On our arrival at this camp Thompson, Beaman, and I go up the creek into a little domed alcove where the brook was rolling over mossy rocks. Then we climbed the crags to left and had a fine view of the brook. One branch coming down from the right, another from the left. The right-hand branch was leaping over the rocks and making rippling mellow music in sweet soothing contrast to the roaring of the river, so mad and



"Noon Camp" in Red Canyon, Green River, June 2, 1871.

E.O. Beaman photograph. U.S. Geological Survey photo no. 57-PS-471, National Archives, Washington, D.C.

raging, that had been in our ears night and day for more than a week.

High, bold rocks of "transition sandstone" were on either side between the brooks, and back and above them all towered the crags of creamy white limestone. So the dark red rocks below, the variegated rocks above with firs and pines and cedars growing from every fissure and shelf and decking the landscape with evergreen spray, and now and then a cluster of box elders on the margin of the brook where it would run for a few feet between two precipices on a level rock with spray of golden green. All these gave such a wealth of colors as could be equaled only by a firmament of storm clouds illuminated by a mid-summer's sunset.

25 [Sunday]

After dinner let boats down with lines and ran to Alcove Brook...and then ran into Echo Park [Pat's Hole].²⁷

27 [Tuesday]

Took the Emma Dean and with Jones, Bismark [Hillers], Beaman, and Hattan started up Bear [Yampa] River. [Later] I climbed up the Ribbon beds and collected fossils. Then towed up to Grizzly Park,²⁸ camped for the night.

28 [Wednesday]

Jones and I climbed to crag. After dinner towed up a bad rapid but not quite so bad as the one made the previous afternoon. Then on, rowing and towing through a beautiful canon. Camped under the box elders [at Box Elder Park?].

29 [Thursday]

Started early. After noon rowed and towed up to Hattans Park, and found we were nearly out of rations.

30 [Friday]

Climbed mountain starting early with Jones. Beaman takes the boat below and takes views. I return by noon. Start for Echo Park. Let down with lines three times on the way and arrive at 5:00 p.m. The scenery of this Yampa Canon is very beautiful. Many curves in the river. On the outside of the canon the walls are nearly or quite vertical down to within 200 or 300 feet of the water and then usually slope. This slope is set with pines and firs growing out of crevasses or on benches. The face of the wall is very regular and beautifully curved. The points on the inside of the bends are usually craggy. Some beautiful gulches come in on both sides, both deep alcove and wide gulches.

JULY

3 [Monday]

Start from Echo Park. Run through Whirlpool Canon way below through "Old Red Sandstone." Walls close up to water's edge vertical for many hundred feet and then crags reaching back. The canon opens out below the falls. Camped at mouth of Brush Creek.²⁹

5 [Wednesday]

Down through Whirlpool Canon into Island Park at the entrance to Craggy Canon.

On 7 July Powell, with Bishop and Jones, took the Emma Dean to the mouth of the Uintah (Duchesne) River.



Harrell's camp, Brown's Hole, Green River, June 9, 1871. E.O Beaman photograph. U.S. Geological Survey photo no. 57-PS-561, National Archives, Washington, D.C.

From there Powell expected to go to the Uintah Indian Agency upstream for supplies, then return to the river. But, learning of his wife's illness (she was six months pregnant), he proceeded to Salt Lake City to see her. Powell...rejoined the party at the crossing on 29 August.

III. JOURNAL FROM GUNNISON'S BUTTE TO CROSSING OF THE FATHERS, 2 SEPTEMBER - 8 OCTOBER 1871

SEPTEMBER

3 [Sunday]

Jones and I walk out to point...which forms the plateau to the east between this valley and the cretaceous valley at foot of the Wasatch cliffs. Vast fields of naked earth seen.

4 [Monday]

Run down to San Rafael through beds of purple and grey sandstone.

5 [Tuesday]

Jones and I go up the San Rafael and climb a conical butte. See Jones Peaks to west, a line of buttes south. Still beyond, volcanic mountains, the Sierra la Sal to east. The Blue Book Cliffs to north with the Brown Cliffs surrounding them.³⁰

6 [Wednesday]

Returned to camp. Collected flint chips. Found many chips, a good number of unfinished arrowheads, and a few complete. Also found rocks which showed evidence of having been used for hammers and anvils. Bishop and

Clement went out this day to take observations from Bishop's Butte. Did not return. We kept up fire during the night.

7 [Thursday]

At daybreak Hillers and I start out to hunt the lost men. We meet them four miles from camp coming slowly, being very tired. Then we go down to the cliff overhanging river and wait for boats. Storm comes on. River of red mud. After storm run down to Trin Alcoves³¹ [Three Canyons]. Spread our canvas in a storm (Dellenbaugh's Butte).³²

8 [Friday]

Climbed naked rocks in front of bend. In every direction...naked rocks prevail. Buttes are seen scattered on the landscape, now rounded into cones, now buttressed and columned, now carved out with alcoves and sunken recesses and pockets. All varying from orange to dark brown, often stained black. Curious arches, too, are seen on the vertical walls of the canon. From the rounded rocks of this point with pockets filled by yesterday's rain we look off on a fine stretch of river and over the naked rocks and buttes, to the Blue Cliffs [Book Cliffs] and the Brown [or Roan] Cliffs beyond and above with cumuli piled over all.

After dinner Thompson and I explore the recesses of Trin Alcove. The left one is an amphitheater turning spirally to left and up with overhanging shelves and then turning as you look up to the right where there is a series of water basins. From these the water comes down into the basin at the bottom of the cove. Huge rocks lie piled up below, and on the right the rocks arch overhead. The middle cove is a beautiful glen with verdure spread and trees scattered here and there. The right cove is a narrow winding gorge often with overhanging walls and mighty domes almost shutting out the light. This canon had

many oaks along the base of the walls.

9 [Saturday]

Came down to Bowknot Bend.³³

11 [Monday]

Still down, down, winding among the bends of Labyrinth Canon. Took views...looking up long stretch of river, another looking across at Tower Cliffs [Horsethief Point?]. Then down through Tower Park [Woodruff and Mineral Bottoms?]. Camped in Labyrinth Park [Saddleshoe Bottom?] at foot of canon.

12 [Tuesday]

Came on to head of Stillwater Canon...then run down to Old River Bed.³⁴

The view from bluff was very grand. The river winding its way through the rocks to the southeast with overhanging walls. Naked terraces back to Orange Cliffs.³⁵ The terraces with sharp salients and deep retreating angles. Orange and deep-red buttes standing on the terraces; columned above, buttressed and fluted below. Some set with pinnacles and towers. Beyond the buttes to the southeast the Rock Forest,³⁶ and beyond the "forest" the mountains [Abajo or Blue Mountains]. Everywhere naked solid rock or naked talus. From noon camp, one of these buttes stood in front of the other so as to seem one with it and present the shape of a huge cross, so we named it the [Butte of the] Cross. This canon has many drooping willow trees along the river. After dinner ran down to Old River Bed and took more pictures. Found curious plants hanging from the rock in the angle formed by the grey and red homogeneous beds as I found them two years before. The Rock standing in the center of the old curve is about 1/3 mile long. Have a beautiful view of the curve of river.

13 [Wednesday]

Ran down to camp under Salt Cliff.³⁷ The grey homogeneous bed caps the canon walls, still overhanging. Now and then we obtain good views of some point of country beyond the canon. Noon camp is on some shaded shelves. After dinner run down a short distance. Thompson and I have a climb on to a "wall point" but can find no way to get up to the Orange Cliffs as...is everywhere overhanging. Angles, pinnacles, gulches, towers, cliffs, buttes, beautifully carved talus, highly colored rocks; a wild grand dissolution everywhere.

14 [Thursday]

Collected fossils during forenoon. Run down to old Shinumo [Fremont Pueblo] town. Thompson and I try to climb out but fail. Find ruined houses on a shelf at the angle of gulch and main canon. Collect many arrow chips and fragments of pottery and corn cob.

15 [Friday]

Climbed out and run down to junction of Grand and Green.³⁸ Climbed by aid of ropes.

16 [Saturday]

Climbed out with Jones, Beaman, etc.³⁹ Take pictures of the Green, of the Colorado, of the distant Sinav-Tuweap, and of the Rock Forest [Needles District]. These pinnacles are carved out of the upper carboniferous red and grey beds. Jones and I wandered for several hours among the rock-bound glens at the head of the lateral gulches down the wall of the Colorado. Found

pottery and arrow chips.

17 [Sunday]

Thompson and I wander among the strange rocks of the Sinav-Tuweap.⁴⁰ These rocks are carved out of the upper carboniferous. Are quite homogeneous in structure but have beds of grey and beds of bright red alternating. The columns and beautiful rocks are set about the borders of weird glens at the head of lateral gulches. The whole country is naked rock. How shall I describe the Sinav-Tuweap?

18 [Monday]

Climbed out with Jones to summit of wall on east side of Grand. Passed the head of gulch that runs down into the Colorado below [the confluence] 3 or 4 miles⁴¹ and found an Indian trail for horses, and campfires that were probably made last winter. No doubt but that horses can be taken down to the Colorado at this point.

19 [Tuesday]

This canon [Cataract] has many hackberry trees above the river. Half mile below noon camp on left the strata are thrust up at a dip of 15° above and increasing down to a verge of the river where they dip 80°, and a bed of carboniferous black clay shales are thrust up. In the region are many sulfur springs.

20 [Wednesday]

Climbed out to Rattle Snake Butte. Dellenbaugh and I have a hard climb up gulch on right. Find no water in the pockets and suffer from thirst. A wild descent into the canon.

The atmosphere was very clear and we had a good view of the Orange Cliffs, the Sinav-Tuweap, the buttes, the terraces, the pinnacles, the Sierra la Sal, the Sierra Abajo, and a mountain to southwest [the Henrys?].

21 [Thursday]

Down we go among the rapids. Huge rocks have fallen from the walls, great angular blocks scattered down the talus and strewn along the channel. The walls too are very craggy. The walls have been gradually increasing from the junction where they were 1,200 feet high to this point (noon camp) where they are at least 1,600. The west wall is very bold and grand, nearly vertical. The waters make roaring music at the foot of the cliffs, plunging over falls and whirling and foaming among the rocks. The men work with a will that seems wonderful. Here we have cataracts. Hard work.

22 [Friday]

Make but a mile and 3/8 today. Letting our boats over three cataracts by very hard labor. The walls are about 2,000 feet high on right and nearly vertical, but on left are broken and craggy. The scenery is very grand and the roaring of the mad waters is something awful. Stop to repair boats rather early. At the falls huge blocks of rock obstruct the channel causing chutes and whirlpools; and still the water tumbles down from 10 to 20 feet at a fall. Today the fall cannot be less than 75 feet [i.e., fall in elevation over the distance traversed].

The boats are let down from rock to rock by lines. Often a boat is held above a chute until a line from it is fixed to some rock below, then the upper line is loosened and away the boat glides or leaps and is swung in below by the lower line.

23 [Saturday]

Let down over falls early. Beaman took picture of "Ross Falls" [?]. After dinner ran narrow rapids; tried to take pictures of boats running over but failed. Then had a long let down of more than half a mile. Walls of canon grand beyond description. Towering 2,000 or 2,500 feet. Still the river is filled with huge blocks. A few cottonwood trees at night camp. But the hackberry is the characteristic tree appearing all along just at high-water mark which is from 40 to 50 feet above the present water. The walls are often nearly vertical on right and grandly craggy on left. River still roars and roars!

24 [Sunday] Ran round corner on swift water to head of falls and let over the chute very nicely. Then past the old camp [of the 1869 trip] in the amphitheater to the mouth of [a] lateral canon. Jones, Beaman, and I go up this canon to some wonderful scenery at its head and return after dark. Gypsum Canon we have named this. It is formed by the junction of two others and at its head are grand amphitheaters. Peaks, crags, overhanging cliff, clear pool, and the summit 2,500 feet above.

25 [Monday]

Fred Dellenbaugh and I climb out to Observation Butte [probably North Point of Mancos Mesa]. The day is clear and we see far up the Grand and Green, the Sierra la Sal, the Sierra Abajo, and unknown mountains [the Henry Mountains].

Return by cool spring at cottonwood tree in the gulch just after hard climb over the cliff. In climbing out we attempted to go by the steps of an amphitheater gulch but failed and were compelled to find another way. This we did over some crags and up a crevasse. Altitude made today: 3,125 feet.

26 [Tuesday]

Ran some wild rapids this morning and let down a good distance. Camped at mouth of gulch.

The canon walls are about 3,000 feet, nearly vertical, broken by narrow terraces and now and then by side canyons. Up these side canons the scenery is very fine...At night but a strip of the heavens was seen, say 25° or 30° wide in a crescent shape with five or six constellations: Lyra, Cassiopeia, Aquila, Delphinus, etc. We sang and told stories until late.

27 [Wednesday]

The scenery still fine as yesterday with the same characteristics. The river fills the channel from wall to wall in many places. Let down a rapid just before going into camp.

28 [Thursday]

This morning the walls are more craggy. Thompson and I try to climb out up a canon with a beautiful brook and deep clear pools. We fail to reach the summit, cut off by vertical walls of the upper sandstone. Return to camp and start out on the river. Run a very bad rapid at foot of island, the current setting against cliff on the left.

Go into camp just at nightfall at head of a roaring rapid. The canon here runs to the west. Had a fine view of the rising moon coming up behind the crags in the notch of the canon. A

cumulus cloud came before it and reached just above the rocks. A shining sliver fringe was on the upper border of the cloud. Behind this the moon rose gradually lighting the walls below us (to the west) and giving a pale weird glow to the waves and breakers and foam and spray of the fall. The canon walls above were the blackness of gloom but their craggy and serrated outlines set starkly against the lighted sky. From the depths of the gloom faint scintillations of moonlight were reflected from the waters, dimly lighting a few ledges of rock. 'Twas a beautiful, strange, weird view.

29 [Friday]

Up early to see the sun rise through the canon gap. Thunder shower. This soon brought down a great number of water falls. Some fell a thousand feet.

Ran down to Mille Crag Bend.

30 [Saturday]

Ran from Mille Crag Bend to Dirty Devil; so passed through Narrow Canon, still a great beauty. Passed a number of hot springs. Left Beaman behind to take pictures down canon and looking out to volcanic mountain.⁴²

Arriving at the Dirty Devil,⁴³ Thompson and I cross, find old Indian trail, follow it along the talus to mouth of what we called Pass [?] Canon. Then up this canon 6 miles and returned to camp.

OCTOBER

1 [Sunday]

Cache the Canonita and Jones and me, and Captain Bishop and Steward with Thompson, climb out and get a good view of the Unknown Mountains [Henrys]. Find that we can come around to the north or through the mountains and find a way down to the Colorado River at mouth of Dirty Devil. At night move camp down to mouth of Pass [?] Canon.⁴⁴

2 [Monday]

Come down to old Shinumo ruins. Find copious hieroglyphics. Have dinner and run on down to point where we discovered ruins in 1869. On digging found that in the angle of the "L" there was an old kiva.⁴⁵

3 [Monday]

Run down to the camp just below the synclinal axis.⁴⁶ Thompson and I climb out at noon. Have fine view of the naked mounds. Find a huge well 40 feet deep with cool clear water at bottom. At certain curves of the river we often obtain a good view of the Unknown Mountains. At noon can see a distant upturned ridge to the west [Water-pocket Fold]. Can trace the synclinal axis with the eye far to the north...

4 [Wednesday]

Our great course this morning is to the south, back and forth across the synclinal axis. The "orange sandstones" are composed of two homogeneous beds separated by stratified beds. The upper homogeneous has few joints and so weathers into mounds. The lower has many and weathers into monuments. The intervening thinly bedded sandstone formed the bottom of the river for several miles this morning, and grooved ledges of the same would spread across the river causing bad rapids and we had much difficulty.



The planking of the Nell was broken at one ledge and it made a bad leak. Two oars were broken. At noon we stopped some time for repairs. Ran into the axis of the north and south fold [Water-pocket Fold], crossed it, and along a long straight stretch of river with beautiful view. The left wall 1,400 feet high.

There are many glens along the walls. Glens with springs and oak trees; now and then a cottonwood. There are canons, shelves, and steps up to them. The river nearly fills the channel from wall to wall. The mounds are higher and not so apparent from the river. Thompson, Steward and I climb at night into one of these "oak glens" 600 feet above the river.

5 [Thursday]

The Oak Glens still continue as a characteristic of the canon. The walls are often quite vertical from the water and beautifully rounded at the curves. Sometimes a strip of verdure comes down...quite to the water. Pass the San Juan [River] at 11 a.m. Boats go on down to Music Temple while Thompson and I climb up to the west. We obtain a fine view of...Mt. Seneca Howland [Navajo Mountain] and of Labyrinth Alcove.⁴⁷ At noon we go up into the Music Temple. Now we are in Monument Canon⁴⁸ and the Monument Buttes are in view. There are many fine stretches of river with beautiful curves and vertical walls and quiet river. The narrow side canons are very wonderful and very frequent. At night I go up one of these in a solemn way... The overarching rocks are cut at the circumference of the curves, thus the canon becomes more curved as it cuts down. I followed up through this canon until I was cut off by potholes filled with water.⁴⁹

6 [Friday]

Long stretches of quiet river. Finely turned curves at vertical walls are still more noticeable today than yesterday. The monuments too are seen on either hand. This morning we found a little meadow in the canon, the grass of which had been burned. At noon have a fine camp...and we pull out for the "Crossing of the Fathers."⁵⁰

Powell left the party at this point traveling to Kanab, Utah, to set up a

per beds. In other places the bare red [rock] is seen sloping quite regularly with vertical steps over the harder beds.

18 [Thursday]

Thompson takes one boat over rocks. I take the other in the water with a line. Have a fine wild whirling ride through a very narrow canon, plunging down five rapids, until we stop for dinner.

Here at noon just above a bad rapid we are camped on a shelf with overhanging ledge. Three hundred feet of shelving ragged rocks, a slope of 500 feet of the red beds, and 500 feet of smooth vertical wall to summit. Conclude to run the rapid.

19 [Friday]

This day is spent in making portages. At noon obtain some good pictures, two instantaneous ones of a rapid.

20 [Saturday]

Have two wild rides after making one portage. The walls are of marble below and the entire channel is filled with water. Bad whirlpools. Scenery grand. The foot of the wall comes down to the waters edge with a sharp angle. Camp at night just above Vasey's Fountain.⁵¹

21 [Sunday]

Scenery very grand today. The marble stands in walls vertical from the water's edge. The forenoon we spend in a vast half-dome-shaped cave 600 feet deep, 900 feet across the mouth, 400 feet high without, and curving down away back. The marble below has shown many caves at various heights, colonnades, and buttresses that set out into the river.

23 [Monday]

The yellowish-green beds are at the base weathering in many beautiful forms. River rapid and full of whirlpools. Ran two great rapids and many smaller ones; let down once. Camp at mouth of Little Colorado.

24 [Wednesday]

Ran down to fault at head of rapid and camped for the day. Thompson and I climb on the south of Kwagunt Valley.⁵³

28 [Sunday]

Run down a few miles; make one let down about one mile below camp. At ten Thompson and I climb out. Let down after dinner over a long rapid and run down to granite at mouth of Dyke Creek [Cardenas Creek] and let down past bad rapid. Rain.

29 [Monday]

Ran down to the rapid that "must be run," and did run it all right, then down to the "Difficult Portage." Let down around the first corner. Grand ride through the granite.

30 [Tuesday]

Let down around the second corner on to a little gravel beach. Then down to the third corner on a rock. Unloaded...and let the boats past. [At] dinner [time] compelled to lay up for repairs. Rain. River still rising. Take the boats up on the rocks--later still higher. Anxious night. River ceases to rise about midnight. Cut mesquite for firewood.

31 [Wednesday]

Launch with great difficulty, the waves beating against the rocks. Run the last part of the rapid all right and stop for repairs on the north side just below. After dinner run down to mouth of Bright Angel River.⁵⁴ River narrow, swift and set into whirlpools by projecting angles of granite, curiously carved, black and somber; and the wonderfully colored and carved rocks above.

Down...the river you can see the summit of the wall a mile high. Pass a curious rapid where the slates are set on edge and the water setting back among the downturned shelves.

SEPTEMBER

2 [Friday]

Run down to a portage; make it on the left. Run down to another; make it before dinner, except letting down the boats. And then a wild ride through the feldspathic granite to the hornblende granite. Make 15 miles.

3 [Saturday]

Two accidents today. In running a rapid ... above the Shinumo Ruins,⁵⁵ the Emma Dean was swamped. Letting her float below the great waves she was righted, pulled ashore, and bailed out. Started about 2:30 and had an awe-inspiring ride through two rapids, one setting toward the cliff on the right. The current set the boats against the broken waters along the foot of the cliff with great force so that she seemed to strike against a rock. But passing that in safety we ran around the point to the right in a wild mad current through a narrow gorge that was frightful. On the river sped! bearing us at so swift a rate that no landing could be made; wheeling us round now and then. Trying to stop above a bad rapid, Fred was thrown overboard and failed to get the line ashore. I jumped out on the rock but could not catch her. Then Jones jumped out. On the boat passed. Fred climbed in; she drifted into an eddy behind a huge rock in the middle of the stream and stopped. At last they pulled her ashore where we camped for the night.

4 [Sunday]

Thompson and I spend three hours climbing along the granite under the sandstone to see the river. Find all right for four miles. Away we go with almost railroad speed--a mile in three minutes. Then another swift ride.

Sometimes the views are very grand. The water fills the channel from wall to wall in the granite and is very narrow. Sharp angles of granite project into the river and the waves roll up and lash the rocks in deep recesses. So great a volume of water in so very narrow a channel and having a great fall is thrown into mad whirlpools. It boils, foams, lashes the rocks, and rages with great violence. We ran out of the granite at noon today and only little projections into the sandstones are seen from time to time.

5 [Monday]

Made a portage this morning. Then...soon ran into the granite and work commenced. At some places the channel is not more than 25 yards wide. It is difficult to describe the raging of the water through such places.

This afternoon we approached too near a bad rapid and had to pull up again by ropes some 200

yards in order to have room to cross and let down by lines on the opposite side.

6 [Tuesday]

Spend two or three hours at camp in the study of the rocks. Run down to gulch...Thompson works on portage and explores a small creek coming in below. Then we run down to Tapeats Creek.⁵⁶

7 [Wednesday]

Spend forenoon in exploring Tapeats Creek below. Tis a deep gulch. Come down after dinner to cataract. Climb over into Surprise Valley [at head of Bonita Creek]. Run down to mouth of Kanab [Creek].

8 [Thursday]

Start up Kanab Creek and explore the upper canon through to Pink Cliffs. Then come down Long Valley [Parunawep Canyon] and explore the Virgin Canons to Rockville and return to Kanab by 2 October.

Here the journal ends. The subsequent history of the Powell Expedition, as well as Powell's work are well chronicled.⁵⁷ He went on to found, in 1879, and direct the Bureau of American Ethnology of the Smithsonian Institution. From 1881 to 1894, he also directed the U.S. Geological Survey. Although it is not clear in the journal, Jack Hillers became Powell's photographer in 1871-72 and remained with him until 1900 as the official photographer of the Bureau and the Survey.⁵⁸

NOTES

1. John Wesley Powell, *Explorations of the Colorado River of the West and Its Tributaries in 1869, 1870, 1871 and 1872, under the Direction of the Secretary of the Smithsonian Institution* Washington D.C., 1875.
2. Wallace Stegner, *Beyond the Hundredth Meridian*; William Culp Darrah, *Powell of the Colorado*, Princeton, 1951.
3. John Wesley Powell, *Canyons of the Colorado*, New York, 1895; reprinted as *The Exploration of the Colorado River and its Canyons*, New York, 1961.
4. The cabin was owned by "a white man who keeps the ferry at the [Green River] station." Jones, *Utah Historical Quarterly*, XVI-XVII, 24.

5. Thompson, *Journal, Utah Historical Quarterly*, VII 12, records: "Islands in stream all along... When this station was about half run the crew of the Emma Dean saw a deer on the bank of a low willow-covered island. The Major shot at but missed it. All the boats landed and we had a good hunt. Got three--two bucks and one doe."

6. Named on the first trip: "This is where the river enters the [Uintah] mountain range--the head of the first canon we are to explore, or, rather, an introductory canon to a series made by the river through the range... We have named it "Flaming Gorge" [for the red-colored geological formations]. J.W. Powell, Letter I to *Chicago Tribune*, 2 June 1869, *Utah Historical Quarterly*, XV, 75-78.

7. Named on the 1869 trip, "for a kingfisher we saw at mouth of Fork." Bradley, *Journal, Utah Historical Quarterly*, XV, 33.

8. Named in 1869: "The bluff opposite our camp we call 'Beehive Point' from its resemblance in shape to a straw beehive." Bradley, *ibid.*; "Named the canon 'Red Canon,' for its chiefly red sandstone." Bradley, *ibid.* The upper section of Red Canyon is now called Hideout Canyon.

9. Thompson, *Utah Historical Quarterly*, 15, writes: "There lay on the slope, half buried in the sand, a boat, which once belonged to a party of prospectors who two years ago tried to descend from Green River City to Brown's Hole in boats. They got as far as just above our camp when one of their number was drowned. The party disbanded, abandoning their boats and made the rest of their way overland..."

10. *Ibid.*, 16: "When we got back the Major read 'The Lay of the Last Minstrel' aloud. It has been a most enjoyable Sunday."

11. Now called Trail Creek and Allen Creek, respectively.

12. In 1869 Powell reported: "On a

rock, by which our trail [for the portage] ran, was written 'Ashley,' with a date, one figure of which was obscure--some thinking it was 1825, others 1855. 'Ashley Falls' is the name we have given the cataract." General William Henry Ashley (the rank derived from a commission in the Missouri state militia) was a co-founder of the Rocky Mountain Fur Company. On 22 April, 1825 he and six men began a float trip down the Green River from the mouth of Sandy Creek in a buffalo-hide bull boat (later a dugout canoe). They arrived at the mouth of the Duchesne River in late May, a truly remarkable feat given the boats used and the fact that Ashley could not swim. See Dale L. Morgan, ed., *The West of William H. Ashley, 1822-1838* (Denver, 1964), 104-115.

13. Lena was Bishop's sister. Bishop, *Utah Historical Quarterly*, XV, 170.

14. These were sent out with Messrs. Bacon and Harrell, cattlemen who were camped at Brown's Hole, and who had brought mail for the party. Thompson, *Utah Historical Quarterly*, 18; Bradley, *Utah Historical Quarterly*, 170.

15. There is no entry for 10 June. Powell does not mention that Frank Richardson left the party at this point. Bishop, *Utah Historical Quarterly*, 170.

16. Named for the large flocks of swallows living there. W.C. Powell, *Utah Historical Quarterly*, XVI-XVII, 271.

17. Named on the 1869 trip. Darrah, in Bradley, *Utah Historical Quarterly*, 40, Note 13, says the name was "Suggested by Southey's poem, which the Major knew by heart." Robert Southey's (1774-1843) poem "The Cataract of Lodore," from *The Complete Poetical Works* (New York, 1851), 175 is apropos:

"Till in this rapid pace,
On which it is bent,
It reaches the place,
Of its steep descent,

The Cataract strong,
Then plunges along,
Striking and raging,
As if a war waging,
Its caverns and rocks among..."

18. Jones, *Utah Historical Quarterly*, 37, calls this Turtle Back Mountain; Thompson, *Utah Historical Quarterly*, 19, refers to it as Turtle Creek Mountain.

19. The grotto was named for J. F. Steward's daughter, according to W.C. Powell, *Utah Historical Quarterly*, 273, and Dellenbaugh, *A Canyon Voyage*, 35.

20. During the 1869 trip the *No Name* was lost in these rapids and its crew nearly drowned. Bradley, *Utah Historical Quarterly*, 36.

21. A camp ground of the first trip. Several of these are noted throughout the text.

22. An island in the river on which a fragment of the *No Name* had lodged and from which the barometers were recovered. Bradley, *Ibid.* During the second trip, other tools and fragments were found below the island. W.C. Powell, *Utah Historical Quarterly*, 274-275.

23. Named for the constellation *Lyra*, the brightest star of which is *Vega*.

24. Named for William H. Dunn who, with the Howland brothers, left the first party in the Grand Canyon. They were killed by Indians.

25. Bishop, *Utah Historical Quarterly*, 172, also noted the monument. The editor of Bishop's journal indicates that the monument has never been rediscovered. Bishop, *ibid.*, Note 10.

26. Dellenbaugh, *A Canyon Voyage*, 44, wrote: "It took us, with hard work, till two o'clock to get past Triplet Falls by means of a double portage. About a half mile below this we were confronted by one of the worst looking places we had yet seen, and at the suggestion of Steward it received the significant name of 'Hell's Half Mile.' The entire river for more than a half a

mile was one sheet of white foam. There was not a quiet spot in the whole distance and the water plunged and pounded in its fierce descent and sent up a deafening roar."

27. The park [Pat's Hole] is at the confluence of the Green and Yampa Rivers. The name recognizes the acoustical properties of Echo Cliff [Steamboat Rock] on the west bank of the Green. Dellenbaugh, *ibid.*, 49, reports "a distant echo of ten words." Other estimates are smaller.

28. Jones, *Utah Historical Quarterly*, 43, "made camp on right bank in a beautiful park. From the appearance this was a resort of the bear so we named it 'Grizzly Park,' and a beautiful spring near the river the same."

29. Powell later changed the name to "Bishop Creek" in honor of F.M. Bishop. It is now known as "Jones Hole Creek," for S.V. Jones.

30. The Book Cliffs form the lower, and the Brown or Roan Cliffs the upper escarpments of the Tavaputs Plateau, which is bisected by the Green River.

31. Jones, *Utah Historical Quarterly*, 76 wrote: "Beaman went up the river and took some views of a lateral canon on the other side of the stream. Because it is divided into three parts he called the pictures 'Trin Alcove from across the river.'"

32. This refers to a butte near the mouth of the San Rafael River. Dellenbaugh, *A Canyon Voyage*, 102, writes: "Many of these buttes were beautiful in their castellated form as well as because of a picturesque banded character, and opposite our dinner camp...was one surprisingly symmetrical, resembling an artificial structure. I thought it looked like an art gallery, and the Major said it ought to be named after the artist, so he called it 'Dellenbaugh's Butte,' then and there."

33. A deep meander in the river. Thompson, *Utah Historical*

Quarterly, 45, notes: "Ran aground the south bow of the 'Knot.' Ran 5 1/8 miles to get 1000 feet."

34. An abandoned U-shaped river meander.

35. The Orange Cliffs are part of an escarpment bisected by the Green River near its confluence with the Grand River.

36. The "Needles Country," now part of Canyonlands National Park.

37. Jones, *Utah Historical Quarterly*, 81: "On the steep walls were encrustations of salt that evidently must have percolated through the rocks from the Triassic [formation] above."

38. The "Climb out" was made by part of the party in the morning; the "run down" to the confluence of the Grand and Green Rivers to join the rest of the part was made later in the day. Thompson, *Utah Historical Quarterly*, 49.

39. At a point about one mile up the Green from the confluence. Jones, *ibid.*, 83.

40. In Ute and Southern Paiute mythology, with which Powell was familiar, "Sinav" or "Shinauav"

is a creator figure. "Tuweap" means land, or country, or region. Hence: "Creator's Country," or "A God's Country." The northern part of this area is now called "The Maze," the southern section is part of the area termed "Ernie's Country."

41. They were probably in Len's Canyon, a tributary of Lower Red Lake Canyon.

42. Named by Powell for Joseph Henry, first Secretary of the Smithsonian Institution.

43. Dellenbaugh, *A Canyon Voyage*, 133-134, wrote: "Landing on its west bank, we instantly agreed with Jack Sumner when on the first trip he had proclaimed it a 'Dirty Devil.' Muddy, alkaline, undrinkable..."

44. Powell had previously decided to cache one boat here and move quickly through Glen Canyon to the Crossing of the Fathers. The following summer Thompson, having found an overland route to the mouth of the Dirty Devil, recovered the boat and it was taken to the mouth of the Paria River, then through the Grand Canyon later that summer (see below).

45. This first archaeological site was



"Old Shinumo Ruins," mouth of White Canyon, October 2, 1871. E.O. Beaman photograph. U.S. Geological Survey photo no. 57-PS-710, National Archives, Washington, D.C.

located at the mouth of White Canyon prior to its inundation by Lake Powell in 1963. See Ted D. Weller, San Juan Triangle Survey, in Don D. Fowler et al., "The Glen Canyon Archaeological Survey," *University of Utah Anthropological Papers*, No. 39, Part 2 (1959), 543-669. The second archaeological site, named Loper Ruin after Bert Loper, a homesteader who built a cabin nearby in the early 1900s, was excavated by the University of Utah in 1958 and 1959. The excavations verified Powell's assertion that a depression between the two wings of the structure was probably a kiva, though an unfinished one. William D. Lipe, "1958 Excavations, Glen Canyon area," *University of Utah Anthropological Papers*, No. 44, (1960), 129-132.

46. A point at which the Moenkopi and Chinle geological strata in the canyon walls dip below river level.

47. Seneca Howland was one of the men who left the first river party at Separation Rapids and was killed by Indians. "Labyrinth Alcove" may refer either to Nasja Creek or Mystery Canyon.

48. In an editorial footnote to Thompson's journal, *Utah Historical Quarterly*, 54, Note 30, Gregory says: "The stretch of river from the mouth of the Fremont [Dirty Devil] to the mouth of Trachyte Creek was first called Mound Canyon by Powell, and its extension to the mouth of the Paria, Monument Canyon. On published maps the two are combined as Glen Canyon."

49. This is probably the upper channel of Music Temple, which was accessible over the rounded cliff upstream from its mouth; if, however, Powell was across the river he might mean Hidden Passage. Both fit the description.

50. Named for the ford across the river used by Father Escalante's party during its overland explorations of what is now Utah and Arizona in the 1770s. Also called "Ute Ford." See Herbert E. Bolton, ed., "Pageant in the Wilderness, the

Story of the Escalante Expedition to the Interior Basin, 1776," *Utah Historical Quarterly*, XVIII, (1950).

51. Thompson, *Utah Historical Quarterly*, 78-87.

52. Named "Vasey's Paradise" in 1869 by Powell for George W. Vasey (1822-1893), a botanist from Illinois Normal University who accompanied Powell on his 1868 trip to the Rocky Mountains. See *The Professor Goes West. Illinois Wesleyan University--Reports of Major John Wesley Powell's Explorations: 1867-1874*, comp. and ed. by Elmo Scott Watson (Bloomington, Illinois, 1954), 8. Vasey later became a botanist for the United States Department of Agriculture.

53. There is some confusion here. Gregory, in Jones, *Utah Historical Quarterly*, 148, Note 130, indicates the position of Kwagunt Creek as above the mouth of the Little Colorado River, and that of Chuar Creek at the place here indicated.

54. In his 1875 report, Powell, *Explorations*, 86, writes, under the date 16 August 1869: "We have named one stream, away above, in honor of the great chief of the 'Bad Angels' [Dirty Devil River], and, as this is in beautiful contrast to that, we conclude to name it 'Bright Angel.' Yet in Powell's 1869 journal, *Utah Historical Quarterly*, XV, 129, he calls it 'Silver Creek.'" William Culp Darrah, in a footnote to Bradley's journal, 65, Note 43, writes: "The name 'Bright Angel' was not bestowed upon this stream until December 1869 when the Major used it on the lecture platform to give romantic contrast to 'Dirty Devil.'"

55. These are apparently the same ruins Powell recorded on the first trip: "Aug. 20 [1869]...Came at night to the 'old red [sandstone]. Found the remains of old Moqui village on bank; stone houses and pottery. (Found some remains at Silver Creek [Bright Angel Creek])." Thompson's diary, *Utah Historical Quarterly*, 96-97, indicates that the ruins are about 23

miles downstream from Bright Angel Creek. The site is at the lower end of Stanton's Switchyard and was re-recorded in 1962 by Robert C. Euler (personal communication).

56. Named for a Southern Paiute Indian whom Powell had met earlier in the year.

57. Stegner, op cit; Darrah, op cit.

58. Don D. Fowler, editor. "Photographed All the Best Scenery:" *Jack Hiller's Diary of the Powell Expedition, 1871-1875*. (Salt Lake City, 1972); Don D. Fowler *The Western Photographs of John K. Hillers: "Myself in the Water"* Washington, D.C., 1989). See also Hal G. Stephens and Eugene M. Shoemaker *In the Footsteps of John Wesley Powell: An Album of Comparative Photographs of the Green and Colorado Rivers, 1871-72 and 1968*. (Boulder, 1987).

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WHY?

by David D. May

At some point in the 1920s, the late Colonel Charles D. Poston wrote, "I am not so sure whether anyone who has wandered [the Canyon Country] and looked upon the wonders that nature has wrought--its gorges, its canyons, its mountains and its painted rocks, and upon its ancient stone cities, and the cliff dwellings of its canyons--is ever afterwards QUITE SANE."

Colonel Poston must have been an exceptionally sensible man, for his skillfully expressed words explain it ALL! Why are some of us absolute fanatics about the rivers and the country they make available? Why did most of the early explorers assume that no one but they would ever look upon this land again? Why did venerable John W. Powell lace the artfully written report of his explorations with blatant untruths and gross exaggerations? Quite obviously, according to Col. Poston, because we've all been driven batty by our experiences.

May 1, 1860, Lt. J.C. Ives, U.S. Army: "And it being doubtful whether any party will ever again pursue the same line of travel," from Ives' letter of transmittal accompanying his report which further stated, "Ours has been the first, and will doubtless be the last, party of whites to visit this profitless locality. It seems intended by nature that the Colorado River, along the greater part of its lonely and majestic way, will be forever unvisited and undisturbed."

January 6, 1868, Dr. C.C. Parry: "And James White...will probably retain the honor of being the only man who has traversed...the great Canyon of the Colorado."

1871, Lt. George M. Wheeler, U.S. Army: "The exploration of the Colorado River may now be considered complete."

It would appear that Poston was quite correct, that his analysis of explorers of the Colorado Plateau--and most especially of the great rivers that bisect it--was precise and accurate:

Everybody's gone off the deep end!

That opinion, at least, is the kindest rational explanation one might accord to Major John Wesley Powell's systematic and deliberate misstatements in his "official report of the 1869 journey from Green River, Wyoming to the mouth of the Virgin River. None of this is intended to belittle JW's real and unquestionably heroic endeavor. Despite all the nit-picking and carping, Powell and his associates were the first to travel down the Green River and into the Colorado, recording sights and sites never before cited. The 1869 expedition was literally a trip into the unknown. The return trip in 1871-72 had the advantage of Powell's knowledge of the first journey (he was the only person from the first trip to be on the second), but still required immense bravery from all concerned. Because Powell was absent from much of the second trip, leaving it to visit his wife and to conduct explorations related to the river trip, long stretches of the rivers were being explored by persons totally unfamiliar with the terrain.

Why, then, did Major Powell write his 1875 account of the trips pretending that only one had occurred? Why did a politically powerful, well known, and revered hero of the Civil War publicly imply, many years later, that a second trip never took place?

That he did so is not a matter in doubt. There still exist both his handwritten notes of events on the first and second trips, letters, and other unimpeachable reports of his correspondence and public comments. Indeed, the most popular "river history" book today is Powell's *Canons of the Colorado*; it is a basic part of every colomaniac's library. It purports to be the record of the only journey down the Green and the Colorado Rivers and the author (Major John Wesley Powell) states that it occurred in 1869. Published in 1875 in a successful attempt to have the U.S. Congress appropriate money in support of Powell's newer interests, the book makes no mention of the 1871-72 trip.

Many events described in the "report" of the 1869 voyage, however, did not occur until the 1871-72 trip. The diaries and journals of participants in the second trip make that very

clear. Illustrations accompanying the report were based upon photographs taken on the second trip; no photographs were taken on the first trip.

All of this is strange enough, but more examples of the effect of "river runner's virus," *Colorado exaggeratus*, abound. Powell's original notes from the first trip are rather astonishingly accurate. His measurements and calculations of cliffs and rapids are quite precise. Repeatedly, the Major's original data can be shown to be either correct or well within the margin of error of the equipment he had on the trip. In the published report, however, those same data are systematically enlarged by 200% to nearly 300%.

Why?

Powell's apologists assert that he merely exercised "poetic license," that he was writing a book to excite and intrigue the public, and that a little exaggeration was a normal thing to do. The Major's critics contend that the book was an official report to the Congress, a scientific paper of major significance, and that the author knew it would be regarded as the ultimate source of accurate information--and that he deliberately and systematically lied.

Considering only the published material with which this author is acquainted, the critics seem to have the much stronger case. They have facts and figures with which to work and at which to point. The Major's supporters all seem to be making excuses for him, saying, in effect, "Well, yeah, the guy lied a lot, but it was all in a good cause." In the meantime, a lot of people are going down the rivers with Powell's book in hand trying to make sense of it--as I have done.

Until such time as any of us come face to face with JW's spirit and can extract a rational first-hand explanation of the many known discrepancies between indisputable fact and Powell's claims, it appears we shall be forced to assume the worst.

Major John Wesley Powell, hero of the Colorado, intrepid explorer, and inspiring writer, was, as Col. Poston believed all river travelers are, bonkers!

A FOOLHARDY UNDERTAKING: Utah's Pioneer Steamboaters

by Roy Webb

Excitement was running high in Moab. It was a cold winter day, the end of the first year of the new decade, but despite the cold, there was a thrill in the air. A steamboat was coming to town! Of all the places in the world, the last place anyone would expect a steamboat was Moab, on the banks of the Grand River (as the Colorado was known in those days). But the UN-DINE, a for sure steamboat, was on its way up the river!

The biggest booster of a steamboat line was editor J.N. Corbin of Moab's *Grand Valley Times*. Practically every issue contained an article or editorial extolling the beauties and wonders to be found along the river, but only as a sidelight to the economic potential. Needless to say, Corbin was ecstatic about the scheduled appearance of the UN-DINE, and fairly frothed in print in a February 7, 1902 editorial:

This enterprise is one that should receive encouragement from every citizen of east and southeast Utah. Its success means that men of energy, enterprise and capital will become acquainted with the country in greater numbers...and there is room for a whole lot of such men. It means the more rapid development of the gold, silver, copper, oil and hydrocarbon prospects, the solution of the problem of bringing its thousands of acres of fertile land under cultivation through the placing of irrigating streams upon it.¹

Although Corbin was always enthusiastic about the potential of developing southeastern Utah, sometimes he let himself get carried away, as in the January 1906 editorial in which he wrote of the "large areas of the richest of river bottoms, under almost tropical climatic conditions, to be settled upon, and the mineral possibilities are beyond the

imagination of man." Corbin was always positive, always in the present tense. Improvements were never in the future, they were always being done even as he wrote. Rocks were being cleared away, the channel being deepened, passengers were lining up for trips on the river, even if none of it had yet come true.

The UN-DINE was not the first, nor would it be the last powered craft to attempt the navigation of those tricky river canyons between Green River and Moab. Ever since the two towns had been founded--Moab in 1882 and Green River the next year--residents had looked to the smooth river flowing by and wondered if such a thing was possible. After all, travel by water was a way of life in America. Doubtless some of their ancestors had come west by way of steamboats and barges on the Ohio, the Mississippi, the Missouri. Why not here in Utah?

For one thing, river travel seemed to be the best route between the two growing towns. Although it was less than sixty miles overland from Green River to Moab, and half of that was by rail, the remaining miles were a nightmare of deep washes that had to be crossed, rocky, bone-jarring stretches that had to be negotiated, and dust. Choking, blanketing dust that coated everything and everyone. In the summer, heat reflected off the bare rocks could fry your brains; in the winter you could freeze to death. It could take two days or more in a wagon.

Grand Junction, Colorado was already established as a prime fruit growing spot. Moab farmers were jealous of Grand Junction's success, and knew that their valley was just as good, if not better, for orchards. But Grand Junction was on the Rio Grande & Western Railroad, and its farmers

could easily and cheaply ship produce to markets all over the country. Moab farmers had no such advantage. The two-day haul over the desert to Thompson, the closest station on the railroad, left their produce "badly bruised, partially spoiled from the heat, and dirty from the dust of the desert."

Another attraction of the steamboat line was tourism. Boosters of the two towns were correct in proclaiming the scenery in the river canyons to be some of the most spectacular in the world. The Green River below town entered a canyon of surpassing beauty, flowing in sinuous, cottonwood-lined curves beneath towering sandstone cliffs. The Grand below Moab could boast the same sort of beautiful scenery, with the addition of thunderous rapids just below the confluence. The open bottoms along the river allowed room for resorts, farms, even towns. As an army report noted in 1909,

Several attempts have been made by the people of Green River to exploit this river trip as a scenic attraction and to operate a line of passenger steamers on the river. It has been proposed to put a hotel in Elgin, which lies just across the river from the town... another at the Bowknot; and a third just above the cataracts in the Colorado River. From the latter ... good views could be obtained of the cataracts. With hotels at these three locations the trips for tourists on the Green River could be made easy, and there can be no doubt of the grandeur and attractiveness of the scenery.²

Besides the tourist trade, there were nearby deposits of precious metals, other ores, and coal, as well as vast stands of timber in the mountains. There were rumors of oil deposits on the Grand River below Moab, and everyone had heard the stories about

the flour gold in Glen Canyon. If a railroad was built through Cataract Canyon, a connection could be made with another steamer line in Glen Canyon. Who knew what fortunes could be made in the country, if there was access to the outside world?

The first steamer on the river came in the summer of 1891, when a Wyoming man, B.S. Ross, launched a small steamboat named the MAJOR POWELL. He had gone down the Green to the confluence in a rowboat the year before and was greatly impressed by the scenery. Gathering up some wealthy backers, Ross formed the Green, Grand and Colorado River Navigation Company, to run excursion steamers down to a hotel he planned to build at the confluence. Ross bought a round-bottomed, 35-foot steam launch in Illinois and had it shipped to Green River. The maiden voyage of the MAJOR POWELL took place in August. With Ross were several of his backers, and two journalists from Wyoming and Colorado.

The trip went well until they reached the mouth of the San Rafael River, about 23 miles below Green River.



The ill-fated MAJOR POWELL after she was abandoned in 1892. courtesy of Utah State Historical Society

There the MAJOR POWELL, which drew over two feet of water, tore her propellers off on a submerged boulder. They had no spare propellers, and the river level was dropping, so a chagrined Ross and his party went on to the confluence in row boats. The MAJOR POWELL was left on the river bank until April of the next year, when Ross hired Arthur Wheeler, a local rancher, to repair the boat and try again. Wheeler added heavy iron shields around the propellers, and they launched again on April 15, 1892.

The water was much higher than the previous year, and they had little trouble getting all the way to the confluence. The party ran the MAJOR POWELL down to the first rapid in Cataract Canyon, and all hands got a good look down at those feared rapids. They then laid out a site for a hotel in Spanish Bottom, and headed back up the Green. Going back was not to be so easy, however, for the current was swift and the MAJOR POWELL underpowered. By the time they reached Wheeler's ranch, their coal was gone, so they tied the boat up there and returned on horseback to Green River. In town, Ross proclaimed the

trip a complete success and announced plans for regular excursions beginning the following year. But by then, Ross and his schemes had dropped out of sight.

Sensing an opportunity, young William H. Edwards persuaded some friends to lease the MAJOR POWELL and let him give it a try. Edwards had been all the way down the river with previous parties, and knew that coal was not readily available along the river. So he and some companions converted the boiler to burn wood, made other needed repairs, and set off from Wheeler's ranch in March 1893. Low water made it a slow trip, and it was a month before they returned from the cataracts. Although much time was spent gathering wood for the hungry boiler, there was time to explore the bottomlands along the river. Good farm land was found, much evidence of ancient Indians, and to their surprise, a family living in one of the bottoms about a dozen miles above the confluence. The Valentines had been there since the previous fall, and Edwards was delighted at the prospect of hauling supplies and freight down to ranchers.

Edwards set out on another trip about a month later, when the river was much higher. The round trip of over 200 miles was made in only two weeks. Edwards waxed enthusiastic, but also admitted that if they were going to establish a regular line, the MAJOR POWELL was too small and underpowered. However, finding no backers for a bigger boat, Edwards abandoned the idea--and the MAJOR POWELL. In 1894, she was bought by four men who stripped out her engines and boiler and scrapped the hull. The MAJOR POWELL had only been down the river three times, but she proved that it could be done.

The next boat used in an attempt to establish a steam navigation business was the UNDINE, the brainchild of F.H. Summerhil of Denver. He had her built in Illinois and then shipped in pieces to Green River. The UNDINE was a good sized craft: 60 feet long with 10 feet of beam, with a coal-burning, 20-horsepower engine powering a stern paddle wheel. She was assembled on the banks of the Green River below town and set off on her maiden voyage on November 22, 1901. The crew consisted of Mr. Summerhil, captain; his six year-old son, Stanley; a photographer to record the great event, and a crew of four.

Although things got off to a slow start when the UNDINE struck a submerged boulder just after launching, the hull was soon patched and she was on her way. To the confluence, it was 120 miles of low water, twisting canyons, and ever-present sandbars. The UNDINE, even with a draft of only 12 inches, stuck so often on the sandbars that the men cursed every time they felt the boat ground to a stop. Then it was out of the boat, into the cold water, and heave with block and tackle to get her loose. Finally they reached the confluence and went on down to Spanish Bottom, just above the first rapids in Cataract. They camped under the willows for a week, while Mr. Summerhil looked for a suitable site for a health resort. Then it was time to start on the next leg of the journey, the 65 miles to Moab.

The men were anxious, remembering the sandbars and shallow channel above, but to their surprise the ascent of the Grand turned out to be easier

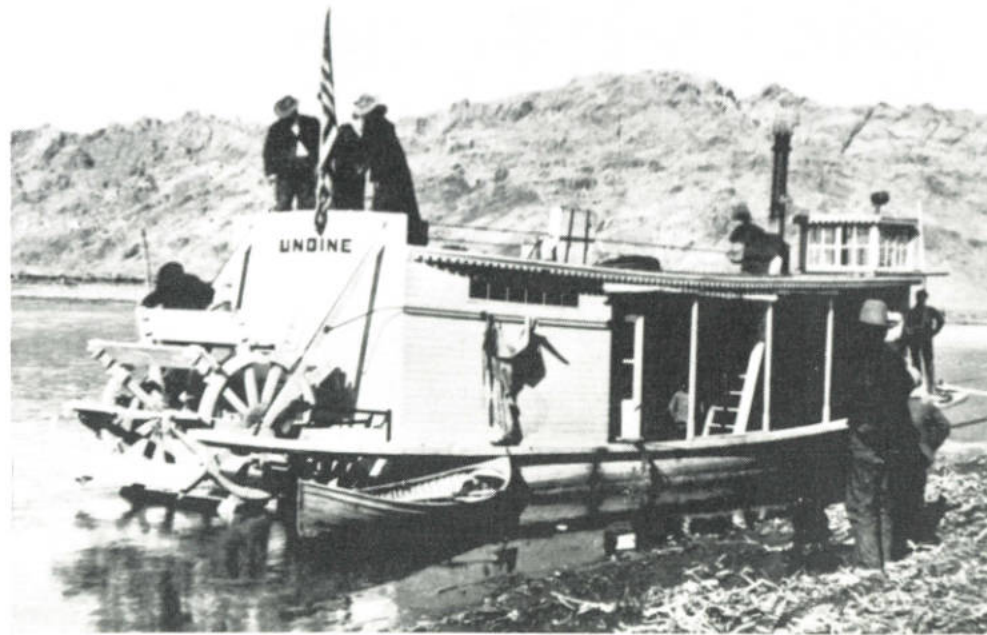
than the descent of the Green! Early on the first day they came to the Slide, the only serious obstruction on the river, but again it seemed as if fortune favored them. At higher water the rapid would prove impossible to ascend, but with low water they had little trouble and soon were in the channel above the Slide, the steam engine chugging away. They arrived in Moab three days later, on December 9, to the cheers of the assembled townspeople.

Although the voyage from Green River to Moab was not as easy as he had hoped, Summerhil still had big plans for the UNDINE. With a little work on the river channel, and some more experience on the river, there was no reason why there couldn't be a regular line running between the two towns. Summerhil himself planned to start a tour business, taking passengers down through the scenic canyons to his resort below the confluence. Furthermore, he told editor Corbin, he planned to have another boat running on a regular schedule by the next spring. Corbin, who had editorialized for just such service, felt that the dawn of a new era was at hand.

Alas for all their high hopes the UNDINE soon met a sad end. Summerhil stayed around Moab, going up and down the river, for the next few months. In May, he took the boat

upstream to see how far he could get. It was the beginning of the spring flood, and the river was running full and cold. At Big Bend, about eight miles above Moab, disaster struck. Summerhil and his two crewmen were trying to get the UNDINE past a riffle using the capstan when she suddenly swung beam-on to the swift current, rolled over and began to drift downstream. Summerhil jumped clear, but had to float almost two miles before he could pull himself out of the river. Then he had to walk a few miles, on "bare and bleeding feet," before he found help at a mill just above town. The other two, meanwhile, clung to the boat as it careened down river. It fetched up against a mid-stream rock with a crash that demolished the cabin, and hung there. Luckily for the two men, a rancher riding by in a wagon saw them and hastened back to the same mill for help. He then hurried into Moab to alert the townspeople. Rowboats were brought, and the two castaways were finally rescued. Fortunately, young Stanley Summerhil had been put ashore just before the mishap. But the UNDINE was wrecked. Summerhil salvaged the engine and boiler, and vowed to raise money in Denver for another boat, but nothing more ever came of either his plans or editor Corbin's hopes.

The loss of the UNDINE did nothing to deter the next entrant into the river



The UNDINE near Moab, 1902.
courtesy of Utah State Historical Society

My father, Dr. J.W. Williams, made a trip in 1901 on the UNDINE. I heard a great deal about it while I was growing up. My father was very impressed with the beautiful canyons and the scenery in general. He spoke of the great tourist possibilities in this country. I wish he could see the numbers of people who are seeing it today, not on steam paddle-wheelers but on rubber rafts.

Mitch Williams

travel business. Edwin T. Wolverton built a small launch that he named the WILMONT and put on the river in the fall of 1903. Unlike its predecessors, the WILMONT was powered by a four-horsepower gasoline engine that ran a stern-mounted paddle wheel. It was 27 feet long, 5 1/2 feet wide, and drew only 10 inches of water when empty.

The engine proved to be too small, but the WILMONT was the most successful boat to that date. Wolverton made a number of round trips to the cataracts, and one all the way to Moab. The next year, he put a seven and a half horsepower engine in the WILMONT and converted it into a side-wheeler. He took it to Moab a couple more times. Wolverton had in fact done just what everyone else had talked about--he had established the first ferry service between Green River and Moab that ran with any sort of regularity.

Once again, Wolverton upped the engine size, this time to 14 horsepower. With this more powerful engine the WILMONT became a real work-horse. In addition to ferrying supplies and tourists up and down the river, Wolverton hauled ore from a mine about 45 miles below Green River, and he used the powered boat to push one of two scows he built as cargo haulers. The WILMONT worked on the river until the winter of 1908, when it caught in the ice, damaging the hull. Wolverton removed the machinery from the craft and abandoned her.

His next craft was a 22-foot scow he called the NAVAJO, which used the 7.5 horsepower engine from the WILMONT. In this craft he took tourists and hunters to the cataracts, hauled ore, and ferried supplies for his

ranch. It was a day's drive by team and wagon from the San Rafael to Green River, so Wolverton took the easiest route: "I lived there at my ranch all the year round and brought most of my supplies down the river...by boat." He used the NAVAJO until he left the river in 1912. More than anyone, Wolverton had proved that powered boats could ply a regular trade back and forth between Moab and Green River.

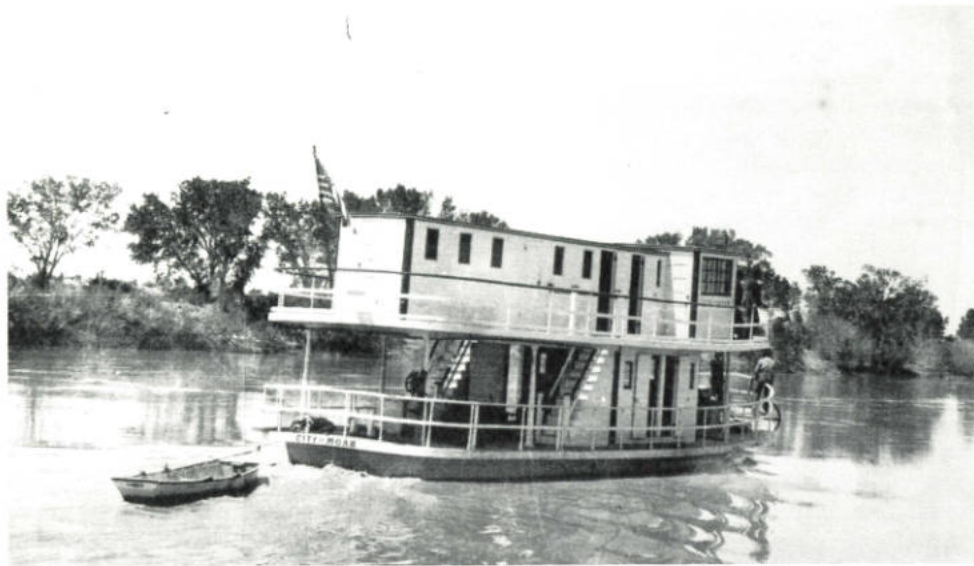
Wolverton was so successful, in fact, that he soon branched out. In 1906, he built a 33-foot launch for local rancher Tom Wimmer. Wimmer called the big boat the MARGUERITE, and used her for years to ferry supplies from Green River to the Ruby Ranch, near the mouth of the San Rafael River. In 1910, Wimmer started his own freight hauling service, and was contracted by the U.S. Reclamation Service in 1914 to haul supplies from Green River to their camp at the confluence. The supplies, including coal and drilling equipment as well as groceries, were hauled to his ranch by wagon, then loaded onto a large scow built for the purpose. Wimmer or his son, Gregory, would then use the MARGUERITE to push the scow the remaining 100 miles to the confluence. Besides hauling supplies, Wimmer also took tourists down the river, and sometimes used the MARGUERITE for family excursions or picnics. Wimmer was up and down the river until at least 1925.

Wolverton, Wimmer, and the others had proven that boats of substantial size could successfully navigate the Green and Grand rivers. To attract tourists, however, they needed more grand and commodious craft, and the next boat on the river was all of that. The CITY OF MOAB was the largest

and certainly most pretentious craft ever to travel the region's rivers. Built in Grand Junction at a cost of \$15,000, she was to be the flagship of John Lumsden's Green-Grand River and Moab Navigation Company. The CITY OF MOAB boasted a dozen comfortable staterooms, a bath, and a saloon. The boat was 55 feet long, with 10 feet of beam, and was powered by two 30-horsepower gasoline engines (which also powered a generator, providing electric lights). Unfortunately, Lumsden used tunnel propellers rather than the proven paddle wheels, and greater horsepower gave the big boat no advantage. Her sumptuous accommodations proved to be too much weight for her size--she had a fourteen inch draft with no load, far too much for the shallow Green and Grand.

The whole town of Green River turned out for the celebration when the beautiful new boat was launched the first week of May, 1905. There were speeches, photographers, and a picnic. To Lumsden's embarrassment, however, the CITY OF MOAB hung up on the railroad bridge soon after launching, and it took the crew two days to get her free. Once underway, things did not get much better. The big boat seemed to hang around every bend in the shallow water. W.P. Ela, president of the Mesa County Bank of Grand Junction, and one of Lumsden's backers, later remembered the voyage: "[I]t was a foolhardy undertaking the way we started out with an entirely untried boat, [and] a green crew of landmen or cowpunchers."³

When they reached the confluence, they found that the Colorado was booming full from the spring flood. The CITY OF MOAB's engines labored and roared, trying to buck the stiff current. They reached the slide, two miles above the confluence, and were trying to work their way up the Chute when the engines suddenly ran out of gas. The big boat went careening back down the rapid, the men holding on as best they could. She swept round and round in a big whirlpool below the rapid, and finally grounded on the river bank with such force that the captain, Charles Anderson, was thrown into the river. Luckily for the others, the current threw them onto the beach and not on the rocks, or as



The CITY OF MOAB on her maiden voyage in 1905.
courtesy of Utah State Historical Society

passenger Ela put it, they "would have needed a relief party to have rescued us and needed them bad." As it was, they were able to repair the boat, get the engines started and head back to Green River.

The return trip was another ordeal; they spent two days hung up on a bar at the mouth of the San Rafael. Everyone was forced to get out and help, standing in the chilly river tugging on ropes or pushing on the boat. Three of the passengers gave up on the river at that point, obtained horses, and returned to Green River. The CITY OF MOAB only made it as far as seven miles below town before it again ran out of fuel. As chief engineer H.T. Yokey noted, "We only had one hub left on the propeller on the port side and one blade on the [starboard], so it was time to quit." The CITY OF MOAB was tied to the bank. There the forlorn craft remained throughout the winter.

Lumsden was bloodied but unbowed. He and Charles Anderson, the pilot, spent the winter and most of the next summer completely rebuilding her. They lengthened the hull by ten feet, removed all the fancy cabins and the saloon, and converted her to a steam-powered stern-wheeler. The refitted craft was given a new name: CLIFF DWELLER. After a flurry of publicity by editor Corbin, the new boat set out on August 6, 1906. Despite all their hard work she did even worse

than the year before. This time the sandbars delayed them so badly that they only got as far as Valentine Bottom, before they gave up in disgust and returned to Green River. It was a discouraging end to their plans. Lumsden, determined to get out of the steamboat business, sold the CLIFF DWELLER to a Mr. Seegmiller, who sawed the boat in half and shipped her to Salt Lake City. There she was reassembled, renamed the VISTA, and served for many years as an excursion boat on the Great Salt Lake.

Lumsden gave up the idea, and even editor Corbin had gotten discouraged--he sold the *Grand Valley Times* in 1908, and left the country--but Harry T. "Cap" Yokey thought he could still do them one better. He had been the chief engineer on the CITY OF MOAB/ CLIFF DWELLER, and had in fact installed both sets of engines. In the spring of 1907, Yokey built a steamer slightly smaller than the CITY OF MOAB that he called the BLACK EAGLE. She was powered by a steam engine and driven by a propeller, and was, from all indications, a well-built and efficient craft. Yokey launched her from Green River in June 1907. She might have done well on the river, but Yokey allowed the boiler tubes to become plugged with mud, and the BLACK EAGLE exploded! Yokey returned to town aboard Wolverton's WILMONT, which was luckily passing by. He and his crew were uninjured, but it was enough for him.

Meanwhile, another Green River resident, Milton Oppenheimer, built a small craft similar to Wolverton's successful WILMONT. This was the PADDY ROSS. It was slightly larger, but of the same general configuration, and with a powerful 14-horsepower engine. The PADDY ROSS ran on the Green for the next decade, albeit not without occasional problems. A.I. Anderson, a passenger on a trip down the Green River in 1909, remembered that they had engine trouble, which Oppenheimer was able to repair on the spot: "The engine trouble...was with a valve. Finally he made a new valve out of [a] pewter spoon and we went right along without any more trouble." Oppenheimer later used the PADDY ROSS to ferry surveyors from the Corps of Engineers up and down the river.

Another resourceful river man was Henry E. Blake of Green River. In the summer of 1909, he built a 25-foot boat he called the UTAH. Late in the summer, Blake took a party of several Salt Lake City bankers and other "men of means" down the river to demonstrate the possibilities of a scenic boat line through the canyons. The trip went well until they reached Anderson Bottom. Young Blake--then a 13-year old boy--later recalled:

After leaving Anderson Bottom the engine purred evenly for awhile then suddenly there was a clatter and banging that caused Dad to shut the engine off abruptly...The engine was dismounted. Every face was grave. As the [connecting]-rod caps were removed it was found that every one had burnt out.

Well might the passengers have grave faces, for it was a long trip back to Green River, and they did not have adequate provisions. The other alternative, young Blake noted, was to run Cataract Canyon and come out at Hite, "an appalling prospect."

Ever resourceful, as any river man has to be, Blake Sr. took command of the situation. He ordered that a fire be built, and then searched along the river bank until he found some clay. Blake planned to use the clay to make a mold, melt down the broken rods and re-pour them:

Carefully Dad moistened the clay... The number of trials that failed is forgotten. Success did not come that day. With the early dawn another fire was kindled. The clay was again used to dam the molten babbitt. At last the results seemed to please Dad and he grunted, "Put her together." By the time the engine was in place another day was drawing to a close. Nevertheless a trial was made to see if the engine would run. It did and all slept, some no doubt with a prayer of thanks on their lips. The run to the junction of the rivers was made without a stutter from the rejuvenated engine.⁵

As a final irony, Blake returned from Moab with a load of 1,000 pounds of peaches that spoiled on the trip!

While it was obvious that the rivers could be navigated with care, it was equally obvious that to really establish some sort of regular passenger and freight service, improvements in the river channel would have to be made. There were simply too many obstructions in the river. There was the Auger, a riffle below Green River, that impeded passage at low water. There were the numerous sandbars and smaller riffles, such as the one at the

mouth of the San Rafael, where the CITY OF MOAB had spent so many frustrating days. And of course there was the SLIDE, up the Grand from the confluence, where tons of rock had sloughed off the right cliff and partially blocked the channel. Except during periods of low water, the Slide was all but impassable.

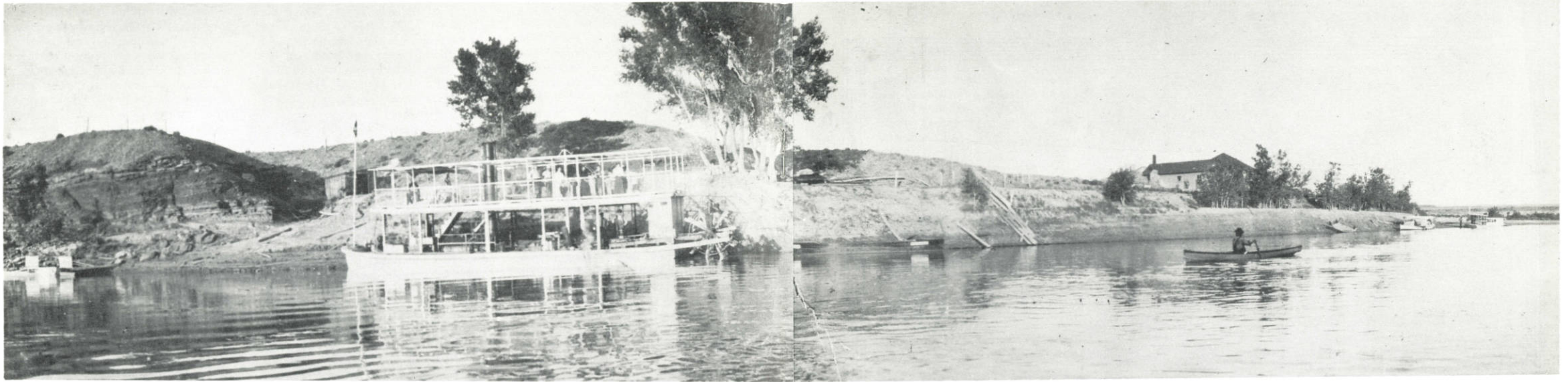
Accordingly, the residents appealed to the Utah Legislature, which in turn petitioned Congress to conduct a survey under the terms of the Rivers and Harbors Act of 1909, to determine if the rivers were worth spending federal funds for their improvement. The first inspection of the river was made by Lt. Charles T. Leeds of the Corps of Engineers in April 1909. He went from Moab to the confluence in a rowboat, and then came back up the Green in Oppenheimer's PADDY ROSS. Leeds reported that the river seemed to be perfectly navigable, but he recommended that another investigation should be made when the water was lower. This was done by his assistant engineer, D.E. Hughes, in November of that same year. Hughes' report recommended against spending any federal funds to improve the river channel.

The consternation of the locals when they learned of the unfavorable report is easy to imagine, and was expressed in letters that were appended to the final draft. H.E. Blake wrote to enter "a formal protest against [the] report and ask that your honorable body take steps to more thoroughly inform themselves on conditions, both present and future, along said streams." A.I. Anderson's letter itemized his objections, saying there were thousands of acres of land that could be settled on, that Moab would advance "ten years in development," and that the improvements would be relatively cheap, a point specifically refuted by engineer Hughes, who proved that it would cost over \$100,000 to clear the Slide alone. There were other letters, including one signed by 66 Green River residents. But by far the most eloquent was from J.B. Caldwell of Salt Lake City. After painting a rosy picture of the many possibilities awaiting developers, Caldwell concluded with a ringing peroration:

I regret that I cannot do justice to the magnificent country that is demanding recognition. To get at its resources, one should have at least three weeks for personal observation



A barge, tied to shore, has been pushed upriver by the WILMONT. On the river is the PADDY ROSS; photo taken around 1905.
courtesy of Utah State Historical Society



Boats on the river, early 1900s; pictured are (probably) the WILMONT, WOLVERTON, PADDY ROSS, and others.

courtesy of UTAH STATE HISTORICAL SOCIETY

and deduction and even then the latent resources might receive only scant recognition. My information is only hearsay [!] but from knowledge of the men with whom I talked, I am convinced a new empire in southern Utah can be called into being, and not only minister to the happiness of thousands, but be a source of revenue to those who furnish the means of transportation. In my judgment, the available tonnage would justify the dredging of the streams under consideration, to say nothing of the new business that always follows the road to the market.⁶

It was all to no avail. When the local residents pointed to the potential markets, the engineers countered by saying that if there was so much potential, why hadn't someone already stepped in and opened a freight line? That was the final gist of the report: the residents said improve the river and we will use it, while the Army said use the river and we will improve it. The real death knell, however, was that the rivers in question were entirely within the State of Utah, and there was no possibility of interstate commerce. Since it was the state's responsibility, and it was unlikely that the Utah

legislature was willing to spend the money to improve the streams, the matter was dropped.

Although the negative report by the Corps of Engineers spelled the end of hopes of large-scale river transport on the Green, on the Grand there was another surge of activity in the 1920s. In the early part of the decade, oil was discovered along the river canyon below Moab. In 1923, Virgil, Clarence, and Dennis Baldwin, operators of the Moab Garage Company, built a 20-foot scow that they called the PUNKINSEED. It was powered by a four-horsepower Evinrude outboard motor and was used to carry passengers and some freight down to the test sites. In 1925, a good producing well was discovered at Shafer Dome, about 18 miles downriver from Moab, and the Moab Garage Company was contracted to carry 200 tons of drilling equipment from Thompson to the well site.

For this they built one of the biggest boats ever to sail on the Grand, a 75-foot scow powered by a paddle-wheel that was run by a Ford car engine. The scow was 15 feet wide and

could carry 12 tons of freight, and was provided with a capstan and 500 feet of steel cable for pulling it off sandbars. Even fully loaded, the big boat could make the round trip from Moab in about nine hours. Between June 1925 and June 1927, when the field was abandoned, the big scow and other boats made over 240 trips to the well sites and hauled over 3,500 tons of freight, as well as many passengers. The journey was not without its hazards. On the return leg of its maiden voyage, the big boat was within sight of Moab when it threw a drive chain into the river and began to drift downstream, out of control. To their dismay, the Baldwin brothers realized that they had forgotten an anchor, but they were able to stop the boat with ropes tied on boulders. On the ninth trip, they got stuck on a sandbar and took all day to get off. According to Virgil Baldwin, at that his brother Clarence decided he had had enough of the river business and turned the helm over to Virgil. Virgil went on to say that the river was always either too low or too high: "At first the water in the river was low for boating and then about the 15th of May, to the same time in June, almost too high to be

safe. There was usually a 10- to 12-foot raise or about 50,000 second-feet." Still, it was a profitable venture for the Moab Garage Company. Virgil later remembered that they had been paid over \$250,000 for transporting freight.⁷

By the 1930s, the attraction of the rivers as avenues of commerce had faded as roads improved and air travel became feasible. Local residents still used the rivers for recreation, as they do today. In retrospect, seen in the larger history of the development of America's frontiers, the urge to operate steamboats on the Green and the Grand is easy to understand. Attitudes like editor Corbin's were common in 19th century America. To him, and others like him, the idea of regular travel to link isolated Moab to the rest of the world was more than a matter of convenience or economics, it was a personal path of empire. But despite his efforts at promotion, and the efforts of rivermen like Wolverton, Wimmer, Blake, Yokey, and a number of others, the steamboat line never became a reality. All that remains are flaking inscriptions, rusted cables, and fading memories.

Instead of the vast commercial and manufacturing empire that Corbin envisioned, Moab now bids fair (to borrow his felicitous phrase) to become another artists' colony like Santa Fe. Instead of steamboats chugging and puffing up and down the rivers hauling the fruits of commerce and industry, today the most common craft are neoprene rafts carrying boaters down to the very cataracts that the early steamboaters so dreaded. Today commercial river running forms a large part of the economies of both Moab and Green River. Perhaps editor Corbin would have been pleased after all.

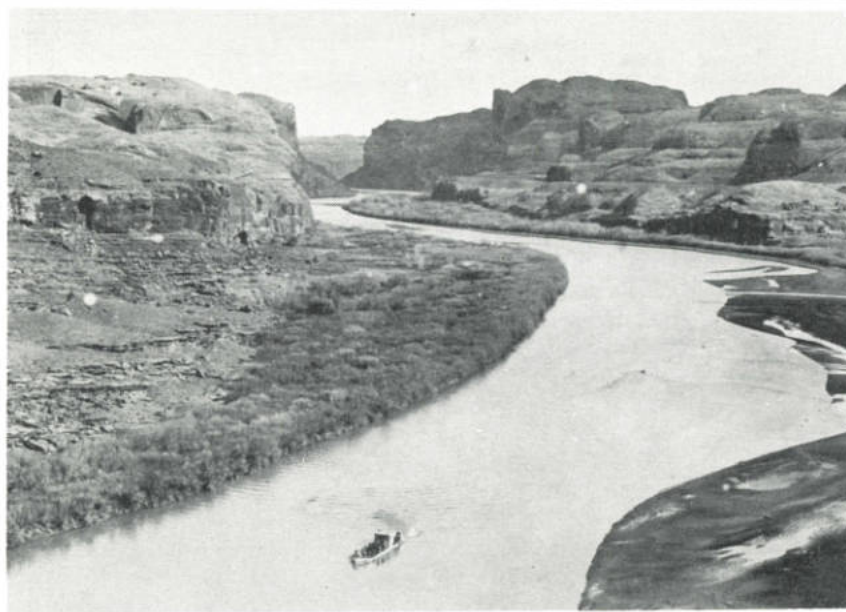
FOOTNOTES

1. "Editorial Notes." *Grand Valley Times*, 7 February 1902.
2. House Document 953. 61st Congress, 2nd session. "Grand and Green Rivers, Utah. Letter from the Secretary of War." June 8, 1910, p. 11.
3. "Steamboating in the River Canyons." *Grand Valley Times*, 12 January 1906.

4. U.S. vs. Utah, 1931, *Report of the Special Master*, p. 1558.
5. "Elwyn Blake Recalls Power Boat River Cruise in 1909." *Moab Times Independent*, 18 June 1959.
6. *Ibid.* '2, p. 29.
7. "Freighting on the Colorado River: Reminiscences of Virgil Fay Baldwin." *Utah Historical Quarterly*, Spring 1964. p. 122-129.

ABOUT THE AUTHOR

Roy Webb is the Assistant Manuscripts Curator for the Special Collections Department of the Marriott Library at the University of Utah. Webb is both historian and author of numerous articles and his area of expertise is 20th century river history. His latest book is "The Riverman: The Story of Bus Hatch."



Moab Garage Company boat on the Colorado River, 1920s.
courtesy of Utah State Historical Society

There was a lot of oil well drilling going on in southeastern Utah back in the 1920s, some of it almost right in Moab. Every kid in town was busy building himself a model oil well rig. We made them work and actually drilled holes in the ground.

The Moab Garage Company built a flat-bottom, gasoline-engine powered paddlewheeler, and I watched every phase of its construction. This big boat (that appeared to me to be bigger than the *Queen Mary*) was used to haul supplies and personnel to

the oil wells down river. I've seen it pull out with a full load of well casing, for example, and boilers and all sorts of things. Virgil Baldwin was the pilot and there had never been a ship's captain anywhere who was as important, in my eyes, as Virgil.

But the really big day came when I got to ship out on her. Yes, siree, I was on board and we were heading down stream with a big load of all that important iron and things that the oil wells needed. That big paddle wheel in the back was going round and round and thrashing and making the boat go. Virgil sat up high above the engine in the rear and steered it straight and true. And I saw it all. I was all over the boat and didn't miss a thing. We went down to Shafer #1 and that afternoon returned to Moab. A great trip for a 10 year old.

Mitch Williams

* * *

In the 1930s, Ace Turner built an air boat, which was quite successful. Ace mounted an airplane propeller on a Model A Ford rear axle, which in turn was bolted to a steel framework that was high enough to give the propeller clearance above the water. On the other end of the axle he installed a multiple pulley so that about four V-belts could run down to the engine, which was mounted in the bottom of the boat.

This boat worked well because Ace didn't have any propellers or other gear sticking down below the bottom of the boat to get hung up on sand bars. And the sand bars are many in the Colorado and Green. My sister, Eddas Williams Shields, made a trip on this boat from Moab to Green River. She said the noise of the airplane propeller was a little too loud for comfort, but otherwise the trip was great. They took three days to complete the trip, but easily could have done it quicker.

Mitch Williams



Motorists on Interstate 70 stopping at Green River will be visiting a historic crossroads in Utah's Canyon Country. Here an Indian crossing dates back to prehistoric times. The Spanish Trail, a major commercial route through the Southwest, used this crossing. A ferry operated for over thirty years. A transcontinental railroad reached the river in 1882. Green River has been a river port since the days of John Wesley Powell and Robert B. Stanton.
photo by C. Gregory Crampton

Green River Crossing

by C. Gregory Crampton

After its long, 100-mile passage through Desolation and Gray canyons, the Green River sweeps out into the open at the Book Cliffs and meanders a few miles through the short Green River, or Gunnison (as Powell named it) Valley before beginning the descent which will carry it through Labyrinth and Stillwater canyons to the Colorado River. Green River Valley, where for twelve miles the river is easily approachable, is the historic cross roads of Utah's Canyon Country.

Prehistoric man came this way. Archaeologists tell us that the northern

part of the Colorado Plateau was home to a people who followed the seasons hunting animals and gathering wild plants. This, the Archaic, or Desert, lifeway began on the plateau more than 8,000 years ago (the pyramids had yet to be built in Egypt) and continued, perhaps intermittently, until about A.D. 500. At a site adjacent to Interstate 70 above Castle Valley, archaeologists have found a rock shelter used by the Archaics for nearly 5,000 years! Of course we don't have any statistics about population density or the main routes followed by these early transients through the centuries but the

Green River Valley with its abundant water, plant and animal life, must have been an attractive camping place for these Archaic people.

By about A.D. 500 (as Rome had declined in Europe) the Fremont Culture had evolved on the Colorado Plateau. Horticulture, village life, pottery, the bow and arrow, and clay figurines are mentioned in any description of this culture, but the Fremonters are best known for their artistically fine petroglyphs and pictographs pecked and painted on rock surfaces. Panels of Fremont rock art with its

dramatic broad-shouldered anthropomorphic figures, animal forms and abstract symbols, probably indicate the location of nearby settlements. A number of these, found at different compass points within fifty miles of Green River Valley, may be seen today in Desolation Canyon, Range Creek, Thompson Wash, the Moab area, and San Rafael country.

In recent studies archaeologists report that the Fremont people abandoned the northern Colorado Plateau between A.D. 1250 and A.D. 1350 (when the Middle Ages in Europe ended). They were replaced by the ancestors of the modern Ute Indians whose place in the history of this region is a major one.

For centuries the Ute Indians roamed over much of Utah and Colorado but in the seventeenth century, riding mounts dispersed from the Spanish settlements in New Mexico, they became a people on horseback. After the Pueblo Revolt in 1680 the aboriginal use of horses spread rapidly from tribe to tribe northward from New Mexico. West of the Rockies the migration of horses, furthered by the Utes, reached the Northwest before the end of the eighteenth century. Thus, when Lewis and Clark crossed the continent, 1804-1805, they found the Shoshone Indians in Montana riding Spanish horses. Although we have few details, a major horse migration route from

New Mexico to the Northwest quite probably followed the open natural way through southwestern Colorado to Moab, Utah, and on to the Green River Crossing. Thence it continued on to the Great Salt Lake and the region beyond. Horses appearing on rock art panels along this way--Indian Creek State Park and Thompson Wash are examples--may well have been done by the horse-breeding, horse-trading Ute Indians.

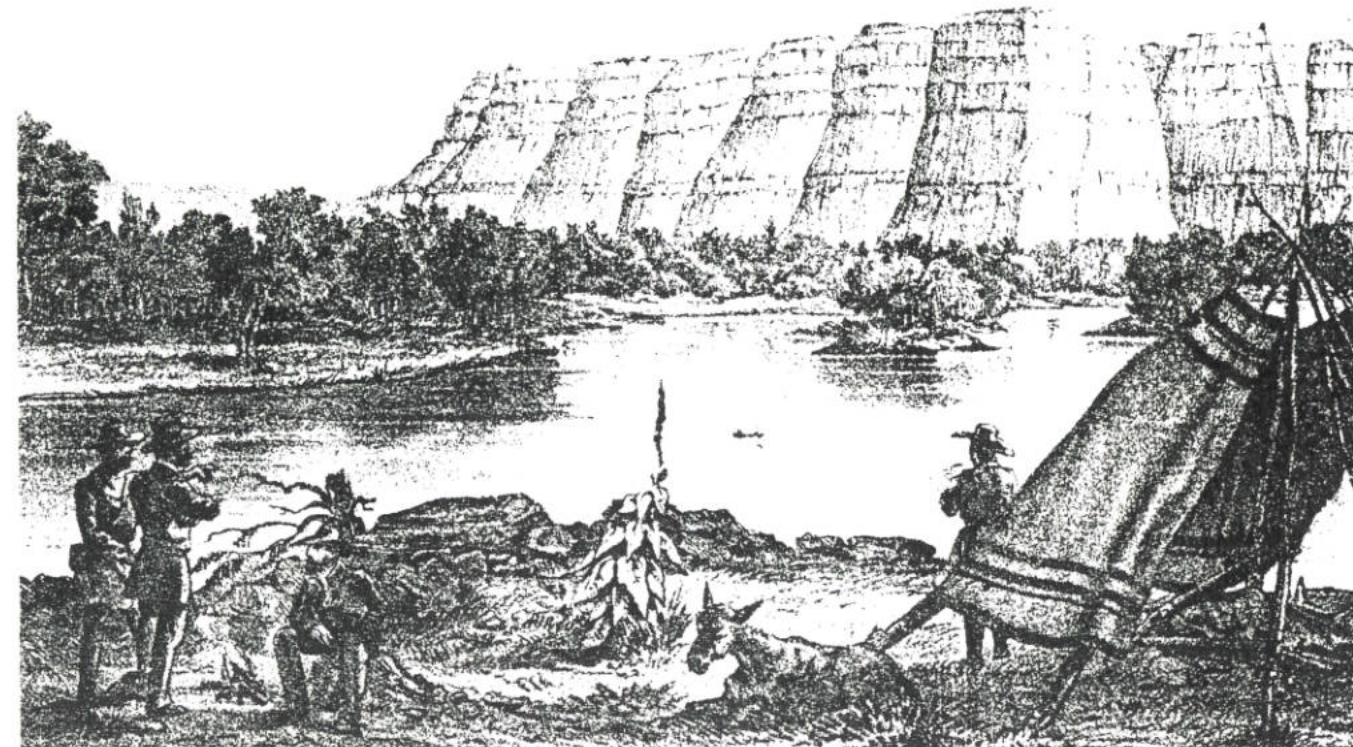
The trails through southwestern Colorado and eastern Utah developed and used by the Indians for centuries were followed by a few Spanish explorers from New Mexico but none of them, beyond some trading parties to the Great Basin, ever reached the Green River below the Book Cliffs.

If Spain's approach to the Green River country was sporadic all of that changed when the region fell under the political control of Mexico in 1821. American beaver hunters trapped the streams and, together with New Mexican merchants who found there was a ready market for woolen goods in California, they opened a caravan route between Santa Fe and Los Angeles. This was the Spanish (though not developed until the Mexican epoch) Trail, a major commercial route across the Southwest in use from 1829-1848. From New Mexico the trail ran through the southwestern tip of Colorado, following the trace long known

to the Ute Indians, and crossing the Colorado at Moab, reached the Green at a ford about two miles above Green River City. From this point the trail ran through the San Rafael Swell, Salina Canyon, Mountain Meadows, Las Vegas, Cajon Pass, San Gabriel, to Los Angeles. Total distance was about 1200 miles. Why such an indirect route when Santa Fe and Los Angeles are close to the same latitude? Hostile tribes deflected the caravans northward and then a feasible crossing of the great canyons of the Colorado and the Green had to be found. The Green River crossing was a natural.

For nearly twenty years the crossing was heavily used. Pack trains loaded with woolens from New Mexico reached the Green after the spring runoff. Sometimes up to a hundred traders would form a single caravan. Exchanging their goods for horses and mules in California the traders on the return trip to Santa Fe drove along as many as a thousand animals. The caravans from California planned to reach the Green River crossing before the onset of winter. For overland travelers the Green was a good place to camp and rest for a time and recruit the animals. The crossing was much used by the Ute Indians, some of whom called it home. A dominant figure among the Utes was Chief Wakara (Walker and other spellings) who participated in the commerce on the Spanish Trail. His principal stock in trade were horses and Indian slaves.

Despite all of the traffic over the Spanish Trail, first-hand descriptions of the Green River crossing are few indeed. One was written by a young lawyer, Orville C. Pratt. In the service of the American government Pratt, with an escort of sixteen men, reached the crossing on September 18, 1848. Three hundred yards wide, the river was swollen by recent heavy rain. The party swam the horses and rafted provisions and property across. Pratt thought of the Green as the "Rubicon of this California trip, & are, thanks to God, again mending our way westward." Pratt remarked that there are "fine fish in this stream." One of his men caught a six pound "mountain trout." This may be an early reference to the Colorado River Squawfish, now an endangered species.



*Somewhat fanciful pictorial of the Spanish Trail crossing done by Gwinn Harris Heap for the Beale railroad survey. Published in Heap's **Central Route to the Pacific** issued in 1854. courtesy of C. Gregory Crampton*

In 1848, after a war of less than two years duration, Mexico ceded to the United States the entire Southwest below the forty-second parallel. The Spanish Trail was little used now. Why bother with a long winding trail through rough country when you could take the shorter southern routes between New Mexico and California opened during the war? Very few of those rushing to California after gold in 1848, 1849, and later, followed the Spanish Trail throughout its entire length. As the West was rapidly filling up the talk of the nation was about a railroad to the Pacific. One would have to be built, but the question was *where?* Sectional rivalry between the North and the South delayed the decision, so to resolve the matter, Congress, in 1853, directed the War Department to find the best route. The department's Corps of Topographical Engineers surveyed four routes--two in the south, one in the north, and the fourth a central route. The influential Senator Thomas Hart Benton of Missouri plumped for the central route in the expectation that its terminus would be St. Louis. Benton tried to get son-in-law John C. Fremont to head the official survey but when the com-

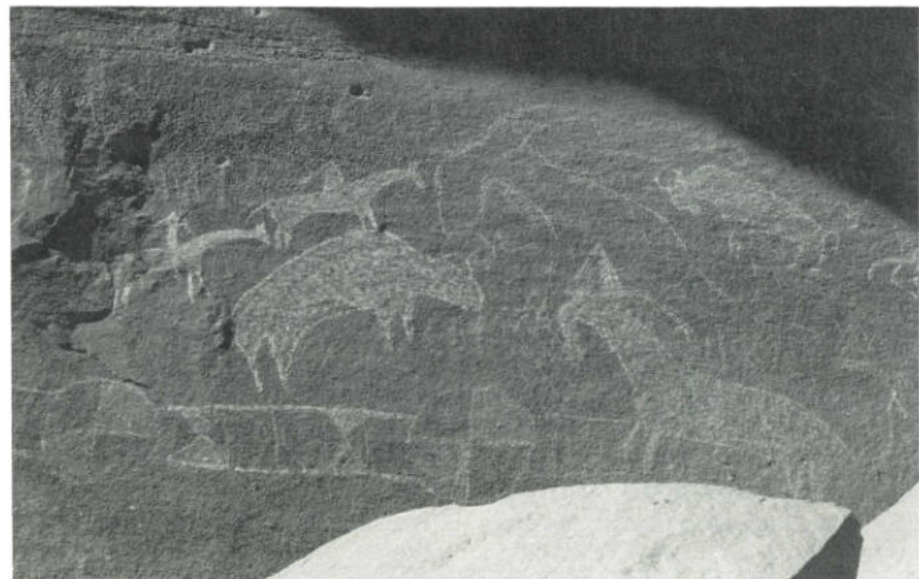
mand fell to Captain John W. Gunnison, private interests were enlisted to put Fremont on the trail for a private survey. Meanwhile, to popularize the central route, Benton persuaded E.F. Beale to travel over it en route to fill a government post in California.

Beale got under way first, followed by Gunnison and the official railroad surveyors. Fremont brought up the rear. All of these parties came into the canyon country from Colorado across the open lands at the foot of the Book Cliffs. Beale and Gunnison crossed the Green at the place long used by traders on the Spanish Trail. Fremont reached and crossed the Green some distance below the old trail. The published accounts of the Beale and Gunnison surveys give us a good round of details about the Green River crossing and vicinity.

The Beale party arrived first, on July 24, 1853. Gwinn Harris Heap, press agent, artist and diarist, described the Book Cliffs near the crossing--"extended ranges of rugged hills, bare of vegetation...On their summits were rocks of fantastic shapes, resembling pyramids, obelisks, churches, and

towers, and having the appearance of a vast city in the distance." The party went into camp on a bluff overlooking the river where the scenery was "grand and solemn." Anxious to get on to California to assume his post as Superintendent of Indian Affairs, Beale lost no time in crossing the river. A boat was framed. Hides brought along to cover it were full of holes but by "patching with pieces of India-rubber blankets and sheepskins, and smearing the seams with a mixture of tallow, flour, soap, and pulverized charcoal" the boat was made tight enough so that, with constant bailing, all the men and packs were carried in four trips, all on July 25. Beale pushed the operation along by going across at every trip "jumping into the river where it was shallow, and taking the boat in tow until it was beyond its depth."

Some resident Utes, mounted and carrying rifles and "bows and quivers full of arrows with obsidian heads" watched these proceedings with considerable interest. When Beale left the boat to them, they promptly ripped it to pieces to salvage the leather for moccasin soles. Hurrying on over the



Petroglyphs at Thompson Wash east of Green River, showing mounted Indians, probably Utes, hunting buffalo. photo by C. Gregory Crampton

Spanish Trail, the Beale expedition reached the Sevier River in four days, a distance, using Harp's figures, of forty-nine miles.

The first detailed description of the Green River crossing was written by Lt. E.G. Beckwith, second in command of the Gunnison railroad survey. Picking up the Spanish Trail twenty miles east of the crossing, Captain Gunnison at the head of an entourage that included R.H. Kern, artist and topographer, as well as a geologist, and a botanist, reached the crossing on September 23, 1853. A military escort of thirty men and a train of nineteen supply wagons, made up the party. Camp was made right on the Spanish Trail where groves of cottonwoods lined the river and the narrow bottom land afforded grass for the animals. Many "Abanaquint or Green River" Indians, encamped on the western bank, quickly crossed over by way of an island in the river to trade and beg for tobacco. By their crossing the Indians marked the historic ford on the Spanish Trail and the next morning the Gunnison party crossed the river without difficulty. The "red muddy" river was flowing swiftly but the water did not rise above the axeltrees of the wagons.

Beckwith wrote that the Indians at the ford were a merry lot--"constantly laughing and talking, and appearing grateful for the trifling presents they receive." The lieutenant shared his luncheon of bread and bacon with a "wrinkled, hard-faced" old Indian who laughed aloud with joy at his good fortune.

The natural setting of Green River Valley prompted praise from Beckwith's pen: "Desolate as is the country over which we have passed, and around us, the view is still one of the most beautiful and pleasing I remember to have seen. As we approached the river yesterday, the ridges on either of its banks to the west appeared broken into a thousand forms--columns, shafts, temples, buildings, and ruined cities could be seen, or imagined from the high points along our route."

Leaving the Green River Gunnison reached the Sevier River by way of Salina Canyon. On October 26 an at-

tack by Ute Indians resulted in the death of Gunnison, Kern, and six other members of the expedition.

By measurements in the report of the Gunnison survey and from data given by near contemporaries who knew of its existence, we may fix the location of the Green River crossing of the Spanish Trail at three and a half river miles above the highway bridge at Green River City, where there is an island in the stream.

The Beale and Gunnison surveys put Utah's Green River crossing on the map. Gwinn Harris Heap's account of the Beale exploration with illustrations and a map was published in book form as the *Central Route to the Pacific* in 1854. Beckwith's report for the Gunnison survey with maps and illustrations appeared in volume 2 of the massive multi-volume *Pacific Railroad Reports* published by the U.S. Government in 1855. These reports quickly became the guide books for overland travelers and settlers. The Green River crossing was accurately described and sections of the Spanish Trail passable to wagons were located.

In 1855 the Mormon Church, anxious to extend the "kingdom" to southeastern Utah, sent out an expedition to found a settlement at Moab--the Elk Mountain Mission. Starting out from Manti, Utah, a colonizing company of fifty-one men, with all of their supplies and equipment loaded on fifteen wagons, jolted along over the Spanish Trail through the San Rafael Swell and reached the Green River crossing on Saturday, June 2, 1855. Oliver B. Huntington, company diarist, wrote: here "we found plenty of grass under a beautiful forest grove of cottonwood and good water and our cattle nearly all completely exhausted." After the long pull across the San Rafael, Sunday, June 3, was a day of welcome rest. "We kept the Sabbath gladly," Huntington wrote, and "we invited all the Indians about us to a meeting and preached to them."

Of course the Green was swollen with the spring run-off and fording was impossible. Huntington describes the crossing: "With the hardest kind of work we had all our wagons and cattle over the river by 10 o'clock on Friday

June 8th." A wagon box ferry made repeated crossings carrying dismantled wagons and all of the supplies and equipment. Most of the cattle had to be towed across the river. "We had no bad luck except to break a fat oxes leg, that was good for we needed beef." The lesson learned here was that when crossing the Green timing was important. During low water the ford at the Spanish Trail, and perhaps at other locations in the valley, was readily negotiable.

By 1858 the Green River crossing was becoming a busy cross roads in Utah's Canyon Country. In that year Col. William W. Loring, U.S.A., commanding a military detachment of 300 men, en route from Camp Floyd in Utah to Fort Union, New Mexico, arrived at the Spanish Trail crossing of the Green on August 5. While a small band of "Sivareeche" Indians looked on, the command, which included a



-Gunnison's Butte at the foot of Gray Cañon.

(2,700 feet high.)

Engraving based on a photograph taken in 1871, published in *Powell's Exploration of the Colorado River of the West* (1875)

courtesy of C. Gregory Crampton



Robert B. Stanton's railroad survey down the Green and Colorado Rivers embarks at Green River May 25, 1889.

courtesy Dwight L. Smith and C. Gregory Crampton, editors, *The Colorado River Survey*, 1987

train of some fifty wagons, forded the stream with little difficulty, by way of a "small pebbly island" near the center of the river. Finding the Green river fordable, Loring left behind 500 board feet of planking brought along to construct a ferry.

The two voyages of exploration down the Green and Colorado made by John Wesley Powell, 1869 and 1871-72, brought the Green River crossing further into national prominence. On the 1869 trip the explorers, on July 13, stopped at the "old Spanish Crossing" where they enjoyed a noon rest under the "friendly shade of a cottonwood" before continuing on down the river.

Powell's purpose on the second voyage was to make a full scientific study of the canyon country that had been so briefly seen on the 1869 trip. Nearly all the men kept diaries and their works contain interesting descriptions of Green River Valley where they spent a week, August 26-September 1, 1871. Mindful of his railroad survey and of Gunnison's death in 1853, Powell and his men named the great butte at the foot of Gray Canyon, and the valley, and the Spanish Trail crossing after John W. Gunnison. They described the wonderful features of the Book Cliffs stretching away on both sides of the river. They observed the many signs of Indian life, past and pre-

unoccupied lands of southeastern Utah. His work served as a "road map" for those on this moving frontier--settlers, freighters, cattle drovers, travelers, prospectors--and it highlighted the Green River crossing as the key point of the passage.

Continuous traffic between Utah and Colorado brought permanent occupation of the crossing. A mail station became a town (Blake, later Green River). A ferry was opened. In 1882, the Denver and Rio Grande Western Railroad put a bridge across the Green and by April, 1883, trains were running between Denver and Salt Lake City. In 1889, coming out from Denver on the rails, Robert B. Stanton, engineer for the Denver, Colorado Canyon and Pacific Railroad, assembled his expedition at Green River. The plan was to survey a railroad line down through the great canyons of the Colorado. On May 25, at the head of a flotilla of six boats carrying sixteen men, Stanton shoved off from a point just below the railroad bridge. His railroad survey through the canyons, completed in 1890, stands as a remarkable achievement in western exploration. The railroad was not built, of course, but Stanton dramatically backed up what Powell had discovered: The Green and the Colorado are navigable rivers but proceed at your own risk! There were those willing to take the chance and many of them who followed Powell and Stanton embarked at the old Green River crossing. When it comes to frontier history extending back several thousands of years, and to river history dating back to John Wesley Powell, Green River has a lot to talk about.

ABOUT THE AUTHOR

Author/historian Dr. C. Gregory Crampton is a retired professor from the University of Utah, who now makes his home in St. George. Crampton has done considerable research into the river systems of the Colorado Plateau. His books include *STANDING UP COUNTRY*, *GHOSTS OF GLEN CANYON*, and *LAND OF LIVING ROCK*, as well as the *University of Utah's Anthropological Series # 61, HISTORICAL SITES IN GLEN CANYON; MOUTH OF HANSEN CREEK TO SAN JUAN RIVER*. He is currently working on a book about the *Old Spanish Trail*.

Women on the River

by Angela Bautista

Since World War II, American women have proven that they are capable of doing jobs that were traditionally slated as "men's work." Now women can be found in almost every profession. Running rivers and managing commercial river rafting businesses are no exceptions. Since the mid-1900s, women have played a key role in the river history of the Colorado Plateau.

THE PIONEER

It was in 1945 that one particular outgoing young woman ventured to the Colorado Plateau. Here, between the immense canyon walls and in the swift rivers of this unique region Georgie White Clark, known by many as, "The Living Legend," began her life-long profession of river running.

"She's a wild woman who loves men," was the first quote I heard about Georgie White. Something about this biased description bothered me. I wanted to know more about this "wild woman." A week after calling her rafting company in Las Vegas, "Georgie's Royal River Rats," I headed to the Showboat Casino and Hotel to meet Georgie White Clark.

I hadn't any idea what Georgie looked like, so I roamed the lobby searching for a woman who appeared to be looking for a stranger. As I walked toward the cafe, I caught sight of a reserved woman sitting on a stool with a manila envelope in her hand; it was addressed to Georgie Clark. She wore a black jogging suit adorned with a silver and turquoise Kachina pendant; her blue eyes glowed as she looked about the lobby. I was soon informed that this reserved-appearing woman found "rules hard to follow," and had learned from her mother early

in life that, "when you're on the bottom, everything else is up."

Reared during the depression in a single parent household, Georgie's family survived on the basics to which Georgie attributes her good health. "When I was young, we were fed simple food like potatoes, carrots, beans, apples and prunes. We never had sweets. I remember a woman visiting my mother offered my brother and I a piece of bread with butter and sugar on it and we wouldn't eat it." As a youngster, Georgie also learned that to "have a good backbone--you don't lie." With this solid foundation of simple living and keen advice from her mother, Georgie set out to make the best of her life.



"The Living Legend," pioneer woman river runner Georgie White Clark.
courtesy of Georgie White Clark

Clark and her husband departed New York for California in 1936. They traveled via racer bicycles on a summer journey that took about a month. In Los Angeles, she pawned her wedding ring whenever funds were low. She calls it her "good luck pawn," and now wears it around her neck. In the early 1940s, after the loss of her only child, a daughter, Georgie went on a hiking trip into the Grand Canyon with a close friend. It was within that majestic natural haven that Clark found her true outlet of expression.

In 1945, she made her first trip through the Grand Canyon in a *life jacket!* Having survived the awesome challenge of the powerful Colorado River, Clark yearned to "swim" the river again and successfully did so a year later. What is even more remarkable, she made these ventures (which were done before Glen Canyon Dam regulated the flow) when there were fluctuations of water level that ranged in volume from as low as that of a small creek to over 100,000 cubic feet per second!

Soon the Grand Canyon became Clark's very own backyard. Every technique and strategy for faring on the river was learned along the way, through trial and error endeavors.



"Georgie's Royal River Rats' in the rapids of the Grand Canyon.
courtesy Georgie White Clark

With time, Clark grew familiar with the moods of the river and canyons, and yearned to share the sheer fun and grandeur of the Grand Canyon with more people. During her exploratory years, from 1946 to 1954, Georgie often took friends along on trips, using a World War II government-surplus "Ten Man" rubber raft to haul people and equipment. But how would she persuade paying passengers, mostly city people, to leave the comfort of their homes to ride the rapids of the dynamic Colorado River?

Georgie's number one obstacle was publicity. From her home base in Los Angeles, she wrote letters, made phone calls and literally "knocked on doors." Her persistence and cordial nature finally landed her on the Art Linkletter show--and the rest, to use an old cliché, is history.

Her reputation for being a flamboyant, one-of-a-kind personality, grew when she began to wear a skin-tight, leopard-patterned outfit on trips. It was given to Georgie by her sister, who noticed that she would get oil splashes on her clothes from the

motor on her raft. Therefore, the leopard spots made the oil splashes appear to be part of her suit.

From her very first trips down the river, Clark admits she never liked to "go around things." With a twinkle in her eye, she says that "a good river rat will drink water straight [out of the river] and spit out the wood."

Clark has found that now-a-days people take a rafting trip for the adventure. When people travel with her, they get just that--an adventure! Her company brochure is a straight forward and practical guide that prepares passengers for a safe and exciting river excursion. It emphasizes participation and keeping the Grand Canyon clean for those who will travel there in the future.

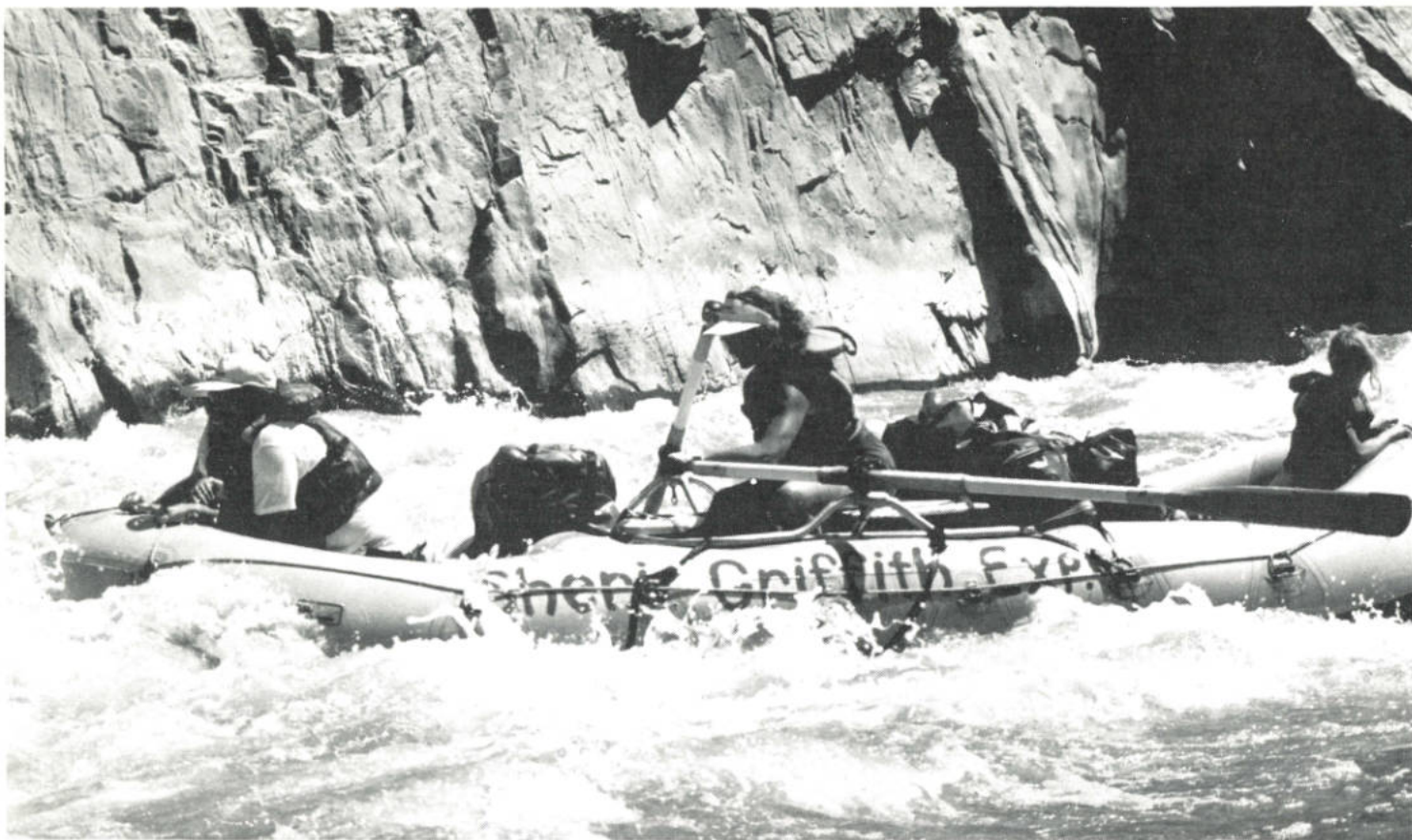
After more than forty years, "I still go on all the trips," explains Clark. On the river she still finds the "thrill and diversity" that she discovered on her first life jacket trip back in 1945. She has no plans to retire; Georgie is convinced she will keep running the river until...

BUSINESS ENTREPRENEUR

Sheri Griffith is a powerful, charismatic woman. Not only is she physically attractive and obviously intelligent, but when Griffith talks, people listen. The reason they listen is quite simple: Griffith has established herself as a key political player who represents the West. She currently serves as the first women president of the Western River Guides Association



Sheri Griffith leads a Griffith Expedition tour.
courtesy of Sheri Griffith Expeditions



Sheri Griffith paddles through the rapids, upper Colorado.
courtesy of Sheri Griffith Expeditions

(a thirty year old organization), is the 1990 Utah "Business Leader of the Year," and a member of the Governor's "Task Force for Women in Business Development Advisory Board." She was also recently voted "National Conservationist of the year," by the Department of the Interior--and these are only some of her accomplishments.

For the past nine years, Griffith has run "Sheri Griffith River Expeditions," based in Moab. The business has been a family effort from its conception. "Before moving to Moab, my brother suggested we start a river running business," Sheri explains, "so in 1971 we bought a couple of Army surplus boats and ran the upper Colorado River. We tied the oars into a car muffler that we soldered to a nail that was bolted to the wooden boat frame. Our trips were made by trial and error."

Sheri then turned her attention to running the Griffith River Expeditions business. When selecting her river guides, she specifies that two basic

criteria must be met. A Griffith guide must be athletic and possess "people" skills. Currently, she staffs 40 employees seasonally and to date has taken 80,000 passengers down the Colorado River through Canyon Country. With company goals that are people- and land-oriented, Griffith is able to "offer a new, refreshed perspective of the land and themselves" to her passengers. As a result of this approach, Griffith boasts of a fifty percent repeat and reference clientele. She also accredits this success to her style of management, which is based on the natural attributes of women: nurturing and personal fulfillment.

Griffith still finds time to raft the Colorado River, be it with close friends and family or as a guide for government legislators. According to Griffith, her career reflects a preference lifestyle that has its roots in the quality of life she lives and shares with people. Thus established within the comforting valley walls of Moab, Griffith trusts that she is "just starting" to effectively contribute her influence toward creative, positive change in the West.

SMALL WONDERS

The strongest attributes women river runners have contributed to their male peers is a positive mental attitude. In river running, women have proven that the saying, "mind over muscle," are words to live by. Two outstanding women have put this rule to practice and the results are quite impressive.

Marabelle Loveridge is 5'1" and 112 pounds of spunk and determination. Upon seeing Mara one would never guess that she runs a J-rig through Cataract Canyon for a living. Loveridge admits that the going can get a bit rocky in the canyons and the job may not be as thrilling as it sounds. It was a challenge for her to prove to her boss, her peers, and her passengers that she had the mental and physical strength to get down the mighty river and through the raging rapids safely. "It was extremely hard for me, a woman with dark skin, short and small, to prove myself," explains Loveridge.

A turning point in her career

occurred after several years of professional rowing--Loveridge flipped her boat in the sleek gneiss canyons of Westwater. Needless to say, her passengers were shook-up, but no one was critically injured. That momentous experience provoked Loveridge to re-evaluate why she was river rafting. Ultimately, she gained the self-confidence to "get back on the horse," says Loveridge. Five years later, Loveridge is still riding!



Marabelle Loveridge in camp on the Green River. A river runner's responsibility does not end when camp is reached; most do cooking and camp chores as well as handle the rigs.

courtesy of Tag-A-Long Tours

Joy Ungritch Garbar is 5'2" and 118 pounds but, "I'm real strong," she says. Ungritch, a Utah native based in Salt Lake City, moved to Moab years back to learn how to row a boat. Now renowned world-wide as a first-class river runner, when she first began her peers were reluctant to believe that such a petite woman could do the job. "I worked for years before I came into my own. I wasn't allowed the luxury of making a mistake, so I didn't make mistakes."

Ungritch confesses that as a young girl Annie Oakley was her role model, and admits, "I wanted to be a cowgirl. I was always climbing trees when I was young and I started (rock) climbing before rafting." Although she never thought of river running as being her career, she says "It turned into a lifestyle. Rivers to me are highways to experience, to a mood." She firmly believes that on a commercial trip a woman "rounds out the crew and can be a role model for female passengers," and adds that, "the soft side is wonderful out there in the wilderness."

Since in was in the murky red waters of the Rio Colorado that Ungritch learned to row a boat, she has a natural affinity for southeastern Utah. She reveals that Canyon Country is still, "The place I get the lump in my throat when I come back," and that she runs a private trip through Cataract Canyon annually-- just for good measure.

THE FUN APPROACH

Moab native, Teri Ann Tibbetts, has been dubbed the "Westwater Queen." Her peers in the river running business gave her this title because Tibbetts has rowed through Westwater Canyon of the Colorado River more than any other woman. Since she began guiding trips for Tag-A-Long Expeditions, Teri has made the Westwater run twice a week for five months out of every year. At twenty-seven and in her ninth year of guiding, Westwater is her home away from home. Tibbetts has "no desire to go anywhere else."

Upon first meeting Teri Ann, one would believe she was a devout "Cyndi Lauper" rock star fan. But she doesn't recall ever having role models. She only remembers that she "was always just Teri Tibbetts," who definitely has her own style. And for small-town, Southeastern Utah, her style can appear pretty outrageous! Purple-streaked auburn hair that is shaved short on the left side of her head is enough to make people take notice.

On the job, this creative individuality is what makes Teri Ann popular with her passengers. Teri is known for hosting "shows" on her river trips. For example, she and a girlfriend have dressed up in 1950s style swimsuits and

called themselves the "Ethel Murrur" Show. Teri Ann, and countless other young women like her, desire to share the natural beauty and energy of the red rock desert with their passengers, and find that having a good time while learning about this country is essential



Teri Tibbetts, the "Westwater Queen." Teri's skill and out-going personality have made her a popular boatman on the river.
courtesy of Teri Tibbetts

to the outdoor experience. "Europeans, especially, are ready to absorb the outdoors," Teri explains. "They are so appreciative of what we have to offer in America."

A stickler for being herself, Teri Ann has never been aware of having to prove herself on the river. "I'm a boatman," she says, choosing not to make a gender distinction. It is this approach, so similar to that taken by Georgie White in the beginning, that will keep women on the river as long as water flows through the magical canyons of the Colorado Plateau.

ABOUT THE AUTHOR

Angela Bautista is the Office Manager for Tag-A-Long Tours in Moab, as well as a staff member of Canyon Legacy. Originally a Californian, Angela worked in Los Angeles as an Assistant Editor for Latina magazine, a publication for the upwardly mobile Hispanic woman.



A "J-Rig" commercial river trip in Cataract Canyon.
Courtesy of Tag-A-Long Tours

Commercial Outfitters

by Mitch Williams

More than any other group the professional outfitters have shown the visitor the wonders of southeastern Utah. Since long before there were National Parks in the area, there have been people interested in seeing this grand landscape and people who wanted to show it to them. Quite often, the professional out-fitter offered the only way the average visitor could get into the heart of this beautiful red rock country. Tour companies are big business in southeastern Utah now, but that wasn't always true. Some of the larger companies around today were actually started by one man (or woman) with an old jeep or maybe a patched up raft. He also did all the work and ran all the trips with a big smile on his face, but in the back of his mind he wondered how he was going to pay the bills.

The outfitters, as the name implies, actually outfit each expedition completely, with the exception of personal items. They provide sleeping bags,

ground tarps, tents and an "ammo" can to carry items needed during the day. Two waterproof river bags are usually provided; one for sleeping bag and foam pad and the other for clothes. Life jackets for the rapids are a must, of course, so those are also furnished. At night, port-a-potties are set up away from camp with a tarp around them for privacy. The food is always good, prepared dutch oven style the way the old cowboys did it. Most boatmen/guides really know how to turn out a great meal. Visitors are amazed at menus that include roasts, steaks, home made biscuits, various salads and desserts, as well as juice, flap jacks, bacon and eggs and huge black pots of coffee—even birthday cakes. Of course you can't please everyone. I had a fellow get pretty miffed one time because I didn't have any peanut butter!

RIVER RUNNING HISTORY

Denis Julien could possibly be called

the first boatman in these parts. At least he was the first European to leave a record of any sort. This consisted of inscriptions, one of which is found on the walls of the Green River at the mouth of Hell Roaring Canyon. Another signature, in Cataract Canyon, is at a spot that is now below the waters of Lake Powell. Julien came over the Rocky Mountains in 1827 and into the Uintah Basin, as part of a trapping party led by Francisco Robidoux.

When Denis Julien left his inscription at the mouth of Hell Roaring on the Green, he was probably moving upstream trapping beaver. Carved in the rock were the words: "D. Julien 1836 3 Mai." He also drew a picture of a boat with a sail on it and a strange looking object with wings (all of which is believed to indicate that he was using a sail to travel upriver).

Major John Wesley Powell was a Union officer during the battle of Shiloh in western Tennessee. It has been said that there were no winners in this ferocious battle, only survivors. Major Powell was one of the latter, even though he came out of it minus an arm. You might think the loss of a limb would discourage a person from undertaking a trip down unknown rivers, through uncharted waters, a trip of unknown duration and hardships. But all this did not deter Powell. He undertook his great voyage of exploration and scientific discovery with great enthusiasm.

The transcontinental railroad had just been completed when Powell and his men unloaded their boats and equipment at Green River, Wyoming. They embarked on May 24, 1869, ran down the Green to the Gates of Lodore, on to the Colorado, through Cataract Canyon, and to—and through—the Grand Canyon, before the voyage ended. Major Powell is the most famous of all river runners and his accounts, as well as those of Dellenbaugh, Sumner and others are well worth reading.

COMMERCIAL RIVER RUNNERS

In October of 1947, Harry Aleson, with Mrs. Georgie White as a passenger, made a trip from Green River, Utah, through Cataract Canyon to Hite. They used a neoprene boat and

this may have been the first run through "Cat" with a soft boat. Georgie became the first woman outfitter and was wrangling dudes through Glen Canyon at least as early as 1951, and as I write this in January of 1990, she is still at it. What a gal!

In 1949, Kenny Ross ran from Moab to Hite through Cataract in a neoprene boat. This, I believe, is a first for this stretch of river in a soft boat. Kenny then set up shop down in Bluff and ran the San Juan for many years. In fact, Ross just retired about two years ago.

By the early 1960s, commercial outfitters were on the scene in Moab. My own company, Tag-a-Long Tours, was started in 1963. Others who have been around Southeastern Utah for many years include Tex McClatchy, Dee Trantor, Ken Sleight and Jim Sarten.

REGULATIONS

Back in the 1920s, Congress declared certain sections of the rivers to be navigable waters. They no doubt had paddlewheeler steamboats in mind because we do of course navigate the "non-navigable" streams with modern-day rubber boats, etc. The portion of the Colorado River designated navigable runs from the mouth of Castle Creek approximately 15 miles above Moab to the first rapid in Cataract Canyon. The section of the Green River that is considered navigable is that from its confluence with the Colorado up to the town of Green River, Utah.

After Canyonlands National Park was established in September 1964, the National Park Service took control of those sections of the Green and Colorado that lay within the park boundaries. This included Cataract Canyon, the Confluence, and quite a bit of the two rivers above this point. As the National Park became established, outfitters had to evolve in a government-regulated environment. They became a major partner with the government agencies in showing off the parks and surrounding scenic areas. Not much control was exercised at first, but as the popularity of river running grew, the National Park Service began to issue permits. Those who were already operating within the park were given priority. Separate

permits were issued for raft trips through Cataract Canyon, jet boat trips which would not operate in Cataract but could cover everything down to that point, and jeep trails that covered the land tour business.

A few years later, the Bureau of Land Management took control of those streams declared non-navigable, which were on "public domain" land, and began to issue permits. This covered the Colorado River above Castle Creek, which is included in the "Daily." This popular day trip usually begins near Fisher Towers and runs down past Castle Creek to end either near the mouth of Salt Wash or clear back at the Moab boat ramp.

Westwater Canyon is another BLM-regulated stretch of the Colorado. Here the canyon is quite narrow compared to other canyons of the Colorado and contains a whole string of exciting rapids. The BLM maintains a ranger station at the old settlement of Westwater, and regulates and patrols the canyon from this point. A BLM ranger station at Sand Wash likewise regulates Desolation-Gray Canyon, which provides 100 miles of good running on the Green River.

The State Parks and Recreation Commission regulates all boating in the state. They patrol and regulate many water ways, and license all power boats in Utah. This includes all rubber rafts with motors on them. They also license all professional boatmen.



Westwater Canyon "clean-up" trip, October, 1974.
Courtesy of Bureau of Land Management

TYPES OF BOATS USED

Different outfitters may use many different kinds of boats. Those made of rubber, neoprene, or other soft materials, are called "soft boats." Boats made of wood, fiber glass, steel, aluminum or other hard materials make the hull hard and unyielding. Hence the name "hard-hulled boats."

The soft boats have become the "in" thing for rapid running. They are very forgiving; if you hit a rock in a rapid the boat just bounces off and no harm is done. They have many air compartments too, so if you lose air in one compartment it is hardly noticed and has a minor effect on boat handling. These boats are so tough that it is rare to have a "flat" in a compartment, but if it does happen the boatmen are well prepared with patching materials, extra valves and an air pump.

Some of these boats are huge things, 33 to 37 feet in length with a 22 foot long outrigger tube on each side, making the boat about 12 feet wide. The food boxes, ice boxes, water cans and most of the other gear are carried inside of the tubes, where rigid containers of wood or metal, called "baskets," are suspended from a framework, built of square tubing and plywood. An outboard motor is mounted on the rear to control the rig. Sixteen passengers are usually carried.

The 33 foot boats and the 22 foot tubes were actually built for the U.S.

Army for use in the construction of pontoon bridges. When they became surplus, the river runners started to experiment with them and came up with some great rigs.

The "J" rig was built with the 22 foot tubes. Many designs were tried. Some outfitters lashed five tubes together side by side with the motor on the rear as usual, but the gear then had to be piled high in the center. Some tried four tubes and some tried three.

The three-tube J-rig became the most popular for a while, but outfitters continued to experiment. Kenny Ross and then Verle Green (San Juan River Expeditions) tried a 2 tube J-rig, with baskets suspended between the two tubes. Verle, who referred to the craft as the "Baby J," was the first to take such a rig through Cataract Canyon, in about 1967 or 1968.

Soon afterward, the innovative 2 1/2 tube J-rig was developed almost by accident. John Williams (my son), Greg Williams (no relation), and Verle and Kent Green (father and son) had dismantled a 3 tube J-rig to repair or replace the center tube. After cutting off the ruptured rear compartments of the tube, they realized the front part of the center tube could be placed back into position leaving room for a 10 foot basket behind it. The basket provided good storage for a trip and the half tube allowed us to carry two more passengers than the 2 tube rig. This conformation rapidly became very popular and still is widely used today. Indeed, many present-day boatmen are unaware that what they call "J-rigs" are the product of a lengthy and involved evolution--and a lucky accident.

The highly popular rowing rigs are smaller cousins of the big rafts. Constructed of the same materials, the shorter rafts (about 16 to 18 feet in length), have smaller diameter tubes and a neoprene floor. Rowing frames provide a firm seat for the boatman and oar locks for the heavy, long, ash oars. On longer trips, most rowing rigs can carry only 5 passengers; on the daily (where no overnight equipment is needed), larger numbers are allowed.

Some outfitters lash several rowing rigs together, mount a motor near the

middle, and then separate the rafts at Spanish Bottom so each can be rowed through the rapids. Holiday River Expeditions and a few other outfitters sometimes employ "triple rigs." Three rafts are lashed together side by side and can be rowed by a boatman with a single oar on each end of the triple rig. On calm water the rafts move downstream three abreast, either rowed or motor driven. In rapids, the rig is turned so that one boatman is in the lead and the other trailing. For many river rats, a "pure" rowing trip is the only way to go: motors are used only to push rafts down Lake Powell from the end of the rapids to Hite Marina; all the rest of the trip is accomplished by oar power.

My company also used a little 12 foot rowing rig as a play boat. Passengers were allowed to row it in the quiet waters and once in awhile one of the professionals would give it a try through some rough stretch of rapid. The raft usually came out the lower end upside down--which made a good photo opportunity for the folks on the trip!

One outfit is now having a lot of success with the sportboat. This is a soft boat that uses a hard wooden floor as a stiffener. With a larger outboard motor than the usual downstream rig would use, the sportboat does as well going upstream through the rapids as it does going down. The sportboat gets up on plane while the other soft boats do not. Sportboat trips usually begin at the Moab boat ramp and run upstream through the rapids past Castle Creek to the Fisher Tower area and then return to Moab.

Jet boats are generally hard-hulled boats, although there are some neoprene sportboats that use outboard motors with jet units on them. The advantage of the jet boats is the fact that nothing protrudes below the bottom of the boat, such as props and rudders, that might get hung up on sand bars. The disadvantage is large loss of efficiency as the jet unit takes much more fuel to do the same job that a prop unit would require. The jet boat is propelled in this manner: water is drawn up through a grill on the bottom of the boat, run through the jet pump and squirted out the back, which in turn moves the boat forward. Steering is ac-

complished by turning the jet outlet one way or the other. When outboard motors are converted to jets the original lower unit with the prop on it is removed and a specially built jet unit is installed.

All the professional outfits over the years have worked hard to improve their rafts, motors, oars and sweeps and have worked diligently to improve their techniques and methods of operation. After all, what really is the best way to run the Big Drop? All sorts of methods have been tried, either with or without passengers along. Of course, even today there is no cut-and-dried way to run a rapid. Every trip is a challenge that takes a lot of ingenuity and skill on the part of the boatmen. Without this, where would the fun be?

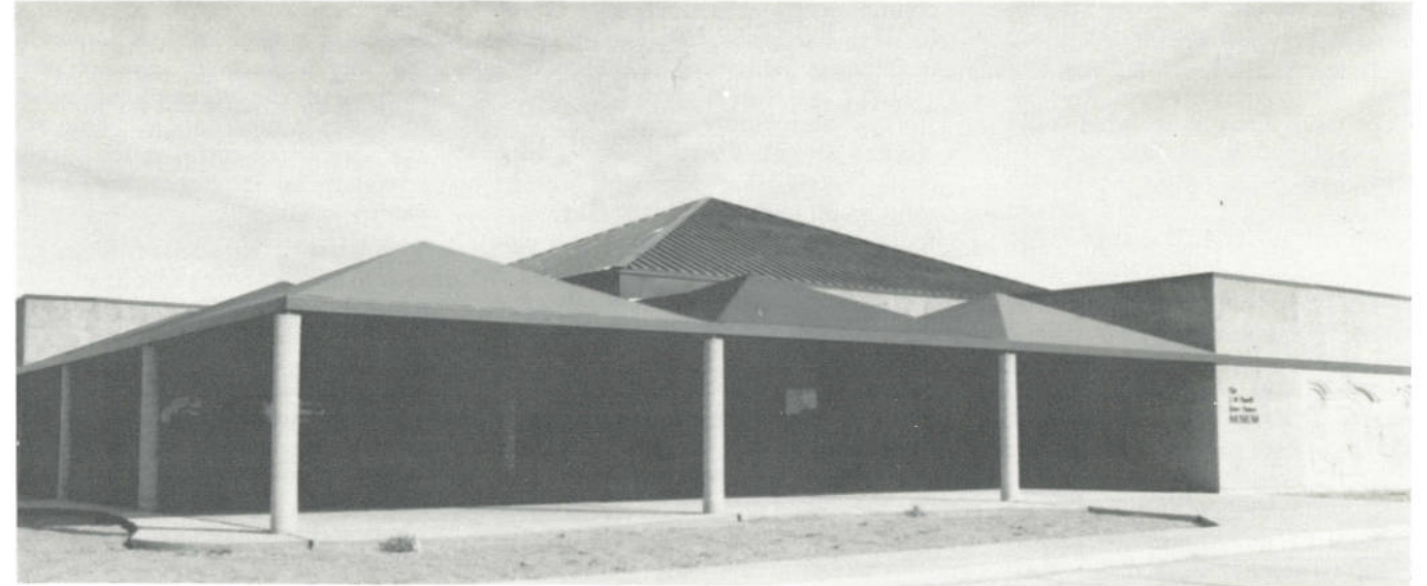
We think we know just how to approach a certain rapid but if the river is, say, 2 feet higher or lower than the last time we went through it, then everything has changed and different procedures are required. The passengers may think they have just escaped the jaws of death, but the boatmen know they have taken every precaution to make sure this was a safe run in every respect.

FINAL ANALYSIS

In 1989, 21,032 passengers participated in the "Daily" river trip. From 1969 through 1989, the total passengers carried by all the River Outfitters through Cataract Canyon alone numbered 76,767 and 12 million dollars was grossed. These are examples of how important the river running business has become in southeastern Utah. Man and the river have had a long association, both privately and commercially. As a sport or a business, river running will continue to make history on the Colorado Plateau.

ABOUT THE AUTHOR

Mitch Williams is a native of Moab, the son of the town's first permanent physician, Dr. John Williams. Mitch started Tag-A-Long Tours in the early 1960s, and has been all over Canyon Country by every means possible: on foot, in a jeep, by boat and piloting his own plane.



THE GEM OF GREEN RIVER, UTAH: John Wesley Powell Museum

by Jean Akens

The Green and Colorado river systems are the arteries that course through an area of the west that has been described as the continental U.S.'s last wild frontier. Until now, there has been no interpretive facility devoted exclusively to the rivers that have formed such an integral part of the region's history. The town of Green River is a most appropriate location for such a museum, as it is situated at one of the historic river crossings and is linked to Interstate 70, the only major highway route in the heart of the region. Before the John Wesley Powell Museum, the full story of the Green and Colorado Rivers and of Major Powell and other early explorers had not been told. With the opening of this impressive structure, a great historical void has been filled.

River Runner/Outfitter Ken Sleight, living at that time in Green River, was one of the first to envision a museum, back around 1981. He approached Gordon Topham (then Superintendent of Dead Horse Point State Park) with the idea, since the two men were both involved with the Grand County

Economic Development Council. Sleight mentioned that he knew the whereabouts of some historic boats, which deserved to be displayed in a River History Museum. Both men felt that the town of Green River would be an ideal location. The seed of the idea had been planted; it would soon begin to germinate.

The City of Green River became involved through Bill Howell and the Association of Local Governments. Howell approached the city with the idea of trying to put something together to apply for grant moneys to implement studies toward a possible museum. Around 1985, Kelly Bayles was asked to head a committee for this purpose. The Grand County Commissioners were contacted and voiced their support. Kelly and others spent the next six months gathering necessary information.

There then followed a two year period when little was done, as Bayles had moved to St. George. A month or so after he returned to Green River, he was again asked to spearhead the

committee. Momentum had begun to build on the project, because the Price Museum was having good results with finding funds for their remodeling and expansion project, and hopes were high that money would also be available for Green River.

A consortium of museums was formed, at first consisting of Price, Helper, and Castle Dale. Green River was then asked to participate in a Federal Grant application. At first, the city went in on the "coattails" of the other museums requesting grant funds, asking only for money to do a feasibility study.

However, the Federal Government Grant was delayed about nine months, which allowed time for the study to be pushed ahead on the list of priorities. It was then decided that the Green River and Price museums would take precedence on the grant application. Good support for the project came from the Federal Government, as well as local and State officials, and others such as Moab's *Times-Independent* publisher Sam Taylor. Instead of

settling for a study, Kelly Bayles decided to fight for getting the entire museum project off the ground and running. He began to devote up to 12 hours or more a day to see what could be accomplished in as little time as possible. Architect Mike Raymond joined the project, he and Bayles managed to "put it all together," and on May 5, 1988 funding for the John Wesley Powell Museum was approved by the Permanent Community Impact Board, under the auspices of the Department of Community and Economic Development for the State of Utah.

The new John Wesley Powell Museum is situated on the east bank of the Green River, on land donated by town resident, Betsy Hatt, in memory of Vail Hatt, who was dedicated to tourism and the betterment of the

community. The finished area of the facility totals 23,250 square feet, including space for major and auxiliary exhibits, as well as support facilities for storage and future expansion. The modern structure also houses a Fine Arts Gallery that highlights special exhibits on loan, a gift shop, a library focusing on rivers in general, a multimedia theatre with seating for 171, a travel center to provide tourist information, and the Director's office.

In addition to John Wesley Powell's historic expeditions, interpretive themes include the Indians, fur trappers and other explorers, the Spanish, surveyors and promoters, and the river runners who traversed the treacherous waterways for fun or profit--or both. Also included is a River Runner's Hall of Fame and displays of boats that evolved through

time for use on the rivers, as well as a display to show how man has changed the face of the rivers. To accomplish the goal of "having the finest museum of its size in the Country," state of the art displays with touch screens operated by a laser disc will be incorporated.

The visitor to the museum will gain an understanding of the history, prehistory, and natural history of the Green and Colorado River systems, and will learn of the recreational opportunities available to the region's visitors. Such a project as the John Wesley Powell Museum has been a major undertaking for the citizens of a small, somewhat isolated town. But the citizens of Green River have not been daunted. The museum is something for all involved to be proud of, and for all who visit to enjoy.

CATARACT CANYON RAFT STATION AND RIVER CACHE

by David Minor

Shortly after my arrival at the Needles District of Canyonlands National Park in 1968 to fill the position of District Ranger, I encountered a story about a wooden structure along the Colorado River just upstream from Lower Red Lake Canyon. In 1969, while on a Park Service patrol trip through Cataract Canyon, I had the opportunity to inspect this impressive structure, which was nestled beneath a large cottonwood tree on a ledge above the river. The story of how this gable-roofed, 12' by 16' building came to be located in such a remote part of Canyonlands National Park is an interesting one and, as I found out recently while trying to piece it together, a story that had disappeared from the Park's historical records. Conversations with three previous Canyonlands employees, James Randall, Robert Dunnagan, and Charles Wyatt, revealed the following information.

The story began in the summer of 1966. The National Park Service was pondering its new responsibilities on how best to manage the Colorado River through Cataract Canyon with limited resources. At that time, supplies and equipment were basically obtained through surplus property channels. For example, three 33' Navy

pontoon rafts had been acquired to enable the Park Service to conduct river patrols and provide rescue capability. Concerned with the logistics of performing a rescue in Cataract Canyon, the Park Service decided to reduce the necessary two-to-three-day raft trip by constructing a raft station/rescue cache in the vicinity of Spanish Bottom. The theory was to have all the cumbersome rafts and emergency equipment already in place just above Cataract Canyon, which would be accessed by a one day jet boat trip from Moab in the event of an emergency.

In keeping with Canyonlands National Park's surplus acquisition program, a World War II prefabricated structure was obtained from Natural Bridges National Monument; it was then dismantled, and transported to Moab by truck. In pieces, the structure was loaded on one of the Park Service rafts for the trip to its new location at Lower Red Lake Canyon, across the river from Spanish Bottom. Former Canyonlands National Park Ranger Charles Wyatt remembers that the structure unbolted at the corners, forming panels up to 8' by 16' in size. These panels were so heavy that it took three people to move them.

Island in the Sky District Ranger Robert Dunnagan supervised the project. He recalls that the dismantled building was stacked on one of the large pontoon rafts to a unwieldy height of eight or ten feet. The boatman operating the bulky World War II surplus outboard motor at the back of the boat could not see past the load, so a second person was perched on top as navigator. Because of the cumbersome load, the trip to Lower Red Lake Canyon was eventful, with numerous delays caused by running aground on shallow sand bars.

The Park Service crew consisted of rangers Dunnagan and Wyatt, along with volunteer Charles Misoura. Just before reaching their destination, the men encountered a group of park visitors led by Harry T. Anderson. Mr. Anderson and his party had canoed down the Green River and were waiting to be picked up by Moab tour operator, Mitch Williams. After exchanging greetings the Park Service crew proceeded downstream a short distance and there cleared a trail through the thick tamarisk to a ledge just above the river where the building was to be reconstructed. The men then pitched camp for the night.

Before daylight the next morning, the park service crew was awakened by Harry Anderson. He, his wife Alice, and other members of his party were ready to go to work constructing the rescue cache. In fact, so zealous was Anderson that in a short time this retired Assistant Chief of the Los Angeles Fire Department was supervising the entire operation. A hand-operated cable

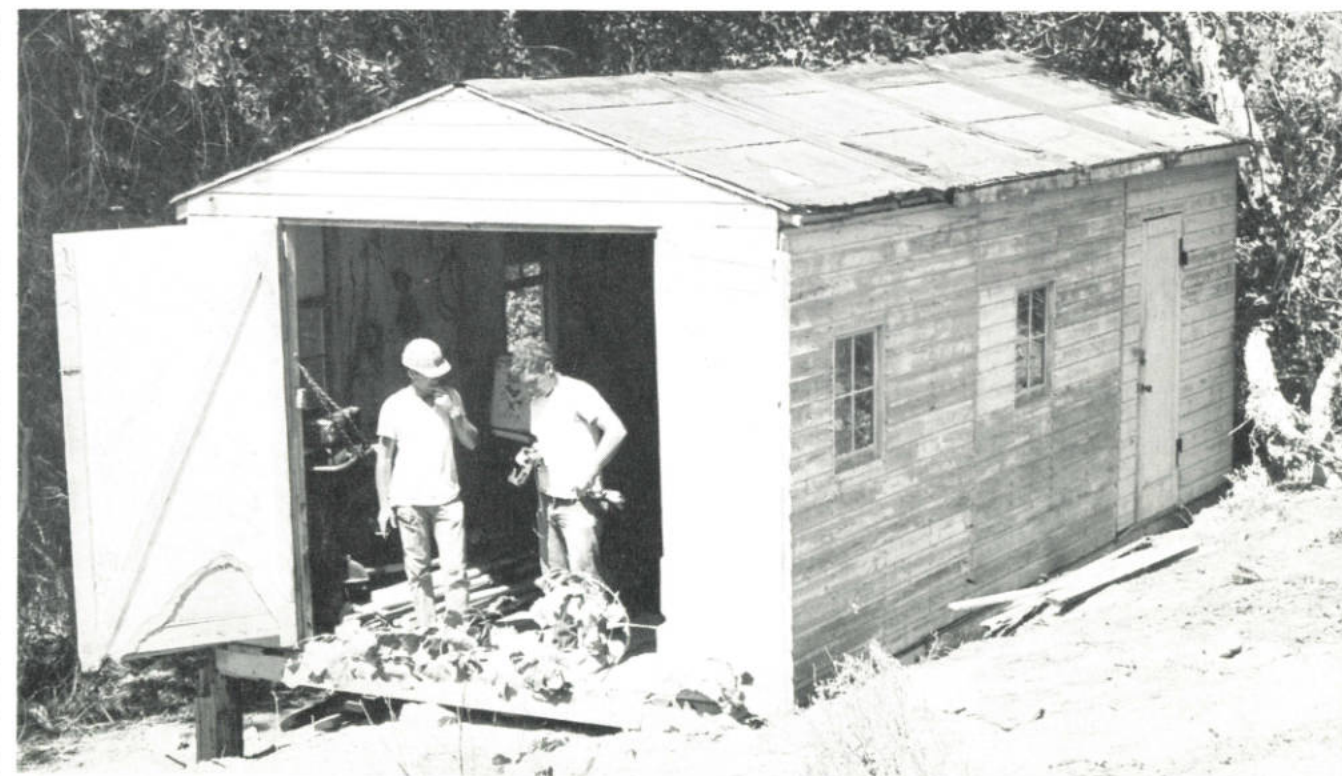
winch was used to help inch the heavy panels up the steep bank, and in about a day and a half the structure was completed.

As a result of Mr. Anderson's enthusiastic assistance, what had appeared to the Park Service crew as a long, tedious job of assembling the building became a quick, enjoyable experience. Mr. Anderson, through this contact with park personnel, later went on to become a guest instructor in physical fitness for the National Park Service at the Grand Canyon Albright Training Center, and later a member of the President's Commission on Physical Fitness.

In practice, the rescue cache was difficult to maintain due to its remote location, and its equipment and supplies were subject to damage from rodents and neglect. By 1970 the structure was in dire need of paint and routine maintenance. The decision was made by the National Park Service to remove it. It was burned to the ground by River Rangers that year, thus ending a colorful chapter in the early management of Cataract Canyon by the National Park Service.

ABOUT THE AUTHOR

David Minor served as District Ranger in the Needles District of Canyonlands National Park from 1968 to 1977. He is presently an Outdoor Recreation Planner with Moab's Grand Resource Area, Bureau of Land Management.



Charles Wyatt and Charles Misoura in 1966.

QUATERNARY CORNER

The following hypothesis, introduced by Wallace R. Hansen, blends current fish distribution and Pleistocene geology to help us understand how our native fish colonized the Green and Colorado Rivers. This fascinating story takes us back in time to a previous glacial period and indicates how fauna can adapt to differing environmental conditions and use them to their advantage.

Hansen's paper was published in 1986 in U.S. Geological Survey Professional Paper 1356, *Neogene Tectonics and Geomorphology of the Eastern Uintah Mountains in Utah, Colorado, and Wyoming*.

A 'Fish' Tale

by Saxon Sharpe

WARM AND COLD WATER FISH

Only four families of native fish inhabit the Colorado and Green River drainages, an extremely limited fauna for such a broad geographic range. These include 14 species that are adapted to one of two separate habitats, either a lower altitude, seasonally warm-water habitat or a higher altitude cold-water habitat.

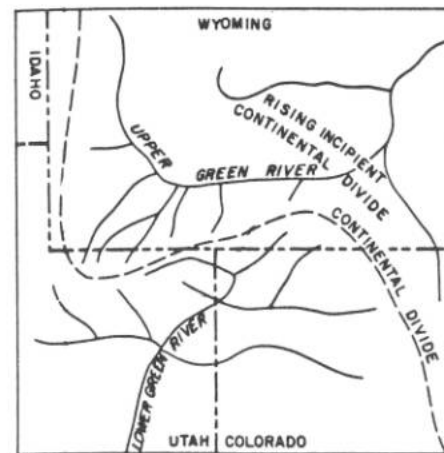
The warm-water species are represented by fish that originated within the Colorado and Green River Drainages. The endangered Colorado squawfish (*Ptychocheilus lucius*) is actually a type of minnow that can grow up to 6 feet in length. Most remaining squawfish are now much smaller.

Three additional fish, also on the endangered list, have odd looking "humps" on their backs: humpback chub (*Gila cypha*), bonytail chub (*Gila elegans*), and razorback sucker (*Xyrauchen texanus*).

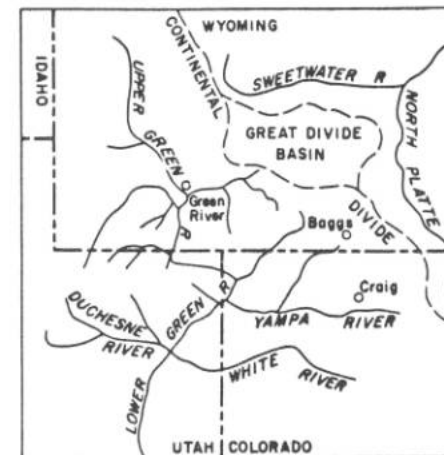
These fish are restricted to the main Colorado River drainage and the downstream reaches of the Green and Yampa Rivers where waters are warm in summer months. They are all well adapted to these warm, turbid and often muddy water conditions. Humped or ridged backs, wing-like fins and streamlined bodies help the fish navigate the high velocity flow. Their odd look reflects specific adaptations to this environment and supports the theory that they evolved in these

drainages and have been isolated from other river faunas for an extremely long period of time.

The cold-water species that inhabit the mountainous upper reaches of the Green and Colorado River drainages are fairly recent immigrants. These fish, known as salmonids, include Colorado River cutthroat trout (*Salmo clarki pleuriticus*), mountain whitefish (*Prosopium williamsoni*), the speckled dace (*Rhinichthys oculus yarrowi*), and sculpins of the genus *Cottus*. During the late Pleistocene period (possibly 20,000 years ago) they colonized this area and the upper Missouri from the Columbia River Basin in the Pacific Northwest. These cold-water fish are almost identical to the Columbia River



In late Pliocene time, the eastward flow of the upper Green River was being stagnated by the rising incipient Continental Divide. Canyon cutting had begun.



Modern drainage. By the early Pleistocene, the Continental Divide had shifted eastward and the captured Upper Green River had turned south near Green River, Wyoming. The canyon cutting continues to this day.

Species. Since they have not physically changed to adapt to this different habitat, they are considered to be geologically recent arrivals. To determine how and when these fish colonized the area, we need to look at the fauna and the geography of the drainages beyond the Colorado and the Green rivers.

Two drainages play important parts in this story: the Missouri River (flowing north and then east out of Montana's Rocky Mountains) and the North Platte River (flowing east from the Rocky Mountains of Central Wyoming). Both are tributaries of the Green-Colorado drainage. The upper North Platte provides similar habitat; why are the cold water species lacking?

A BIT OF GEOLOGY

To better understand this peculiarity, we need to look at the early Pleistocene geology of the river corridors. About 1 million years ago, the Continental Divide paralleled the northern Colorado border, running east-west across Southern Wyoming and Northern Utah. It then turned at

THE THEORY

If the North Platte and ancestral upper Green rivers were once parts of the same drainage, it seems reasonable that they should now contain the same fish. Salmonids are absent from the North Platte, so there must be an explanation of the difference. Hansen believes the upper Green River/North Platte was captured by and diverted into the lower Green during an ice age, when the warm water species of both streams had moved far downstream into more hospitable waters. Then, sometime after the Continental Divide shifted eastward (totally isolating the two streams from each other), salmonids invaded the upper Green from the Columbia River system to the west. Had the transfer taken place when today's "upper Green River" was still a part of the North Platte, both modern streams would contain salmonids.

Salmonids probably crossed the watershed between the newly formed upper Green River and the Snake River by means of ponds and bogs at the headwaters of tributaries to those streams. Just as "Two Ocean Lake" (astride the present-day Continental Divide in Yellowstone National Park) discharges water toward the Pacific from one end and toward the Atlantic from the other, lakes, ponds, and bogs along the divide between the Snake and the Green could have formed links that allowed fish to move from one system to the other. Many small lakes and ponds are very short-lived; sediments and organic debris tend to convert them to bogs and then to dry land, obliterating much of the evidence of their previous form.

During the next warming trend, native warm water species moved back from the lower reaches of the Green and Colorado into the upper portions, including the recently added streams captured from the North Platte and now part of the Green. Finally, as the next glacial stage forced the warm-water species to again retreat downstream, cooler water temperatures permitted the salmonids to move down into the main stem of Green/Colorado and, then, into the high altitude, cold-water tributaries of both the Green and Colorado where they are found today.



Books of Interest

THE WESTERN PHOTOGRAPHS OF JOHN K. HILLERS: MYSELF IN THE WATER

by Don D. Fowler
Smithsonian Institution Press
Washington and London, 1989
166 pgs., Illustrated
\$24.95 (hard cover)

Many 19th century Americans had their first glimpse of the West through the lens of John K. Hillers. This book covers Hiller's career from boatman with John Wesley Powell on the Colorado River in 1871, to his death in 1925. Known to the Indians as "Myself in the Water," Hillers created photographs of the West that illustrated both its actual features and its aesthetic appeal.

Don Fowler has researched and written fine explanatory text to accompany Hiller's photographs. These include his classic views of the Grand Canyon and some of the earliest photographs of the Rio Grande and Hopi pueblos. A series of never-before-published pictures taken on a trip to eastern Oklahoma Indian Territory in 1875 are also included. If you are a lover of either history or fine art, this book will appeal to you.

by Pat Flanigan

THE GREAT UNKNOWN: "The Journals of the Historic First Expedition Down the Colorado River."

by John Cooley
Northland Publishing, Flagstaff, 1988
250 pgs.
\$21.95 (hard cover)

In 1869, almost nothing was known about the Green, Grand, and Colorado River systems along a thousand-mile stretch of their circuitous, canyon-girded courses. John Wesley Powell and his men set out to travel the major artery of this vast unknown, observing, recording, and charting both the river and many of its side canyons. This

volume narrates the first Powell expedition, including the ordeals encountered, the growing fear of the unknown, and the developing personal conflicts between crew members. Assembled for the first time are all the raw entries from the trip's surviving journals, accounts, and letters-- telling firsthand of an often fearful and ludicrous trip under the leadership of a determined and fanatical man.

This collective narrative of Powell and his crew is a chronicle of their personal courage and of the last great exploration of un-mapped, unexplored territory within the continental United States.

by Jacki Montgomery

GHOSTS OF GLEN CANYON: "History Beneath Lake Powell"

by C. Gregory Crampton
Publishers Place, Inc., St. George,
1988
135 pgs., Illustrated
\$14.95 (soft cover)

When the National Park Service began to formulate plans for salvage studies of the stretch of the Colorado River that would be covered by Glen Canyon reservoir, C. Gregory Crampton, a professor of history at the University of Utah, was appointed historical archaeologist. He began a 6-year endeavor that included 13 excursions to explore and document the history of the region now submerged by Lake Powell. The arm chair traveler and lake enthusiast is rewarded with an outstanding photo-essay of Dr. Crampton's research into the many historic and archaeological sites in the region from Glen Canyon to Hite.

These historic images, along with the author's explanatory text, have well documented man's relationship with Glen Canyon.

by Keith Montgomery

IN THE FOOTSTEPS OF JOHN WESLEY POWELL

Hal G. Stephens and Eugene M. Shoemaker
Johnson Publishing Company,
Boulder, CO., 1987
286 pgs., Illustrated
\$19.95

The second expedition undertaken by Major John Wesley Powell to explore the river canyons of the Colorado began in May of 1871. E.O. Beaman accompanied Powell on this trip as photographer.

In 1968 H.G. Stephens and Eugene M. Shoemaker undertook an expedition that retraced the route of Powell, to take new pictures of the places originally photographed by Beaman. This fine book is the result of those two journeys, a record of the river at it was in 1871 and in 1968.

by Dale Pierson

RIVERMAN: THE STORY OF BUS HATCH

by Roy Webb
Labyrinth Publishing, 1989
158 pages, illustrated

RIVERMAN: THE STORY OF BUS HATCH is a delightful book about the Vernal, Utah area, river travel, and the part Bus Hatch played in the history of both. While giving the reader a flavor of the times, the historic facts are brought into perspective with an uncanny insight into Bus, "the man." The reader envisions being alongside Hatch as he develops new and imaginative ideas for river travel and one gains an understanding of Hatch's fascination with the river.

River exploration and travel in the region are humorously portrayed by the writer through reliving Bus' river experiences.

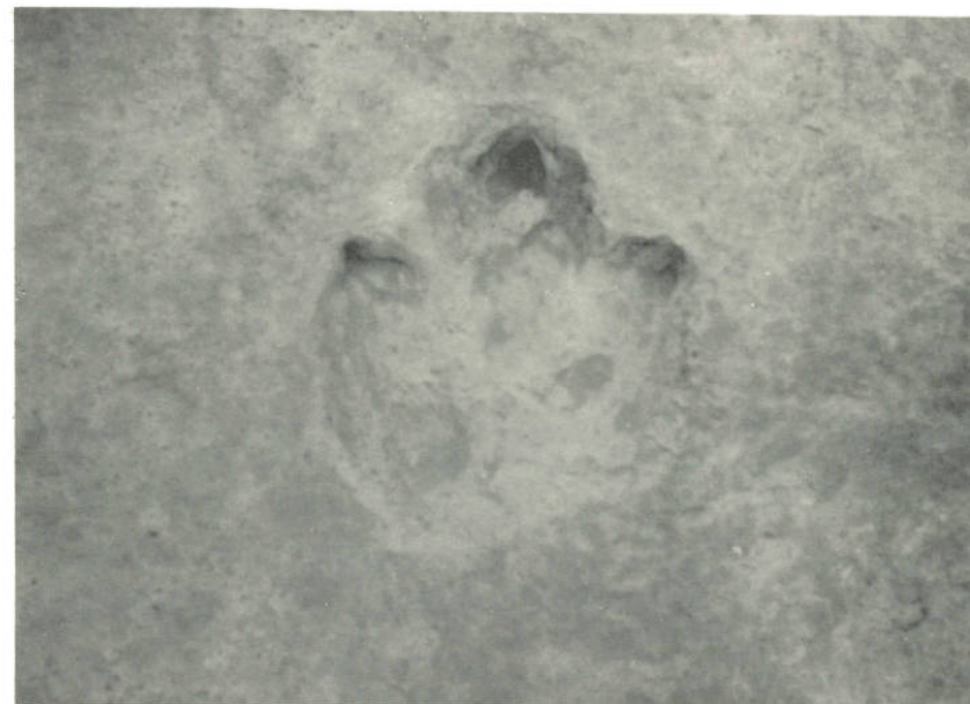
by Betty White

NEXT ISSUE...

Long before man appeared on the Colorado Plateau, "giants" inhabited the region. In the distant past, the life forms and environment were quite different from what we are familiar with today. What happened to bring about the change? Which species, now extinct, once called Canyon Country home?

Dinosaurs...mammoth, the very names conjure up mental images of a time we are just beginning to understand. Yet, reminders of how it once was can be found all over canyon country. From tracks to bones and dinosaur eggs, those intriguing wonders of the past have left behind a legacy to marvel over, to speculate about.

Join us for issue number six, **Extinct Species of Canyon Country.**



Dinosaur track, Klondike Bluffs, near Arches National Park. photo by Jean Akens
BACK COVER: Glen in Glen Canyon, 1872, Fennemore and Hillers, with John Wesley Powell's Second Expedition. Photo no. 57-PS-790, courtesy of National Archives.

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