

**Minutes of Technical Work Group Meeting  
November 16-17, 1998**

**FINAL**

**Presiding:** Robert Winfree (Chairperson)

**Committee Members Present:**

Mark T. Anderson, USGS  
Clifford Barrett, CREDA  
Kerry Christensen, Hualapai Nation  
Dave Cohen, Trout Unlimited  
Wayne Cook, UCRC  
Wm. Davis, EcoPlan Assoc./CREDA  
Kurt Dongoske, The Hopi Tribe  
Christopher Harris, ADWR  
Norm Henderson, GCNRA  
Amy Heuslein, BIA  
Gene Jencsok, CWCB

Rick Johnson, Grand Canyon Trust  
Robert King, UDWR  
Tom Latousek, American Rivers  
Phillip S. Lehr, CRCN  
Don Metz, US FWS  
Bruce Moore, USBR  
Clayton Palmer, WAPA  
Bill Persons, AGFD  
Andre Potochnik, Grand Canyon River Guides  
Pueblo of Zuni (by Loren Panteah)  
So. Paiute Consortium (by Brenda Drye)  
Fred Worthley, CRBC

**Committee Members Absent:**

Joe Dishta, Pueblo of Zuni

Alan Downer, Navajo Nation  
Carlos Mayo, Southern Paiute Consortium  
John Shields, Wyoming State Engineer's Ofc

**Alternates Present:**

Timothy Begay, Navajo Nation  
Wayne Cook, UCRC  
Brenda Drye, Southern Paiute Consortium  
Loren Panteah, Pueblo of Zuni

**Alternate For:**

Alan Downer, Navajo Nation  
John Shields, Wyoming State Engineer's Ofc  
Southern Paiute Consortium  
Pueblo of Zuni

**Other Interested Persons Present:**

Mary Barger, WAPA  
Debra Bills, USFWS  
Gary Burton, WAPA  
Shane Collins, WAPA-CRPS-CSC  
Suzanne Fish, NRC  
Barry Gold, GCMRC  
Nancy Hornewer, USGS  
Pamela Hyde, (general public)  
Loretta Jackson, Hualapai Cultural Resources  
Josh Korman, Ecometric Research  
Ruth Lambert, GCMRC  
Mike Liszewski, GCMRC  
Alvin Marble, Santa Clara, UT

Ted Melis, GCMRC  
Wendell Minckley, Arizona State Univ.  
Tom Moody, Grand Canyon Trust  
Tony Morton, USBR  
Fred Nials, Univ. of Nevada  
Randy Peterson, USBR  
Barbara Ralston, GCMRC  
Randy Seaholm, CWCB  
Larry Sibala, BIA-PHX  
Jeff Sorensen, AGFD  
Larry Stevens, GCMRC  
Bill Vernieu, GCMRC  
Mike Yeatts, Hopi Tribe

**Recorder:** Serena Mankiller, GCMRC Secretary

**11/16/98: Convened:** 10:00 a.m. **Adjourned:** 5:04 p.m.

**11/17/98: Convened:** 8:00 a.m. **Adjourned:** 4:05 p.m.

## **MEETING OPENING AND ADMINISTRATIVE ITEMS**

**Welcome:** Robert Winfree, the Chairperson, convened the meeting and welcomed committee members, member alternates, and guests. A quorum was present.

**Review of Agenda:** The Chairperson reviewed the final agenda which included revisions from the draft agenda. All TWG had received the revised final agenda prior to this meeting. The Lake Powell Ad Hoc Group presentation was deleted from the 11/16/98 agenda and added to 11/17/98 agenda. Addition made to 11/17/98 agenda for nominations of TWG Chairperson for next year.

**Attendance Sheets:** Distributed.

**Review of Minutes:** Minutes of July 23, 1998 (Attachment 1), and minutes of September 14-15, 1998 (Attachment 2) were available for review. The TWG will review and submit revisions to the GCMRC Secretary.

## **OTHER ADMINISTRATIVE BUSINESS**

One date published in the Federal Register Notice for this TWG meeting was incorrect. It was published as November 17-18, 1998. The correct dates are November 16-17, 1998. The November 16 meeting will be considered an ad hoc group meeting and any voting or decisions will be delayed to November 17. If any members of the public show up for a meeting on November 18, they will be notified of the error.

Gene Jencsok announced that he is retiring. Randy Seaholm will be the new TWG representative for the Colorado Water Conservation Board, beginning at the December 8, 1998 TWG meeting. An official letter will be submitted to the TWG Chairperson. The Chairperson thanked Mr. Jencsok for his outstanding contributions to the adaptive management process.

Tom Moody (GC Trust) announced that his last TWG meeting will be December 8, 1998. Rick Johnson will continue to be GC Trust's TWG representative. The Chairperson thanked Mr. Moody for his outstanding contributions to the adaptive management process.

## **AMP BUDGET AND PROGRAMMING**

**GCMRC Draft FY2000 Annual Plan** (dated 10/9/98): Barry Gold reported that two additional sets of written comments have been received since the October 26, 1998, ad hoc group meeting. All substantive comments have been addressed in the programmatic sections of the plan for presentation to the TWG by the program managers. The overall second draft has not yet been finalized and will be mailed to the TWG on November 20, 1998, for final comments at the December 8, 1998, TWG meeting. More detail has been added to the plan as requested. Protocol evaluation items have been identified as well as how they lead to implementation of the long term plan. Managers for each program area presented their areas and answered questions from the TWG. Revisions were identified and will be accepted from the TWG through December 8, 1998.

*Recommendation:* (same as Strategic Plan recommendation below).

**GCMRC Draft FY2000-2004 Strategic Plan** (dated 11/5/98): Barry Gold reported that the TWG's comments were incorporated into the first draft (dated 11/5/98) and distributed to the TWG on November 5, 1998. Redline/strikeout revisions were not shown due to reorganization of the entire document. Some members requested copies of the GCMRC staff's handwritten notations about how the TWG's comments were addressed in the document. These copies will be provided as soon as possible. Final comments will be discussed at the TWG meeting on December 8, 1998, and incorporated into a final draft which is due for mailing to the AMWG on December 11, 1998. GCMRC felt the timeline to complete the final is very narrow.

*Recommendation:* Substantive comments will be discussed, and editorial comments will be submitted at the December 8, 1998, TWG meeting. The TWG members will ask their AMWG members if the mailing of the final draft may be delayed until December 18, 1998. The TWG members will contact Barry Gold if there is a problem regarding this change in schedule.

**Budget:** Barry Gold discussed at length the GCMRC five-year below-line budget with respect to the recent Senate budget language. The budget does not include PA or AMP activities. It appears that the program is increasing, but current figures reflect a base steady-state budget, accounting for inflation, and does not show increases. Discussions included:

- The FY2000 bottom line figure of \$6.2 million excludes funding for the integrated water quality program because an alternative funding proposal is still pending recommendation. That program may be primarily funded out of Reclamation's O&M budget and the downstream portion takes \$1.5 million of the Biological Resources Program.
- 2001-2004 budgets include a 3% annual increase.
- The FY2001 budget of \$6.9 million includes percentage adjustments for inflation, programmatic accounts, operations and personnel contract services. In current dollars the \$6.9 million are the same as the 1997 budget dollars.
- FY2002 excludes additional activities which may occur as a result of implementing the TCD.
- FY2003 excludes investments which may be recommended after evaluation of remote monitoring technology has been completed.
- All monitoring and research activities that respond to information needs will not be completed within five years.
- The GCMRC is working on a draft document which addresses costs and what work needs to be done beyond the base program for running a FY99 BHBF. The document will address economies which may be realized depending on which month a trigger may occur.
- A general Strategic Plan which overall guidance within which work will be accomplished for the

next 5 years needs to be finalized and approved.

- Details may be discussed in this group over the next year or so to develop a management document which, instead of being a set of strategies or philosophies, should be a chart of details/tasks/timeframes/costs taken from guidance established in the Strategic Plan.
- The AMWG may wish to see an all-inclusive budget, especially costs associated with a BHBF in the event of a trigger.

Barry Gold summarized that GCMRC will accept TWG comments on the type of budget presentation it desires, and following the December 8, 1998, TWG meeting, budget projections or guidelines will be incorporated into the FY2000-2004 Strategic Plan. GCMRC will finalize the plan for forwarding to the AMWG for approval at its January 1999 meeting. Following that, the TWG might expect to be assigned a new task to work on a long term management chart.

**FY99 Program Update** (new/modified contracts): Barry Gold reported the status of the FY99 program:

RFPs (Attachments 3a, 3b, 3c, 3d): GCMRC Program Managers provided status sheets for the TWG. The FY99 program mainly consists of continued FY98 activities. No new activities have yet been initiated. The new FY99 RFPs are:

- (1) Development of a plan for SASF's.
- (2) Establishment of a second population of HBC. Proposals were submitted for the above research activities and are in the process of external peer review. A peer review panel will be convened the week of December 15, 1998, and it will provide a recommendation on which proposals to fund. Dr. Gold will give another status report at the January 1999 TWG meeting on the successful proposals & related activities.
- (3) Establishment/implementation of a SAB, and the two research activities. Ten slots are available for the SAB and a total of ten proposals were received for only 3-4 of those ten slots. To overcome these obstacles, Barry Gold plans to contact other federal agencies to determine if our remuneration is sufficient in comparison to other SAB's, and the GCMRC will actively solicit scientists to determine their interest and clearly explain what we're seeking. GCMRC will provide the TWG with a roster of 2-3 names per slot. A review process will be conducted to select participants. The TWG may also submit names to the GCMRC for the solicitation process. The SAB section of the RFP is available on the AMWG/TWG web site for downloading.

**AMWG Budget Update** (Attachments 4a, 4b): Bruce Moore distributed a revised Budget Protocols document. On further investigation, he found that the budget that goes forward in May is for appropriated dollars only, not revenue. This allows the TWG approximately six additional months to resolve the next fiscal year budget (July rather than January). This streamlines the process for CREDA and WAPA's review in April, and allows time in May to prepare information for AMWG's mid-year meeting and recommendation to Reclamation. Budget estimates are submitted in September for the

major categories/elements. Although some flexibility to shift funds between major categories remains at the beginning of the execution year, the bottom line remains the same. Barry Gold distributed a table containing a schedule of budget activities for current year/budget year/budget year +1.

**PA Program Budget:** The TWG had previously requested more involvement and detailed information about NPS work plans and tribal participation in the PA budget. An additional meeting was scheduled for December 7, 1998, to review the FY99 and FY2000 PA budget. It will be held at the Embassy Suites, Turquoise Room, from 1 p.m. to 4 p.m. Kurt Dongoske stated that plans to do programmatic work for 2000 have not yet been completely formulated and Reclamation should contact the PA Signatories. Reclamation will attempt to pull together some data and submit it prior to the meeting. If this is not achieved, the 99 data will be presented.

### **RESOURCE CONDITION AND HYDROLOGIC FORECASTS**

**Hydrologic Forecasts and GCD Planned Releases:** (Attachment 5) Randy Peterson no significant changes have occurred since the last report except that fall precipitation has been unusually heavy in the southern end of the Basin. This is contrary to the NWS prediction that La Nina would bring above normal precipitation in the north and drier than normal in the south. Reclamation will take a cautious approach to upcoming releases. The most probable releases for this winter will be in the range of 16,500 cfs (lower than last winter's releases), and in the range of 12,000 cfs to 17,000 cfs through the spring. Fall inflows have been significant, and the reservoir is expected to be a little fuller on January 1, 1999. There is a 1:3 chance of a BHBF next water year. A link will be established on the AMWG/TWG web site to the hydrologic reports.

**Fall Maintenance Flows During Tributary Events:** (Attachment 6) Randy Peterson distributed a proposal for fall maintenance flows which was faxed to the ad hoc group members for comment on September 22, 1998. Positive feedback was received from some members of the ad hoc group. The scope was to augment sediment transport/retention/storage of fines for backwater areas. The TWG identified some operational, seasonal, sediment retention and public notification issues. Advance warning of a Paria event would be needed, probably in the form of a telemetered precipitation gage. The next step would be to conduct a rigorous analysis of the impacts of this proposal. When the impacts have been analyzed, the information would be presented to the TWG for recommendation.

*Recommendation:* Scientists to provide written comments to Randy Peterson at the January 13, 1999, TWG meeting. They will be compiled and distributed for TWG's review and discussion at the February, 1999, TWG meeting. Randy Peterson will provide information on hydrology backup support in defining the return period and flow magnitude, as well as David Topping's work regarding sediment input thresholds for flow magnitudes.

**Flood Avoidance Ad Hoc Group:** (Attachment 7) Randy Peterson distributed a meeting summary from the Spill Avoidance Ad Hoc Group meeting held on September 16, 1998. It was an educational presentation about how decisions are made on changes in monthly releases. A link will be established on the AMWG/TWG web site to this information for future reference by the TWG. Direct any questions to Randy Peterson.

## **BEACH/HABITAT-BUILDING FLOW PLANNING AND COMPLIANCE ACTIVITIES:**

KAS Population Status/BO Requirements: (Attachment 8) Larry Stevens (GCMRC) stated that it is important for the TWG to stay informed about the status of this species because it is a showstopper for high flows. A new metapopulation was discovered in Kanab Canyon, Utah. Efforts at establishment of a second population in Grand Canyon are occurring. The KAS refuge population proposal is ongoing through the Phoenix Zoo. A genetic and morphological project is ongoing. Analysis of propagation of KAS projects at NAU and GCD are ongoing. KAWG is meeting regularly. Analysis is being conducted on stage discharge relationships between 45,000-60,000 cfs (the 60,000 cfs stage is 1.5 meters above the 45,000 cfs stage) and effects on populated habitat. Specific monitoring data: from September 1998, 10.5% of KAS populated habitat lies at or below the 45,000 cfs stage at Vaseys Paradise. A flow of 60,000 cfs would take approximately 25% of the populated habitat. November 1998 monitoring has not yet occurred. Broad data available overall from researchers: a 45,000 cfs takes about 7.5% of the overall snail population, and a flow of 60,000 cfs takes about 22%. Overall population is approximately 43,443 snails this year. A 15% error factor is possible because the assessment is done only at the end of the year/growing season, and population size is established on mean densities found on patches of different habitat types.

Populations at Vasey's Paradise, Three Lakes and Kanab Canyon have been morphologically identified as KAS. The Recovery Plan requires ten populations be discovered or created before downlisting from endangered to threatened can be considered. Threatened species are fully protected under the ESA. USFWS has discussed the possibility of revising the downlisting criteria (currently there are no de-listing criteria). The populations at Indian Gardens and -6 River Mile are not currently technically classified as KAS. The term, "population" means they are isolated from one another and not effectively able to interbreed; "metapopulation" means no genetic variability and habitats relatively close together. If they can actually interbreed they should be considered a metapopulation. In the past, the locality where KAS populations had been known to exist in Kanab Canyon had become dewatered and the species declared extinct. The new metapopulation (9 subpopulations of unknown size) recently discovered by Vicky Meretsky in seeps at Kanab Canyon were identified by the University of Colorado as the KAS species. It is not yet clear if all populations in Arizona and Utah are related or distinct.

Jeff Sorenson presented current information on establishment of a second population efforts (Attachment 9) by the AGFD. The first post-translocation monitoring activities were conducted October 1998. Average resighting was 3.1%. The low percentage may be due to small size of individuals, and is similar to resighting percentage of 3.4% at Vasey's Paradise after the 1996 BHBF. Overwintering mortality is high (30-90% at Vasey's Paradise) for this species. In 1999 four (seasonal) monitoring trips are planned to determine survivorship, reproduction, dispersal outside of the release areas, competition, density, habitat, and need for reaugmentation with additional individuals. 500 individuals per year for two years may be taken from Vasey's Paradise. This year, 450 were translocated and 50 moved to the Phoenix Zoo. Mr. Sorenson discussed the zoo refugium population at length. At the January 1999 KAWG meeting, they will discuss a flow plan to be developed (depending spring sampling findings), whether monitoring should continue at the same or more intensity, and the success or failure of the populations.

KAS Biology Expert Panel: Barry Gold stated that GCMRC plans to organize and convene a scientific

panel to discuss and review KAS issues after data are gathered (probably between March-July 1999). Before GCMRC begins this task, it needs a specific set of questions geared towards management. It also needs input about the desired range of expertise to seek in the panel to enable the group to work productively. A schedule, timeframe and funding needs to be determined. There is no provision for this activity in the 1999 budget.

*Recommendation:* Submit suggestions to Tony Morton, who will develop a list of suggested topics for the Compliance Ad Hoc Group to review and discuss. The ad hoc group will bring the matter back to the TWG at a future meeting.

Biological Assessment/Biological Opinion: (Attachment 10) Larry Stevens (GCMRC) discussed flow issues related to Humpback chub, Southwestern Willow Flycatcher and KAS. There is currently only one successful breeding pair in Grand Canyon. Nesting failure is attributed to brownheaded cowbird parasitism and possibly windstorms. Some survivorship is occurring nearer to Lake Mead. Tony Morton (USBR) distributed and reviewed a Compliance Report to TWG. He reviewed restrictions contained in the current BO regarding Humpback chub overwintering mortality affected by October-February BHBFs or BHMFs. At the recent Saguaro Lake scientist meeting, some scientists said that it is not critical to understand overwintering mortality of HBC. That information will be included in a revised BA and submitted to the USFWS. Current BO language restricts a January-February flow. One of GCMRC's RFPs for FY99 is to develop a plan and approach for determining overwintering mortality of HBC. Barry Gold stated that field work will be underway in January regarding young-of-year HBC issues. Based on findings, the spring LCR monitoring will be expanded to the mainstem. There is also a FY99 RFP for SASFs.

Compliance Ad Hoc Committee Report: Tony Morton requested input from the TWG about if it thinks Reclamation should do an EA for a 1999 BHBF and a programmatic approach, if it thinks the adaptive management process so effectively addresses all resource concerns that NEPA becomes redundant. Since NEPA is not legally required for GCD operations which stay within operations criteria, time, effort and costs would be saved in suspending NEPA activities and focusing on ESA and NHPA activities. Generally, the TWG felt that Reclamation should continue with the NEPA process.

Draft Biological Assessment and Resource Criteria Evaluation for 1999 BHBF: Larry Stevens (GCMRC) reported that a draft BA has been released and will be distributed prior to the next TWG meeting. Copies may be obtained from Tony Morton (USBR).

Barbara Ralston (GCMRC) stated that the revised document will be available to review at the next TWG meeting. The January-July FY99 example will be used for the review and evaluation of the language and decision-tree. The Resource Criteria Evaluation will be accompany the BA.

*Recommendation:* Submit comments on the BA to Tony Morton (USBR) as soon as possible.

## **MONITORING AND RESEARCH PROGRAM UPDATES**

Conceptual Modeling Workshop: Josh Korman (Ecometrics, Inc.) presented preliminary results from the recent Conceptual Modeling Workshop. Mr. Korman has been working with the GCMRC

and several scientists to develop a conceptual model which will guide discussions of alternate management processes for the park system. He presented a portion of the computer model of the physical component which includes hydrology and sediment transport submodels, the foodbase model, and some preliminary conclusions which came out of discussions on fish. Objectives of development, anticipated benefits of the process, activities over the past year, and future direction was discussed. Objectives of the model was to develop a tool and process to assist in defining and prioritizing research and to develop a reasonable experimental design. This will assist in predicting how the system will respond to different flow regimes, and reduce the risk, potential negative impacts and costs associated with actual experiments. He reviewed ranges of controls, management actions including no action, spike flow magnitudes and duration, and historical pre-dam environment production. Cultural resource component issues have been identified and modeling proposals will be included in an upcoming phase. The conceptual modeling project is completed, but may be extended on a smaller scale. A paper will be coming out in approximately one month which describes generally what the model is, the process, conclusions and implications for management, and will be available from the GCMRC. A link to the GCMRC web site where the presentation is stored will be made available on the AMWG/TWG web site. The model and Users Guide is already posted on the GCMRC web site, and updates will be distributed by the GCMRC. The model is large and may take 45 minutes to download. If the TWG has any problems with downloading, please contact GCMRC. Responsibility for the model will be transferred to a specific individual on the GCMRC staff.

**SCORE Report:** (Attachment 11) Larry Stevens stated that graphic presentations are currently being completed and are planned to be available on the GCMRC web site soon. He reminded the group that the purpose of the document is to provide information to the AMWG/TWG and other interested persons on the status of resources of concern in the Colorado River ecosystem. Activities over the past year have included compiling long-term records for as many resources as possible. There will be an online text version including an Executive Summary, information on the overall Colorado River ecosystem and its administration, a hyperlink to the Lake Powell report, resources of concern, economics, hyperlinked to the Conceptual Model, to Information Management systems, and a bibliography of most recent publications relevant to the Colorado River in Grand Canyon.

A link to the GCMRC web site where the presentation is stored will be made available on the AMWG/TWG web site.

**Operational Flow Issues Ad Hoc Group Report:** Clayton Palmer stated that the draft report is not yet available. He discussed data that WAPA uses to determine if an exceedence has occurred. The change to the downramp of 1450 cfs has not been effective in improving exceedences (the maximum downramp is 1500 cfs). Some downramps have occurred January-July, typically lasting an hour between the hours of 10 p.m. and 1 a.m., that range from 2,000-4,000 cfs, but are typically approximately 1500 cfs. The AMWG is supposed to be notified every time an exceedence occurs, and the TWG does not feel the notifications have been made to their satisfaction. There appears to be a difference in data that WAPA utilizes and other sources of data that some TWG members review. WAPA has met with Reclamation to determine why the dam appears to modify information that WAPA has sent in its schedule. It has also met regarding the different methods of recording releases from GCD. Regulation is currently occurring at Hoover Dam, and WAPA cannot sustain regulating its system there. Problems and solutions remain to be resolved. The TWG wants WAPA to address the

data recording and availability issues.

*Recommendation:* The report WAPA and Reclamation are jointly preparing will describe the data sources. Robert Winfree asked Clayton Palmer, Dave Cohen, Bill Vernieu, and Ted Melis to work on the data source/interpretation issues and report at the next TWG meeting. A link to WAPA's web site will be established on the AMWG/TWG web site. WAPA will review the environmental impact of regulating at GCD, and develop a joint resolution to this issue. WAPA will update its emergency notification fax list, and will specifically include Dave Cohen, USFWS, Grand Canyon River Guides, and GCMRC.

**GCD Power Replacement Report:** (Attachment 12, "Replacement Resources Process" Executive Summary dated 3/98) Clayton Palmer stated that in the 1992 GCPA, the Secretary of Energy was charged with preparing a report which identifies economical and technical methods of replacing lost power generation through the adoption of long-term operating criteria for GCD, investigate modifications or additions to the transmission system that may be required, investigate the feasibility of adjusting operations at Hoover Dam to replace all of part of the generation, and prepare a report to congress within two years after the adoption of GCD long-term operating criteria. WAPA completed its charge. It identifies least-cost methods of purchasing electrical power, including renewable electrical power resource demand activities. When operations changed at GCD, WAPA renegotiated its customers' long-term electrical power contracts into: (1) electrical resources from eleven power plants including GCD; (2) electrical resources that WAPA cannot provide from the power plants but are purchased on behalf of the customers on their request. That contract change lessens WAPA's requirement to supplement electrical power, and now supplement lost power generation based on customer request. WAPA has an option of supplementing power by a competitive process beginning in the year 2000 if customers request a long term amount of power. Mr. Palmer discussed issues including emergency exception criteria, which is different than what WAPA can market long-term from the dam (which is based on the ROD parameters). The full report describes the process WAPA uses to evaluate long-term power purchases. This report has no impact on how the adaptive management program is run.

## **OTHER REPORTS AND DISCUSSIONS**

**Temperature Control Device:** Bruce Moore reported that the plan to send the EA for construction/operation/maintenance out for public comment on December 31, 1998, is still on schedule. Meetings with Reclamation's design and construction representatives have occurred, and schedules and construction plans are being made. Hoists will be utilized on each of the eight penstocks. \$7.5 million is in the FY2000 budget. The other \$7.5 will be programmed for the FY2001 budget. The decision to go/no go will be made by Reclamation after the environmental work has been completed. Reclamation will request comments and ideas from the TWG on the go/no go decision. Reclamation will develop a table of TWG comments and how they were addressed, and the reason why if some were not addressed. Operations and maintenance will come under the AMP and so the TWG will assist GCMRC in developing its monitoring and research proposal. Validity and parameters of the conceptual model's preliminary information on warming water was discussed.

**AMP/PA Integration (final):** Kurt Dongoske stated that the purpose of the document was to provide

the TWG with clarification regarding the responsibilities of the PA Program and how it could effectively integrate with the AMP and the GCMRC's annual evaluation of the canyon resources, including cultural resources. The schedule calls for annual work plans from the PA group in September, but May would allow sufficient time for comment, review and revision of the work plans. There is a concern that this process may not be implemented as effectively with Reclamation's full takeover of the PA Program administration, and GCMRC's RFP process is a viable option that should be considered for the Non-National-Register-Eligible Properties. There is a schedule of how the PA Program, in budgeting five years out, can work more effectively with the planning process of the AMP. A copy of the document will be posted on the AMWG/TWG web site as soon as possible.

*Recommendation:* On motion duly made, seconded and carried by a consensus vote, the TWG was requested to adopt and approve this position paper for submittal to the AWMG.

**Federal Partners River Trip Progress Report:** Barry Gold stated that the summary of discussions is not yet completed. He gave an update on the issue of a union between adaptive management and environmental compliance with a special focus on KAS. Discussions have occurred with USFWS about how to do environmental compliance more effectively. A Consultation Team of federal partners was formed. An expert panel will be formed to review KAS issues. Dialog is continuing on these goals. Another issue was the structure and function of the GCMRC staff. In an early chapter of the EIS the roles and functions of each organization were enumerated, and clarification will begin with this foundation document. A white paper may be generated. GCMRC staffing levels were an issue. Barry Gold is in the process of developing a staffing plan which describes the roles and responsibilities of the current staff. The document will be reviewed first by the GCMRC Management Team and subsequently will go to the TWG for review. Another issue was the "institutional home" of the GCMRC. Conference calls with the Management Team that GCMRC reports to about moving forward on this issue will be scheduled. Another issue was raised about AMP administrative costs and if they can be reduced. Information has been gathered and costs appear to be reasonable, but the TWG ad hoc group plans to still gather more information. Another issue was about minimum tool use and wilderness issues effects on the GCMRC program. Comments were submitted to NPS about costs impacts in moving from motorized to non-motorized trips. There will be a fairly significant logistics/costs impact. GCMRC is currently applying minimum tool use on all trips. In 1996, GCMRC put 63 trips on the river, and is the largest trips-launched river outfitter. For 1999, GCMRC has reduced the number of trips to 45 initially, but this may increase to 50-52 trips by the end of the year.

**Meeting Evaluation:** The TWG discussed at length results from the feedback of Bill Persons' meeting evaluation exercise. Suggested improvements were identified and include better advance preparation and distribution of documents, advance review of documents, limiting discussion time, and attendance.

*Recommendation:* The feedback will be further discussed at the next TWG meeting.

**Chairperson Nominations:** The TWG discussed the time and effort involved with the position of Chairperson of the TWG Committee. Discussions included Chairperson remuneration and advantages and disadvantages of hiring a facilitator.

*Recommendation:* Submit nominations to Bruce Moore for the ballot. Reclamation will investigate

costs involved with using a facilitator.

**Lake Powell Ad Hoc Group:** (Attachment 13) Robert Winfree stated that the split proposal has been updated. A typographical error was identified under the Gray Area (bullet #2 after “funded by the Reclamation”) please add: “e.g., O&M budget, or other sources.”

*Recommendation:* Submit comments or recommended changes via e-mail to Norm Henderson. The TWG should be prepared to make a decision at the December 8, 1998, TWG meeting.

## **MEETING REVIEW AND WRAP UP**

### **New Business:**

**Dave Garrett Update:** Barry Gold stated that the unresolved medical condition of Dave Garrett (Chief, GCMRC) has caused him to formally retire from federal service effective November 16, 1998. Dr. Garrett may still work part-time, and is interested in making further contributions to the program over the next year. Dr. Gold’s detail as Acting Chief of GCMRC was extended an additional 120 days, and the position vacancy of GCMRC Chief will be advertised.

Barry Gold announced that Barbara Ralston (GCMRC) has been assigned to be Acting Program Manager for the GCMRC Biological Resources Program while Barry Gold is serving as Acting Chief of the GCMRC.

Amy Heuslein stated that the Department of Energy is doing a scoping meeting for an EIS for a power line extending 177 miles from Calverde Nuclear Generating Station to Mexico. The meeting will be held tonight from 7:00 p.m. to 9:00 p.m. at the Embassy Suites.

Rick Johnson announced that Grand Canyon Trust has published some new information with a large map of the Grand Canyon. Contact Mr. Johnson if you would like to have a map sent to you.

**Adopt-A-Beach:** Barry Gold presented an unsolicited proposal from Grand Canyon River Guides to fund \$4,000. They have been collecting photographic documentation of beaches over the past two years that would allow them to allow the 1997 and 1998 photos and continue 1999 data collection. This is a cost-effective project, but GCMRC has not budgeted for unsolicited proposals.

*Recommendation:* The TWG recommended that GCMRC fund this proposal for \$4,000, and acknowledged that this may result in a cost overrun.

### **Upcoming Meetings:**

**TWG Meetings:** December 8, 1998: 10 a.m.-4 p.m. at the Phoenix Sky Harbor Airport Meeting Room, Terminal 3, Level 2. Agenda: elect a TWG Chairperson; finalize the AMWG meeting information package; discuss budget issues and finalize the budget.

January 13-14, 1999: 1/13: 3 p.m.-5 p.m. (Two hours following the AMWG meeting);

1/14: 8 a.m.-12 p.m. (Subject to cancellation depending on business). Agenda: review AMWG assignments and the SCORE Report. TWG members should plan flexibility into their return itineraries. The USBR will publish the FRN 15 days prior to the meeting.

**Action Items:** The Chairperson reviewed action items from this meeting. They are contained in the text of each topic in these minutes.

**Future Agenda Items:** The Chairperson reviewed agenda items for future meetings (listed in the current TWG meeting agenda). The updates will be included in the next agenda.

**Ad Hoc Groups:** The Consultation Team of the Compliance Ad Hoc Group will meet December 14, 1998, from 1:00 p.m. to 5 p.m. at the USFWS office in Phoenix, Arizona.

**Next AMWG Meeting:** The next AMWG meeting will be held January 12, 1999, from 9:30 a.m. to 5 p.m., and on January 13, 1999, from 8:00 a.m. to 3 p.m., at the Embassy Suites Hotel in Phoenix, Arizona.

**Public Comment:** The Chairperson requested comments from the public after each major topic. Comments made are contained in the text of these minutes.

**Adjournment:** There being no further business, the Chairperson adjourned the meeting at 4:05 p.m. on November 17, 1998.

Respectfully submitted,

Serena Mankiller  
GCMRC Secretary

## General Key to Adaptive Management Program Acronyms

ADWR - Arizona Department of Water Resources	snail)
AF - Acre Feet	KAWG - Kanab Ambersnail Work Group
AGFD - Arizona Game & Fish Department	LCR - Little Colorado River
AGU - American Geophysical Union	LCRMCP: Little Colorado River Multi-Species Conservation Program
AM - Adaptive Management	MAF - Million Acre Feet
AMP - Adaptive Management Program	MA - Management Action
AMWG - Glen Canyon Adaptive Management Work Group	MO - Management Objective
AOP - Annual Operating Plan	NAU - Northern Arizona University (Flagstaff, AZ)
BA - Biological Assessment	NEPA - National Environmental Policy Act
BE - Biological Evaluation	NHPA - National Historical Preservation Act
BHBF - Beach/Habitat-Building Flow	NPS - National Park Service
BHTF - Beach/Habitat Test Flow	O&M - Operations & Maintenance (USBR funding)
BIA - Bureau of Indian Affairs	PA - Programmatic Agreement
BO - Biological Opinion	PEP - Protocol Evaluation Panel
BOR - Bureau of Reclamation	Powerplant Capacity - 31,000 cfs
CAPA - Central Arizona Project Assn.	Reclamation - United States Bureau of Reclamation
cfs - cubic feet per second	RFP - Request For Proposals
CRBC - Colorado River Board of California	RPA - Reasonable and Prudent Alternative
CRCN - Colorado River Commission of Nevada	SAB - Science Advisory Board
CREDA - Colorado River Energy Distributors Assn.	SWCA - Steven W. Carothers Associates
CRSP - Colorado River Storage Project	TCD - Temperature Control Device (for Glen Canyon Dam water releases)
CWCB - Colorado Water Conservation Board	TCP - Traditional Cultural Property
DBMS - Data Base Management System	TES - Threatened and Endangered Species
DOI - Department of the Interior	TWG - Glen Canyon Technical Work Group
EA - Environmental Assessment	UCR - Upper Colorado Region (of the USBR)
EIS - Final Environmental Impact Statement	UCRC - Upper Colorado River Commission
ESA - Endangered Species Act	UDWR - Utah Division of Water Resources
FACA - Federal Advisory Committee Act	USBR - United States Bureau of Reclamation
FEIS - Final Environmental Impact Statement	USFWS - United States Fish & Wildlife Service
FRN - Federal Register Notice	USGS - United States Geological Survey
FWS - United States Fish & Wildlife Service	WAPA - Western Area Power Administration
FY - Fiscal Year (Oct 1 to Sept 30 each year)	WY - Water Year (a calendar year)
GCD - Glen Canyon Dam	
GCMRC - Grand Canyon Monitoring and Research Center	
GCNRA - Glen Canyon National Recreation Area	
GCPA - Grand Canyon Protection Act	
HBC - Humpback Chub (endangered native fish)	
HMF - Habitat Maintenance Flow	
HPP - Historic Preservation Plan	
IEDA - Irrigation and Electrical Districts Association of Arizona	
IN - Information Need (stakeholder)	
IT - Information Technology (GCMRC program)	
KAS - Kanab ambersnail (endangered species list -	