

**Minutes of Technical Work Group Meeting
December 10-11, 1997**

FINAL

Presiding: Robert Winfree, NPS (Chairperson)

Committee Members Present:

Mark T. Anderson, USGS
Clifford Barrett, RW Beck & Assoc.
Kerry Christensen, Hualapai Nation
Dave Cohen, Trout Unlimited
Wayne Cook, UCRC
Wm. Davis, EcoPlan Assoc./CREDA
Joe Dishta, Pueblo of Zuni
Kurt Dongoske, The Hopi Tribe
Owen Gorman, USFWS
Christopher Harris, ADWR
Norm Henderson, GCNRA

Amy Heuslein, BIA
Pamela Hyde, American Rivers
Gene Jencsok, CWCB
Robert King, UDWR
Phillip S. Lehr, CRCN
Tom Moody, Grand Canyon Trust
Bruce Moore, USBR
Clayton Palmer, WAPA
Bill Persons, AGFD
Andre Potochnik, Grand Canyon River Guides
Fred Worthley, CRBC

Committee Members Absent:

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

Alternates Present:

Brenda Drye

Alternate For:

Carlos Mayo, Southern Paiute Consortium

Other Interested Persons Present:

Debra Bills, USFWS
L. David Garrett, GCMRC
Barry Gold, GCMRC
Dennis Kubly, AGFD
Steven Lloyd, USBR
Tony Morton, USBR

Ruth Lambert, GCMRC
Randy Peterson, USBR
Robert S. Lynch, Esq. (CAPA/CREDA/IEDA)
Larry Sibala, BIA
Jeff Sorenson, AGFD
Michael Yeatts, The Hopi Tribe

Recorder: Serena Mankiller, GCMRC

12/10/97: Convened: 9:36 a.m. **Adjourned:** 4:50 p.m.

12/11/97: Convened: 8:10 a.m. **Adjourned:** 5:20 p.m.

Welcome/Introductions: Robert Winfree welcomed committee members and guests, who introduced themselves and stated their affiliation.

Attendance Sheet: Official members or their alternates are to sign in on the yellow sheet; all other attendees are to sign in on the white sheet.

ADMINISTRATIVE ITEMS

Review of Minutes: (Attachment 1) Minutes of the last meeting were reviewed and revised.

Recommendation: Minutes were accepted with revisions. GCMRC Secretary to revise the minutes and re-distribute final copies. AMWG will receive a copy in the December 15 mailing.

Federal Register Notice: We are meeting the notice requirements. The notice and draft agendas for the next three months of meetings is ready.

TWG Member Meeting Attendance Reimbursement: Bruce Moore stated that the Solicitor's Office confirmed TWG members may be reimbursed for meeting attendance. It is discretionary. Tribes are paid out of appropriated funds. Other members requesting reimbursement will be paid out of the existing GCMRC budget. Cost is approximately \$500/person for a two-day meeting.

Recommendation: Add the item to the AMWG agenda. Members who need compensation, give your names to Bob Winfree. Bruce Moore will draft a short paper about power revenue repayment options and member reimbursement. We will review the option of reimbursing members once per year.

Future Meeting Schedule/Frequency/Length/Location: Chris Harris stated that our effective utilization of ad hoc groups may enable TWG to meet every other month. Membership is concentrated in three major clusters: Salt Lake City, Northern Arizona and Phoenix.

Recommendation: Phoenix will be the permanent location. Flagstaff is recommended when other major scientific activities (symposiums; workshops) are taking place there. Special meetings may be called and pre-scheduled in other cities on an as-needed basis. Members who know of facilities which may save TWG meeting costs should submit the information to Steve Lloyd who will do a comparison and report back at the January TWG meeting. Dave Garrett's Planning Group Meeting (formerly called the FY99 Program Planning Group) will continue to meet monthly through the spring.

TWG meetings for 1998 will be held at La Quinta Hotel in Phoenix from 9:30 a.m. to 5 p.m. on the first day, and 8 a.m. to 4 p.m. (or until end of business) on the second day on: January 20-21, February 17-18 and March 17-18. There will be a special budget meeting on January 14 from 12 noon to 4 p.m. The next AMWG meeting is January 15-16. Meetings will be noticed in the Federal Register.

TWG Operating Procedures: (Attachment 2) Steve Lloyd reviewed the revised procedures. Committee recommended revisions related to satisfying FACA requirements for agenda items, ad hoc groups and materials distribution, as suggested by Robert Lynch. Forty copies of materials will be brought to future meetings (if not previously distributed). Fifteen extra copies of all documents presented at the meeting will be placed on the back table at the beginning of the first day's meeting. Committee members to submit final revisions to Steve Lloyd on December 10 for adoption on December 11.

Recommendation: Consensus was reached. The final draft will be sent to AMWG with the December 15 mailing.

Report on Roles/Planning Milestones/Integration of AOP/ESA Deadlines: Chris Harris has condensed the original chart.

Recommendation: Chris Harris will finalize and email the chart to GCMRC for review and input. Future agenda item for TWG committee.

TWG/AMWG Review of Out-Year Budgets: Norm Henderson discussed the issue of spike flow research planning for FY99. It is not currently budgeted for. Estimates for budgets currently being worked on are outdated. Responsibility for final budgetary recommendations was discussed at length by the committee. TWG needs to be involved in the formulation of the out-year budget process before recommendation to AMWG and the Secretary of the Interior, especially in view of the potential selective withdrawal budget requirements. Dave Garrett stated that if we are going to stay with the January-June AMWG schedule, the January meeting should be the out-year budget presentation from the TWG to AMWG.

Recommendation: TWG wants AMWG to charge us to review out-year budgets. This topic will be added to AMWG's agenda under TWG's presentation.

Public Comment: The Chairperson asked for public comment. There was none.

NEPA/ESA Issues Task Group Report: (Attachments 3a/b/c) Pamela Hyde reviewed the report which contains four recommendations to the TWG. Tony Morton outlined USBR's perspective on compliance which is identified in the FEIS. A programmatic NEPA approach would assist adaptive management goals. The committee discussed the issue at length. Randy Peterson raised a concern regarding how NEPA compliance would be handled if the proposed criteria for triggering a flood is adopted and implemented. Tony Morton indicated about two days would be required to attempt a categorical exclusion. The "spike" would need to be addressed through Section 7 consultations. Emergency releases would not require NEPA/ESA clearance. TWG members to give detailed recommendations to Pamela Hyde on December 10. The document was revised and presented again on December 11; it was further revised by TWG.

Recommendation: Adopted as revised. Incorporate item 2 as amended into the TWG Operating Procedures. Pam Hyde will make the final revisions and forward to Bruce Moore. Tony Morton will give a NEPA presentation at a future meeting to enhance TWG members' understanding of environmental compliance processes. The NEPA/ESA Issues Task Group will be placed on the AMWG agenda for its January 1998 meeting.

Public Comment: Robert Lynch raised concerns about whether the appropriate FACA process was being followed to ensure appropriate public notice and comment.

FY98 Budget Presentation: Dave Garrett reviewed the budget. Status of RFPs: TWG will receive a copy of the information as soon as the USBR contracting officer releases it.

Research and Monitoring Associated with a March 1998 BHBF: Bruce Moore is working on this issue. Dave Garrett estimates \$970,000-\$975,000 cost to run the 45,000 cfs flow in 1998. A \$900,000 budget carries \$275,000 in logistics. GCMRC can draw no more than \$50,000-\$75,000 from its current program. Existing RFPs would have to be amended. GCMRC is writing a contingency plan containing activities TWG considers important to accomplish. The plan will include Biological Opinion, environmental and tribal consultation issues.

Recommendation: GCMRC will develop a prioritized, itemized budget for research related to a spike flow (provided the criteria are triggered) before the next AMWG meeting. The TWG will receive the budget in advance and meet on January 14. It will recommend to AMWG a set of research and monitoring priorities based on availability of funding to be determined, and that TWG work with the GCMRC to find funding. Bruce Moore will cause a notice of the January 14 meeting to be published in the Federal Register.

Adaptive Management Budget in FY99 Plan: (Attachment 4) Dave Garrett reviewed the overall program FY99 budget which is itemized in Chapter 3. Some expenditures were already made in FY98.

Physical Budget: We are attempting to define the sediment balance for the Grand Canyon. The focus is to develop a composite evaluation for TWG so it may evaluate if it is a sediment-starved system or not.

Biological Budget: These proposed costs are out for review; the budget is very tight and problematic; there is no contingency funding; we will be readjusting and reprogramming funds. We are attempting to obtain a possible waiver from FWS of overhead rate under the native fish research. An alleged conflict of interest may exist on the native fish proposal and GCMRC is awaiting a decision from the contracting officer before finalizing the award.

Cultural Budget: Ruth Lambert reviewed revisions. USBR UCR Region Archaeologist's salary

is included within the Bureau PA Program portion of the adaptive management budget because it is an administrative cost rather than a Center Program activity and project cost. \$390,000 remains in GCMRC's Cultural Program budget; \$800,000 moves into the USBR's administrative section and \$50,000 moves into Native American support of the adaptive management budget.

The Center's program responds to the GCPA rather than the NHPA. These are two separate cultural resource programs (Attachment 5). (USBR's PA Program is legally mandated under the NHPA which is outside the authority of the Adaptive Management Program. GCMRC's Program responds to the legal mandate of the GCPA.) Ruth Lambert further clarified that it is an information sharing relationship between the two programs; they are separate legal programs with separate requirements. An example of information sharing is a stipulation in the PA program for a five-year data synthesis. The GCMRC needed the data and let an RFP for this work. Information generated will satisfy each program's needs. The AMWG does not have any control over the PA scope of work, which is specified in legal documents.

A request was made to have the PA and the unsolicited proposal submittals coordinated with GCMRC's overall project and budgetary schedules. For the FY99 budget, GCMRC will attempt to coordinate the scheduling, but anticipate better success at this in FY2000. At a recent Planning Group meeting, Ruth Lambert reviewed the PA program stipulations and some of the requirements in the monitoring and remedial action plan which lays out reporting content and schedule. Reports are generated based on previous field season and activities for the next field season. Content is specified in the document, however the schedule allows some flexibility. The purpose of this was to familiarize the Planning Group with some of the PA Program constraints. Kurt Dongoske noted that the tribes generate their reports but some of their reporting has to wait until they have received NPS's annual report which adds to time frames to produce reports.

Socio-Economic Budget: Although NPS is developing many of the same issues, in the objectives and information needs program the NPS identified this as a major area that GCMRC is to pursue. The program began in FY98 and will be continued in FY99. GCMRC will be meeting with NPS regularly. NPS is currently developing a Colorado River management plan.

Other FY99 Budget Issues: Dave Garrett stated that there are more funding issues in FY99. GCMRC is pursuing external funding for work which is being requested such as designing a long term research plan for the LCR, and Lake Mead sediment assessments. Monies would not be expended from the GCMRC program for these activities. The LCR proposal will be presented at an upcoming TWG meeting.

Recommendation: The FY99 Plan was approved to go forward to AMWG with changes recommended by TWG to be included. The document is still flexible and any other TWG recommended changes submitted after the AMWG mailing date will be explained during the presentation at the AMWG meeting.

Bruce Moore stated that TWG official members will receive the AMWG meeting materials (to be mailed next week) which include all updated documents.

State of the Resources Report: (Attachment 6) Dave Garrett requested approval of the revised final document.

Recommendation: Dave Garrett recommended the report be revised next year to include a matrix analysis of operations impacts. TWG approved the document for forwarding to AMWG.

Annual Report to Congress: (Attachment 7) Dave Garrett stated that this final report was revised to include Wayne Cook and Bruce Moore's comments. It includes information on results of the transition from GCES to GCMRC, an accounting of accomplishments of adaptive management, GCMRC and TWG, and future planned activities.

Recommendation: Dave Garrett recommended that the report be shortened for next year. TWG approved the document to be forwarded to AMWG. If any other changes are received too late to be incorporated into the document to be mailed to AMWG next week, it will be so noted to the AMWG at the January 15 meeting.

Science Advisory Board: (Attachment 8) Dave Garrett stated that the GCD EIS calls for an independent review group who has interdisciplinary technical competence and no conflicts of interest to objectively evaluate the GCMRC's success in satisfying the needs of stakeholders, constituents and resources. The reviewers would be an outside advisory group of competitively-selected professional people who would be accessed approximately twice per year over a three-year period to maintain continuity in assessing the overall effectiveness of GCMRC's program work. It would give overall advice and counseling in our direction. The group would probably begin closer to FY99 and cost about \$40,000-\$60,000 per year. The TWG committee discussed the issue at length. The committee gave positive feedback regarding the SAB evaluating the science process only. Negative feedback was expressed including:

- formation of this advisory group may be premature
- some stakeholders felt that the advisory group may subject AMWG to future public criticism if AMWG does not implement a recommendation
- it may duplicate the established peer review process
- the group may try interpret the law or issues that are TWG's charge

Recommendation: Robert Winfree will report to AMWG that the issue was identified by TWG as an EIS requirement, discussed and a consensus not reached on implementation of an Independent Review Panel. The topic will be added to the AMWG agenda for its January meeting.

Public Comment: Robert Lynch stated that the Science Advisory Board issue was not included

in the agenda. Future meeting agendas should contain all information which will be presented at the TWG and public comment requested before recommendations are made to forward issues to AMWG.

Selective Temperature Withdrawal System: Bruce Moore reported that work continues on preparing an EA and performing other studies on the low cost temperature control device alternative. The alternatives have been screened and one in which the eight intake towers are modified are estimated to cost approximately \$15,000,000. Reclamation is beginning the 2-year process of preparing bid packages and including \$10,000,000 in the FY2000 and \$5,000,000 in FY2001 budgets (from CRSP Section 8 appropriated funds). NAU completed an Benthic Ecology study which established that *Gammarus lacustris* can survive 20-degree centigrade water. The EA draft is scheduled to be out approximately December 1998. Bruce Moore stated that a monitoring and research plan should be drafted for operation of the temperature control device for FY 2001. Monitoring probably would not be required until 2002, but costs could be significant. Dave Garrett stated that it would significantly change GCMRC's five-year strategic plan, and discussion may be needed during TWG's spring meetings.

Recommendation: Dave Trueman will give periodic updates at TWG meetings, and it is on the AMWG agenda. Dave Trueman to send Dave Garrett a copy of the technical report. Contact Chris Harris if you would like to receive Larry Riley's review of the selective withdrawal process from the early 1990s which includes NEPA process information.

Public Comment: The Chairperson asked for public comment; there was none.

Flood Inundation: Bruce Moore stated that GCD is the last dam in the Upper Colorado Region maintained and operated by Reclamation which has not had an Emergency Action Plan (EAP) prepared. Reclamation policies and directives require flood and safety emergency procedures planning based upon reasonable failure scenarios. A contact book will be developed which will include all emergency numbers. Preparation of the EAP will take 1-2 years to complete and will attempt to duplicate GIS river mile cross-section data from GCMRC for consistency. The study will go as far as the upper end of Lake Mead. The contact person is Dan Grundvig (801) 524-4161. Flaming Gorge's EAP was completed within the last two years, and Bruce Moore will bring that information to the next TWG meeting. The LCR Region has an emergency contact list for potential hazardous spills; this effort could be coordinated with that contingency plan.

Criteria for Acceptable Use of Spillways: Bruce Moore reviewed 1983 flood details wherein the spillways sustained serious cavitation damage. The spillways were restored so air intake creates a cushion at the point where the water hits the concrete, allowing water to flow through without tunnel damage. Reclamation tested it in August 1984 with no cavitation damage. The gates are designed for emergency use only and not for long-term flows, due to the possibility of damage. Reclamation tests the emergency spillway gates once per year. If it was necessary to

run flows greater than 45,000 cfs it would be prudent to do it in conjunction with gate testing. Bruce Moore will bring a video showing damage done to the spillways in 1983.

Recommendation: Bruce Moore is working on preparing a technical memo to AMWG regarding operating procedures for running higher flows (*cfs level not specified*) for research and monitoring.

GCD Spillway Gate Extensions: Bruce Moore stated that the EIS recommended two methods for reducing flood frequency: reserving reservoir space and installation of flash boards. The Secretary of the Interior decided on flash boards to act as a reservoir buffer to reduce spill frequency to 1:100 years. The flash boards reserve approximately 750,000 acre feet. Reclamation is committed to permanently installing the flash boards and is prepared to begin NEPA compliance. The spillway gates have been reinforced to accommodate the additional loading, and the spillways are operational up to their maximum capacity. However, with further data from the spike flow and other sources it may be possible that the flash boards may not be necessary since large spring spills would not be viewed as negative to the ecosystem of the Grand Canyon. Wayne Cook suggested that TWG continue to discuss the issue because we are likely in a different set of circumstances now than we were at the time of the FEIS and ROD.

Recommendation: Reclamation to write an issue paper for AMWG comment at the January meeting.

Public Comment: The Chairperson asked for public comment; there was none.

Flood Release Issue Paper: (Attachment 9) Tom Moody discussed GCD release issues recommended for further study as a result of the BHBF triggering criteria subteam discussions. Revisions were made to the task group's suggestion that TWG request AMWG to charge us to formulate a scientific effort in conjunction with the GCMRC to explore the technical and institutional benefits and costs associated with BHBF's over 45,000 cfs/hr, daily fluctuations greater than 8,000 cfs, and hourly releases greater than 25,000 cfs during fluctuating flows. Also recommended that we consider all these issues at the same time.

Recommendation: Dave Cohen, Tom Moody and Clayton Palmer to further clarify and draft final changes to the "further study issues" document.

Public Comment: Robert Lynch reinforced that the document requires development of compliance with NEPA, ESA, etc.; that is an action forcing a mechanism that these resources be evaluated.

Triggering Mechanisms: (Attachment 10) Tom Moody discussed the hydrology-driven decision criteria for allowing a BHBF to be released from GCD. This criteria consists of either:

(1) a January 1 forecast of 13 MAF for the January-July unregulated inflow to Lake Powell, or (2) anytime during the January-July period that an inflow forecast causes the release of over 1.5 MAF in a month (greater than an average of 25,000 cfs). Starting each January, there will be a forecast point each month, and a decision to release a BHBF from an environmental perspective will have to be made within the following 30 days. A summary sheet of the criteria and their implications was distributed to the TWG members. Acknowledging the uncertainty associated with changing inflow forecasts, there is a strong need to create a flexible planning process to monitor the effects of future BHBFs. In this regard, Tom Moody suggested the creation of a work plan. Dave Garrett stated that the GCMRC staff could accomplish this in six months.

Recommendation: Due to the importance and technical nature of the task group triggering criteria document, TWG members are requested to review and explain this summary sheet handout to their AMWG member. If any TWG member does not fully understand this information, contact a task group team member who can assist you.

Estimated Effects on Downstream Resources from 45,000 cfs Releases from GCD January-July: (Attachment 11) Barry Gold reviewed the matrix information received from researchers wherein they rated effects to resources in a range from -3 (negative) to +3 (positive). The matrix will be sent out again to the researchers for review and evaluation. He will attempt to have the revised matrix available by January 15, 1998 to TWG and AMWG. It was discussed that a meeting of the scientists providing information might be required to fully describe potential effects on resources.

NEW BUSINESS

Formats for Electronic Transmission Ad Hoc Group: (Attachment 12) The ad hoc group formed at the last meeting has not yet met. GCMRC has implemented an AMWG/TWG Home Page which may be accessed for current GCMRC reports and information related to AMWG and TWG. Currently, documents will be available in WordPerfect, MS Word, and .html; graphics will be in .jpg format. It is planned that the web site will save costs for the TWG.

Recommendation: Committee requested documents also be made available in .pdf format. Mike Liszewski will be asked for an updated status report at a future meeting.

Action Items and Deadlines:

- Power Revenue Repayment Options and Member Reimbursement short paper (B. Moore)
- TWG Meeting Location Cost Comparison (S. Lloyd)
- TWG Operating Procedures Revision(S. Lloyd)
- State of Resources Report/TWG Comments Incorporation (GCMRC staff)
- FY99 Annual Plan Budgets/TWG Comments Incorporation(GCMRC staff)

- Annual Report to Congress/TWG Comments Incorporation (GCMRC staff)
- Roles and Integration Report Completion (C. Harris)
- NEPA/ESA Issues Task Group/TWG Recommendations Revision (P. Hyde)
- Prioritized/Itemized Budget for Criteria-Triggered BHBF Research in March 1998 (D. Garrett/GCMRC staff)
- Criteria for Acceptable Use of Spillways technical memo to AMWG (B. Moore)
- GCD Spillway Gate Extensions issue paper (USBR)
- Flood Release Issue Paper "further study issues" revisions (D. Cohen/T. Moody/C. Palmer)

Future Meeting Agenda Items: (January 1998)

- Monthly Hydrologic Forecasts (R. Peterson/T. Melis)
- Phoenix Meeting Locations Comparison (S. Lloyd)
- Roles and Integration Report (C. Harris)
- Selective Withdrawal Environmental Compliance (D. Trueman and/or T. Morton)
- Spring 1998 BHBF Environmental Compliance (B. Gold and/or T. Morton)
- November 1997 BHTF Preliminary Findings (T. Melis)
- Prioritized/Itemized Budget for Spring 1998 BHBF Research (D. Garrett)

There being no further business, the Chairperson adjourned the meeting.

Respectfully submitted,

Serena Mankiller, GCMRC Secretary

Key to Acronyms

ADWR - Arizona Department of Water Resources
AGFD - Arizona Game & Fish Department
AMWG - Adaptive Management Work Group
AOP - Annual Operating Plan
BHBF - Beach/Habitat-Building Flow
BHTF - Beach/Habitat Test Flow
BIA - Bureau of Indian Affairs
BOR - Bureau of Reclamation
CAPA - Central Arizona Project Assn.
CRBC - Colorado River Board of California
CRCN - Colorado River Commission of Nevada
CREDA - Colorado River Energy Distributors Assn.
CRSP - Colorado River Storage Project
CWCB - Colorado Water Conservation Board
EA - Environmental Assessment
EIS - Environmental Impact Statement
ESA - Endangered Species Act

FACA - Federal Advisory Committee Act
FWS - United States Fish & Wildlife Service
FY - Fiscal Year
GCD - Glen Canyon Dam
GCMRC - Grand Canyon Monitoring and Research Center
GCNRA - Glen Canyon National Recreation Area
GCPA - Grand Canyon Protection Act
IEDA - Irrigation and Electrical Districts Association of Arizona
LCR - Little Colorado River
MAF - Million Acre Feet
NAU - Northern Arizona University (Flagstaff, AZ)
NEPA - National Environmental Policy Act
NHPA - National Historical Preservation Act
NPS - National Park Service
PA - Programmatic Agreement
Reclamation - United States Bureau of Reclamation
RFP - Request For Proposal
RPA - Reasonable and Prudent Alternative
SAB - Science Advisory Board
TWG - Technical Work Group (Glen Canyon)
UCR - Upper Colorado Region (of the USBR)
UCRC - Upper Colorado River Commission
UDWR - Utah Division of Water Resources
USBR - United States Bureau of Reclamation
USFWS - United States Fish & Wildlife Service

USGS - United States Geological Survey
WAPA - Western Area Power Administration