

**Minutes of Technical Work Group Meeting  
March 16-17, 1999**

**FINAL**

**Presiding:** Bruce Moore, USBR  
**Facilitator:** Connie Rupp, USBR

**Committee Members Present:**

Clifford Barrett, CREDA  
Andres Cheama, Pueblo of Zuni  
Kerry Christensen, Hualapai Nation  
Dave Cohen, Trout Unlimited  
William E. Davis, EcoPlan Assoc. CREDA  
Kurt Dongoske, The Hopi Tribe  
Brenda Drye, So. Paiute Consortium  
Norm Henderson, GCRA  
Amy Heuslein, BIA  
Rick Johnson, GCT  
Robert King, UDWR

Tom Latousek, AR  
Don Metz, USFWS  
Bruce Moore, BOR  
Clayton Palmer, WAPA  
Bill Persons, AGFD  
Andre Potochnik, GCRG  
Randy Seaholm, CWCB  
John Shields, Wyo. State Engineer's Office  
Robert Winfree, NPS  
Fred Worthley, CRBC

**Committee Members Absent:**

Mark Anderson, USGS  
Wayne Cook, UCRC  
Alan Downer, Navajo Nation

Christopher Harris, ADWR  
Phillip S. Lehr, CRCN

**Alternates Present:**

Nancy Hornewer

**Alternate For:**

Mark Anderson, USGS

**Other Interested Persons Present:**

Nancy Andrews, NPS  
Janet Balsom, NPS  
Mary Barger, WAPA  
Debra Bills, USFWS  
Gary Burton, WAPA  
Nancy Coulam, USBR  
Dennis Gilpin, SWCA  
Richard Hereford, USGS  
Pamela Hyde, Glen Canyon Inst.  
Loretta Jackson, Hualapai Nation  
Christine Karas, USBR  
Jennifer Kunde, NPS  
Ruth Lambert, GCMRC

Lisa Leap, GRCA  
Scott Loveless, Solicitor's Office  
Ted Melis, GCMRC  
Anthony G. Morton, USBR  
Lynn Neal, SWCA  
Fred Nials, Univ. of Nevada-Reno  
Randy Peterson, USBR  
Art Phillips, Hualapai Cultural Res.  
Barbara Ralston, GCMRC  
Jim Wescoat, NRC (via phone on 3-17-99)  
Stephen Wiele, USGS  
Mike Yeatts, Hopi Tribe

**Recorder:** Serena Mankiller, GCMRC Secretary

**3/16/99:**      **Convened:** 10:04 a.m.      **Adjourned:** 4:20 p.m.

**3/17/99:**      **Convened:** 8:07 a.m.      **Adjourned:** 12:44 p.m.

## **MEETING OPENING AND ADMINISTRATIVE ITEMS**

**Welcome and Introductions:** The Chairperson welcomed the TWG members, member alternates, and guests. Bruce Moore introduced Connie Rupp, who will act as facilitator for this meeting.

A quorum being present, the meeting was called to order at 10:04 a.m. on March 16, 1999.

**Attendance:** Attendance sheets were distributed.

**Review of Agenda:** The agenda was revised and accepted.

**Review of Minutes:** Minutes of the last meeting were not yet completed. Minutes of January 11, 1999, were previously distributed. No revisions to the minutes were received.

## **OTHER ADMINISTRATIVE BUSINESS**

**Chairperson for 1999:** Compensation Issue: The group discussed at length the issue of compensation for future chairpersons. If compensation is needed, it is intended to help offset agency/organization costs when TWG responsibilities are being completed and other staffing arrangements must be made to complete the Chairperson's regular work. Payment will be made in a lump sum to the agency. On motion duly made, seconded and carried, the TWG shall "Select a chairperson and make payment not to exceed \$20,000, if needed, and the funds will be included as a line item in the AMP budget under USBR administrative costs."

**Election:** Bill Persons was unanimously elected as the new TWG chairperson through the end of 1999. The TWG wants a smoother transition for future year Chairpersons, and desires to have a Chairperson-Elect ready to take over at the end of Bill Persons' term.

**Chairperson Alternate:** The group discussed the need for the Chairperson to objectively conduct the TWG meetings and designate an alternate to vote for him/her. The alternate can speak for the chair. They become the voting member for a year. The organization gets one vote.

**Outgoing Chairperson:** Robert Winfree received a plaque and many thanks for all of his hard work as the first TWG Chairperson.

***Recommendation:*** Payment shall be made to AGFD to offset administrative costs for Bill Persons' participation as TWG Chairperson. A Chair-elect will be put in place at the TWG's mid-year meeting.

**USBR Adaptive Management Division:** The USBR has created a new Adaptive Management

Division at the UC Regional Office in Salt Lake City, Utah. Randy Peterson was selected to head the division which will be responsible for TWG activities. Mr. Peterson will replace Bruce Moore as the USBR TWG member. The administrative assistant will perform FACA-related duties. Bruce Moore will be the head of the Engineering Division. He will continue to participate in the Adaptive Management Program through the AMWG meeting in July 1999. Bill Persons thanked Mr. Moore for his work on the AMP during the last 3-4 years of the program.

**Basin Hydrology** (Attachment 1): Randy Peterson reported that most of the Basin is in the 80-90% range for precipitation. If more precipitation occurs, it will not change the hydrology much. The forecast dropped yesterday again to 80% of normal; that is down from 87% of normal on Feb 1, 1999. Lake elevation: 3678; 21.8 MAF, which is about as low as it will go this year. 1998-1999 Releases: The proposal is to decrease to an average of 11,000-12,000 cfs throughout the spring. Maximum daily fluctuations will be 6,000 cfs rather than 8,000 cfs. Lake Powell is expected to be not less than 8 feet from full at its fullest point. 1999 Releases: To benefit downstream resources, spring releases will be a little higher than expected in a minimum release year.

**Tribal Participation:** Bruce Moore stated that a meeting was held on February 9, 1999, to discuss funding for AMP participation. Attendees included all Interior agencies and WAPA, the USBR and tribal members involved in the AMP. Another such meeting is planned for August 1999. Participation was tentatively defined as 1 FTE (split any way) per year to attend meetings and review materials, and at this time covers PA related activities with the AMP. The USBR will send a letter regarding funding issues to the tribes next week. The USBR is working with other federal agencies regarding sharing the responsibility for funding. The federal agencies will meet by July 1999 to further plan funding. There may be a funding problem for FY99. We can get some of the cut monies back from the NAAO. Nancy Coulam (USBR) is working with the tribes, and Programmatic Agreement meeting is scheduled for March 18, 1999, in Phoenix, Arizona. Formal proposals are not expected from the tribes for the August meeting.

*Recommendation:* The TWG requested to review the letter before it is distributed.

**AMP Strategic Plan:** The group discussed the process outlined at the February 4-5, 1999, AMP Strategic Plan meeting. The TWG can assist in developing an AMP Strategic Plan. A need was identified for a common vision statement. Barry Gold discussed the goal of what we are trying to achieve with the resources, and suggested review of "Valued Ecosystem Components" information. The process of identifying a vision, developing an AMP Strategic Plan, and developing a clear set of MO's & IN's needs to be completed by December 14, 1999, for the January 2000 AMWG meeting.

A motion was duly made, seconded and carried: "That the TWG task an ad hoc group to define

the process, set a schedule to accomplish the AMP Strategic Plan Phase I, that the target date for completion of the AMP Strategic Plan Phase I is December 14, 1999, and the ad hoc group shall report back to the TWG at the April 20, 1999, meeting and subsequent TWG meetings." An ad hoc group was formed and named, "Strategic Plan Phase I Ad Hoc Group." Its task is contained in the above motion. The first meeting will be held March 16, 1999. E-mail communications can replace meetings. Volunteers: B. Gold, R. Johnson, D. Cohen, B. Moore, G. Burton, D. Metz, K. Dongoske, N. Henderson, B. Persons (Chair: Rick Johnson). The target date for completion of its task is mid-December 1999.

*Recommendation:* The ad hoc group shall begin work on its task and give a status report at the April 20, 1999, TWG meeting, and subsequent meetings. Scott Loveless will respond to a set of questions received from the TWG. By the first week of April a guidance document draft will be prepared.

**Management Objectives and Information Needs:** The group discussed the MO/IN process at length. The process to review and revise MO's and IN's will include conflict resolution, prioritization, detail (resolution of redundancies), and the role of the SAB.

List from the Feb 4-5, 1999, AMP Strategic Plan Meeting:

- by the first week in April a guidance document draft will be prepared
- from that we will develop an AMP Strategic Plan (MO's will be fit into this doc)-Ad Hoc Group will be formed to work on the AMP Strategic Plan
- NRC Report needs to be taken into account (June/July) - (AMWG Meeting in July)
- Review MO's and see if they fit under the guiding document for the AMP Strat Plan
- RFP Preparation for 2001 (April of 2000)
- Strategic and Annual Plan for the GCMRC
- SCORE Report (date: before the LTP is developed)
- Write/revise MO's
- Prioritize IN's
- Agree on a resource list (Table 2.7 in the EIS)/Write goals for resources (that the MO's help achieve)
- Develop a common vision statement for the river
  - are the valued ecosystem components there and the way you want them to be? These may not be mutually exclusive
  - This will help the scientists prioritize their research efforts.
- The EIS envisioned the canyon as a naturalized system, but this vision was never really ratified by the TWG MO Ad Hoc Group. There was some groundwork laid in the beginning of the MO process, but never got condensed to a few sentences. Can it be related to the PA?
- Resolve the dilemma of conflicting MO's
- How to Develop a Vision?

- MO/IN's Process: Conflict Resolution; Prioritization; Detail; SAB Role

### Timeline

1. Draft AMP Guiding Document (before 4/99 TWG Meeting)
2. Develop a Vision Statement
3. AMP Strategic Plan
4. Write Goals for Resources (valued ecosystem components)
5. Write/Revise MO's
  - Resolve dilemma of conflicting MO's
6. Prioritize IN's

### Priority Tasks Process

1. AMP Guidance Document: TWG Ad Hoc (Winfrey/Moore/Loveless)
2. AMP Strategic Plan Phase I: TWG Ad Hoc Groups w/consultant support?
3. Vision statement
4. Goals for Resources (Valued Ecosystem Components - list resources/processes)

**FY2001 Budget:** (Attachment 2) Barry Gold and Bruce Moore reviewed the overall FY2001 budget, and explained several areas of detail. Tribal AMP participation was included at \$350,000 (5 tribes multiplied by \$70,000). The tribes may use the money for attending the adaptive management meetings or for doing monitoring (or both). The \$70,000 includes adaptive management program participation and a general number of \$15,000 for one annual river trip involving projects that the tribes will decide on. These figures are not firm and can still be discussed. GCMRC FY2001 Program and Operating Costs are \$6,915,000. The total including Bureau of Reclamation AMP Support is \$8,258,000.

### **Cultural Resources Presentations:** (Attachment 3a, Agenda-Cultural Resource Presentations)

Presentations were given by several GCMRC contracted researchers and parties to the PA (which includes NPS units and tribes) on their findings thus far into their research projects. The session was videotaped, and the video may be borrowed from the GCMRC Library. Jim Wescoat (NRC) listened to the presentations (via speaker phone) and asked questions so he could obtain the most up to date information for the report on GCMRC.

Loretta Jackson and Art Phillips (Hualapai): "Hualapai Traditional Cultural Resources and Ethnobotanical Studies." Loretta Jackson gave a CD presentation on issues of cultural

importance. They are interested in eradicating exotic species in the canyon, even though the tribe has used these species. One copy each of the CD will be provided to the GCMRC and to the USBR. Art Phillips and Loretta Jackson gave a slide presentation on ethnobotanical studies. Botany has been used as a tool to evaluate and assess five sites important to the Hualapai people. Needed habitat renewal was achieved in the 1996 experimental flood. Some fluctuation in water levels has a positive effect for these areas.

Steve Wiele (USGS): "Cultural Resource Applications of Flow and Sand Transport Modeling." Mr. Wiele gave a status update on his project.

Richard Hereford (USGS, former researcher for GCES & BOR): "Geomorphic Erosion at Pre-Dam River Terraces." Mr. Hereford gave a presentation on erosion of archaeological sites and terraces. Many of the terraces are above 300k cfs level. Dam operations seem to affect the erosion of arch sites.

Andre Potochnik gave a presentation on geomorphic processes and terrace site degradation. He showed preliminary results which appear to support the Hereford hypothesis that dam operations exacerbate natural processes to erode terraces that contain cultural deposits. He is working on a geomorphic process to test Richard Hereford's geomorphical hypothesis. Mr. Potochnik is working on a model to predict areas that would be subject to the erosion hypothesis and the model will be tested on a April 1999 trip. Qualitative data are needed to substantiate findings.

Norm Henderson (GCNRA): "Overview of 1998 Cultural Resource Work in the Glen Canyon Reach." GCNRA cultural resources activities include monitoring of: lithic and shard scatter; roasters; measurable gullying; bank slumpage; remedial action; revegetation of trails & screening; check dams; rerouting of trails; Spencer Steamboat. In 1999, the Navajo Nation will continue monitoring effort. The stationary canyon project was conducted in 1998-1999, and the activities and analysis will continue. Mitigation efforts are planned for 1999 and implementation of the data plan in 2000.

Lynn Neal (SWCA, Inc.): "Results of a Cultural Data Synthesis within the Colorado River Ecosystem." 338 sites are within the area of potential effect (300 cfs level). Data are being obtained on erosional, physical, and visitor impacted areas. Data are being collected and tabulated. The data indicate a shift of emphasis to data recovery efforts. Monitoring program personnel are focusing their efforts on a smaller number of the most disturbed/vulnerable sites, and are not monitoring inactive sites. Many resources can be lost without a continuation of monitoring, but there needs to be a corridor specific research design. The TWG needs to know what the most current important resources questions are, as well as a determination of which sites

are being eroded by GCD operations.

Lisa Leap (GCNP): made a presentation on "Cultural Resource Monitoring within the River Corridor of GCNP."

Andres Cheama (Pueblo of Zuni): "Zuni Traditional Conservation Techniques within the Colorado River Corridor of GCNP." Mr. Cheama presented on Zuni remediation efforts, including a heavy use of check dams in the runoff areas of archaeological sites.

Kurt Dongoske and Michael Yeatts (Hopi Tribe) (Attachment 3b): "Hopi Perspectives on the Grand Canyon and Hopi Ethnobotanical Work." Kurt Dongoske presented results & recommendations from GCD EIS regarding Hopi research, including: protection of sites, religion, and values; continuing involvement in Grand Canyon management; long term perspective for environmental monitoring and assistance with AMP participation. Jim Wescoat asked about management concerns and Mr. Dongoske feels that management concerns have been articulated throughout the studies. Michael Yeatts gave an explanation and objectives of the Hopi Ethnobotanical inventory project which was originally 77 plants and 15 more have been added.

Brenda Drye (Southern Paiute Consortium): "Southern Paiute Traditional Resources." The cultural resources data base is located on the Kaibab reservation. They are working on the Paiute plant guide book. She presented changes in the canyon from the elders' stories from their grandparents, which is one method of monitoring. They have participated in several other agencies' studies have given presentations at the GCNP. She reminded the TWG that Jim Garrison (SHPO) will discuss cultural properties at the PA meeting tomorrow.

Nancy Coulam (USBR): gave a presentation on "Programmatic Agreement Historic Preservation Plan Status Update."

**ESA Presentation:** Debra Bills (USFWS) reviewed the Endangered Species Act consultation process. The Act says the purpose of the ESA is to provide a means whereby the ecosystems upon which the endangered and threatened species depend may be conserved, and to provide a program for the conservation of such species. Federal agencies are supposed to use their authority to remove these species from the Endangered Species list. If there is an incidental take level identified with a federal action, the agencies need to identify how they have developed a program for the conservation of that species. When writing a BO, the FWS is speaking for the Secretary. Regulations can be reviewed regarding conducting a consultation or evaluating the conduct of a consultation. The regulations are in the Federal Register notice dated June 3, 1986.

Other policies, definitions of "may affect," etc., are contained in later publications in the Federal Register. She reviewed recommendations for contents of BE's and BA's. Debra Bills is available to answer questions or clarify information for the TWG.

List of Attachments:

- 4a: ESA Presentation "Consultation"
- 4b: ESA Presentation "Endangered Species Act Consultation Process" (Flowchart)
- 4c: "Fish & Wildlife Service, Arizona Ecological Service Field Office Recommendations for Contents of Biological Evaluations and Biological Assessments"
- 4d: "Endangered Species Act of 1973" (booklet)

**Public Comment:** Public comment was requested after discussion of major topics. Any comments received are identified under the specific topics in these minutes.

**OTHER BUSINESS/UPDATES**

1999 Report to Congress: Randy Peterson stated that the report has been prepared which covers the operation of the reservoir for 1998 and proposed operation in 1999. The TWG requested to review and comment on it. Mr. Peterson will provide copies to the TWG. Next year the report will be finalized in October.

*Recommendation:* The TWG may submit comments within two days. The report will then be forwarded to Washington, D.C.

Spill Avoidance Ad Hoc Group: The group will meet following the adjournment of the TWG meeting on March 17, 1999.

Data Base Manager: GCMRC is seeking a database manager with Oracle experience. Referrals are welcome. Advertising will begin April 26, 1999.

Science Symposium: Ted Melis requested input from the TWG on how future science symposiums can be improved.

AMP Strategic Plan Questions/Comments: Specific agency comments or questions regarding the

AMP Strategic Plan or legal issues must be submitted in writing by the TWG members to Scott Loveless. He may be contacted via telephone for minor questions. Robert Winfree has received one comment on the draft outline for the AMP Guiding Document which is being developed by a small group prior to TWG discussion.

AMWG River Trip: This topic will be discussed at the next meeting.

Next TWG Meeting: The next meeting will be held on April 20-21, 1999, at the Embassy Suites in Phoenix, Arizona.

Future TWG Meetings: A meeting was not scheduled for May 1999. A one-day meeting was scheduled for June 8, 1999, from 9 a.m. to 5 p.m., at a location to be determined in Phoenix, Arizona. The purpose of the meeting will be to review documents and obtain final TWG approval for inclusion in the 30-day mailing to AMWG. We will also discuss the TWG's agenda for the AMWG's July meeting.

Additional TWG Meeting: Barry Gold stated that an additional TWG meeting may be needed prior to July.

*Recommendation:* An official TWG meeting was scheduled for June 8, 1999 from 10 a.m. to 5 p.m. in Phoenix. The USBR will cause a notice to be published in the Federal Register.

Respectfully submitted,

Serena Mankiller, GCMRC Secretary

## General Key to Adaptive Management Program Acronyms

ADWR - Arizona Department of Water Resources  
AF - Acre Feet  
AGFD - Arizona Game & Fish Department  
AGU - American Geophysical Union  
AM - Adaptive Management  
AMP - Adaptive Management Program  
AMWG - Glen Canyon Adaptive Management Work Group (a FACA committee)  
AOP - Annual Operating Plan  
BA - Biological Assessment  
BE - Biological Evaluation  
BHBF - Beach/Habitat-Building Flow  
BHMF - Beach/Habitat Maintenance Flow  
BHTF - Beach/Habitat Test Flow  
BIA - Bureau of Indian Affairs  
BO - Biological Opinion  
BOR - Bureau of Reclamation  
CAPA - Central Arizona Project Assn.  
cfs - cubic feet per second  
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  
DBMS - Data Base Management System  
DOI - Department of the Interior  
EA - Environmental Assessment  
EIS - Final Environmental Impact Statement  
ESA - Endangered Species Act  
FACA - Federal Advisory Committee Act  
FEIS - Final Environmental Impact Statement  
FRN - Federal Register Notice  
FWS - United States Fish & Wildlife Service  
FY - Fiscal Year (Oct 1 to Sept 30 each year)  
GCD - Glen Canyon Dam  
GCMRC - Grand Canyon Monitoring and Research Center  
GCNP - Grand Canyon National Park  
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 native snail)  
KAWG - Kanab Ambersnail Work Group  
LCR - Little Colorado River  
LCRMCP: Little Colorado River Multi-Species Conservation Program  
MAF - Million Acre Feet  
MA - Management Action  
MO - Management Objective  
NAAO - Native American Affairs Office  
NAU - Northern Arizona University (Flagstaff, AZ)  
NEPA - National Environmental Policy Act  
NGS - National Geodetic Survey  
NHPA - National Historical Preservation Act  
NPS - National Park Service  
NRC - National Research Council  
NWS - National Weather Service  
O&M - Operations & Maintenance (USBR funding)  
PA - Programmatic Agreement  
PEP - Protocol Evaluation Panel  
Powerplant Capacity - 31,000 cfs  
Reclamation - United States Bureau of Reclamation  
RFP - Request For Proposals  
RPA - Reasonable and Prudent Alternative  
SAB - Science Advisory Board  
Secretary('s) - Secretary of the Interior  
SWCA - Steven W. Carothers Associates  
TCD - Temperature Control Device (for Glen Canyon Dam water releases)  
TCP - Traditional Cultural Property  
TES - Threatened and Endangered Species  
TWG - Glen Canyon Technical Work Group (a subcommittee of the AMWG)  
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  
WY - Water Year (a calendar year)