

**Minutes of Technical Work Group Meeting
February 18, 1999**

Presiding: Bruce Moore (Chairperson)

Committee Members Present:

Andres Cheama, Pueblo of Zuni
Kerry Christensen, Hualapai Nation
Dave Cohen, Trout Unlimited
Wm. E. Davis, EcoPlan Assoc. CREDA
Kurt Dongoske, The Hopi Tribe
So. Paiute Consortium by (Brenda Drye)
Norm Henderson, GCRA
Rick Johnson, Grand Canyon Trust

Tom Latousek, American Rivers
Don Metz, USFWS
Bruce Moore, USBR
Bill Persons, AGFD
Andre Potochnik, GC River Guides
Randy Seaholm, CWCB
Robert Winfree, NPS/GCRA

Committee Members Absent:

Mark Anderson, USGS
Clifford Barrett, CREDA
Wayne Cook, UCRC
Alan Downer, Navajo Nation
Christopher Harris, ADWR
Amy Heuslein, BIA

Robert King, UDWR
Clayton Palmer, WAPA
Phillip S. Lehr, CRCN
John Shields, Wyo. State Engineer's Office
Fred Worthley, CRBC

Alternates Present:

Nancy Hornewer, USGS
Gary L. Burton, WAPA

Alternate For:

Mark Anderson, USGS
Clayton Palmer, WAPA

Other Interested Persons Present:

Timothy Begay, Navajo Nation
Debra Bills, USFWS
Pamela Hyde, Glen Canyon Inst.
Christine Karas, USBR
Ruth Lambert, GCMRC
Mike Liszewski, GCMRC
Ted McKinney, AGFD

Tony Morton, USBR
Loren Panteah, Pueblo of Zuni
Randy Peterson, USBR
Tom Pittenger, NPS
Jeff Sorensen, AGFD
David Trueman, USBR
Bill Vernieu, GCMRC

Recorder: Serena Mankiller, GCMRC Secretary

2/18/99: Convened: 8:12 a.m. **Adjourned:** 12:36 p.m.

MEETING OPENING AND ADMINISTRATIVE ITEMS

Welcome: Bruce Moore, the Co-chairperson, convened the meeting and welcomed committee members, member alternates, and guests. A quorum was not present until 8:20 a.m. No business

requiring decision by a quorum was conducted before that time.

Review of Agenda: A new agenda was drafted and approved.

Attendance Sheets: Distributed.

Review of Minutes: (Attachment 1) Minutes of December 8, 1998, were available for review.

Recommendation: Submit any revisions to the GCMRC Secretary within one week.

ADMINISTRATIVE BUSINESS

Additional TWG Meeting: Bruce Moore announced that the February 23-24, 1999, Annual Plan Workshop/Ad Hoc Group Meeting has been changed to an official TWG meeting. A notice was published in the Federal Register.

List Serve: The TWG is still interested in setting up a list serve for this committee and ad hoc group use. Two TWG members have investigated the possibility and have encountered difficulty regarding security parameters within their existing systems.

Spill Avoidance Ad Hoc Group: The ad hoc group will meet on March 16, 1999, at 7 p.m. at the Embassy Suites in Phoenix, Arizona.

Lake Powell MO's & IN's: Norm Henderson reported that the Lake Powell Split Ad Hoc Group met on January 12, 1999. He distributed the proposed IN split to that ad hoc group on January 25, 1999. One set of comments was received. He distributed copies of the proposed split to the TWG (Attachment 2). He distributed a list of dates for the upcoming process (Attachment 3). The process includes GCMRC development of an annual plan to forward to the BOR, then the TWG, through a protocol review and final AMWG approval. To obtain the AMWG's approval on the draft at its meeting July 21-22, 1999, it will need to be approved by the TWG before June 21, 1999. Mr. Henderson reviewed a chronology of expected actions, and revisions were made to the list. The TWG discussed several issues at length, including the proposed TCD and its work plan, GCMRC's FY2000 water quality work plan, GCMRC's revision of the five-year integrated water quality plan, AMP versus Reclamation O&M funding sources, and program boundaries. Some members felt that a summary from the AMP Strategic Plan Ad Hoc Group meeting held on February 4-5, 1999, needs to be received and reviewed prior to approval of the split categorizations. The AMP Guiding Document draft may help to facilitate approval. Some members felt they may not agree with the Solicitor's Office analysis. The group was not prepared to vote immediately on this recommendation from the Lake Powell Split Ad Hoc Group, and decided to defer the vote on the split categorization until the next TWG meeting. The TWG requested that future agenda items requiring a vote be noticed 1-2 weeks in advance.

Recommendation: The TWG shall vote on the Lake Powell split categorization (document dated January 25, 1999) at its February 23-24, 1999, meeting. The TWG was encouraged to submit to the GCMRC Secretary comments and concerns by Friday, February 19, 1999, for distribution to the full TWG prior to the February 23rd vote. Mr. Henderson will revise the chronology this week and it will be distributed to the TWG.

Fluctuating Flows (BHBF): Fluctuating flows and load following experiment issues were discussed at length. A motion was made and seconded for the TWG to consider, "whether we should pursue environmental compliance and be ready to run a load following experiment after a BHBF in May, June or July in Water Year 99 if the hydrologic opportunity presents itself." Said motion failed to carry (Vote: *Yes: 3; No: 14*). The group felt that next year may be a better time to couple a BHBF with a load following experiment. The TWG is interested in exploring the issue of load following. It was suggested that this be accomplished through an ad hoc group process. A motion was made and the group was formed. People who are not participating in this ad hoc group or the TWG committee may submit ideas for flow scenarios within the programmatic approach (to this ad hoc group) for consideration. The following people volunteered to participate in the Experimental Flows Ad Hoc Group (others may join):

D. Cohen	K. Dongoske	D. Metz	B. Ralston
C. Barrett	B. Gold	T. Morton (interested party)	USBR rep
D. Bills (interested party)	N. Hornewer	C. Palmer	B. Winfree
G. Burton	R. Johnson (Chair Asst.)	B. Persons (Temp Chair)	
W. Cook	T. Latousek	R. Peterson (tech res)	
B. Davis	T. Melis (tech resource)	A. Potochnik	

Recommendation: A motion was duly made, seconded and carried, "to convene an ad hoc group to develop an array of flow experiments and draft proposed actions for future Water Years using a programmatic approach." (Vote: *For: 16; Against: 1*). The "Flow Experiments Ad Hoc Group" first meeting will be held on February 23, 1999, from 6:30-7:30 p.m. at the Embassy Suites in Phoenix, Arizona. A chairperson will be elected at the first meeting. The second meeting is scheduled for March 17, 1-4 p.m. at the Embassy Suites in Phoenix, Arizona.

Hydrology Report: Randy Peterson stated that current releases are 15,000 cfs/hr, which will continue through March 1999. Releases are expected to drop to 11,000 cfs in April and May 1999. Releases are currently planned to be increased to 13,000-15,000 cfs for June, July and August. Current basinwide snowpack is in the range of 90% of normal. The Lake Powell reservoir is expected to be 6 feet from full in July 1999. The NWS spring runoff forecast is in the mid-80's, which indicates that a BHBF is not likely in WY99. However, a wet spring may force an unexpected BHBF, possibly in June. Load following is uncertain. If the forecast error which triggered the BHBF were large (2-3 MAF), high inflows and continued high releases through the summer with an average load following of 25,000 cfs would be expected. This scenario is currently unlikely. If a trigger were to occur with a low forecast error (a few hundred thousand AF), inflows may not be very high and load following releases may average 15,000-20,000 cfs.

Results of Science Symposium: The Chairperson thanked GCMRC for a well-organized symposium. It was well attended by the TWG. The group discussed some of the information presented by the researchers, including native fish population baseline data. Barry Gold and Bill Persons confirmed that baseline data exists, but all of the data collected has not yet been completely synthesized and analyzed. Several data bases are located in different agencies, and some inconsistencies (e.g., locations, age classes) in data collection methods have been identified. Barry Gold stated that 2,000 PIT tag records data have been processed. The remaining 3,000 records will go to the conceptual modeling contractors in FY99 to complete the baseline data set of 5,000 tags. A proposal on monitoring of non-native fish abundance and distribution will be implemented in FY2000. New techniques will be tried rather than costly traditional monitoring. The scientists felt that more emphasis is needed on non-native population control efforts. Special emphasis will be placed on native fish genetics and distribution analyses. Biological resources monitoring and research priorities need to be refined. A suggestion was made to assist in achieving consistent long-term data collection methods. GCMRC's RFPs should specify information requirements rather than an array of information needs. Barry Gold said the research objectives are clearly stated in the RFPs. They meet the NRC-specified goal to include research objectives that allow scientists to use their intellectual creativity for how they plan to produce information to meet the objectives. The monitoring objectives include more specific requirements for measurement, methods and timing, and also goes through the PEP process. The symposium scientists want a more focused direction regarding information needs from the TWG and the AMWG. It was suggested that more integration amongst the scientists of the multiple focuses of this AMP would be a positive future goal. Some scientists think it would improve their sense of the leadership and focus if they know how the different variables in their research are integrated by non-field research personnel and presented to the TWG. A suggestion was made that GCMRC develop a coordinated/integrated/comprehensive monitoring plan, and possibly the PEP may be utilized to investigate this matter. Concern was expressed that the cultural program presentations were less well attended than the biological and physical program presentations. If this program's focus and funding is mainly biologically and physically oriented, the tribes may be faced with the decision to either use their funding to participate in the AMP process or address tribal cultural resource concerns.

A motion was made and seconded for "the science center to host an annual science conference." Said motion failed to carry (Vote: *Yes: 3; No: 13*). Discussion on the motion included that an annual symposium would promote closer cooperation and personal relationships amongst the TWG, GCMRC and researchers. A portion of the cost of this year's symposium was included in GCMRC's contracts as a mid-project report from the researchers. An additional symposium within the two-year contracts would have to be fully funded. Another suggestion was made to conduct a bi-annual science symposium including GCMRC-contracted researchers, the TWG, and the public. The researchers can share more comprehensive results of their ongoing projects on a biannual basis. They may be less willing to participate in an annual symposium. It was suggested that future symposiums be arranged by more TWG volunteers, fewer GCMRC staff, or funded by multiple agencies. A suggestion was made for the next science symposium to have a TWG or

AMWG representative give a presentation about Glen Canyon AM, share the program's vision, and its MO's and IN's. Electronic conferences are a possibility. The group was reminded that GCMRC provides an annual synthesis of research findings to the TWG, and this group is always invited to attend the PEP reviews. The TWG would like to continue to receive updates if a major event occurs.

Recommendation: The TWG reinforced that communication amongst managers and scientists is important and recommended improving communications in both directions by conducting regular science symposiums, use of list servers, and whatever other methods may help achieve this goal. The issues identified regarding research prioritization for information needs and RFP content will be addressed during the upcoming annual MO and IN process.

Kanab Ambersnail: Jeff Sorensen (AGFD) requested approval to conduct a KAS Workshop and Expert Review Panel for the TWG. It will be scheduled for August or September 1999. Funding for the one-time workshop is needed. The TWG expressed positive feedback. The TWG requested that the panel produce a draft report prior to conclusion of the meeting and that a post-workshop written report also be provided to the TWG. Robert Winfree offered a no-cost meeting room at NAU. GCMRC also offered a no-cost meeting room and use of its audio-visual equipment, if the meeting is held in Flagstaff. A Conservation Biologist is to be added to the panel. The Proposed Objectives and Questions document (Attachment 4, dated February 16, 1999) was discussed at length, and Mr. Sorensen noted the TWG's comments.

Recommendation: The TWG approved Jeff Sorensen to proceed with arrangements for the KAS workshop and panel as outlined above. WAPA and the USBR will provide funding of \$15,000 each (50/50 split; not to exceed \$30,000). This approval is dependent upon the list of Proposed Objectives/Questions being expanded according to today's TWG feedback and provided to the TWG in the near future.

NRC Update: Barry Gold gave feedback about the GCMRC Review preliminary findings given during the NRC meeting held on February 12, 1999.

AMP Guiding Principles: Bruce Moore and Robert Winfree are developing this document from discussions at the February 4-5, 1999, meeting. He distributed a GCD AMP Guiding Document draft outline dated February 17, 1999 (Attachment 5).

TWG Chairperson Roles and Responsibilities: The Chairperson role and responsibilities was discussed by Robert Winfree. He distributed an updated document, "TWG Roles and Responsibilities . . ." (Revised Draft dated 1-5-99), (Attachment 6). The TWG did not nominate a new Chair.

Recommendation: The TWG shall submit any comments on the Chairperson roles and responsibilities document by March 5, 1999, to Robert Winfree and Bruce Moore.

AMWG River Trip: Barry Gold gave an update on the AMWG Resource Orientation Trip scheduled for May 15-22, 1999.

FY2000 Annual Plan Meeting: This item was deferred to the February 23-24, 1999, TWG meeting.

Public Comment: Public comment was voiced during the meeting and incorporated in the text of these minutes. A call for public comment was made after each major topic.

Adjournment: There being no further business, the Chairperson adjourned the meeting at 12:36 p.m.

Respectfully submitted,

/s/

Serena Mankiller, GCMRC Secretary

TWG SCHEDULING & ACTION ITEMS CALENDAR
 (Identified at TWG Meeting Feb. 18, 1999)

#	Topic/Issue for Discussion/Decision	Action Items (if applicable)	Action Dead-line	Person/Group Responsible	For Meeting Date
1	Lake Powell - MO's & IN's: -split categorization comments -chronology process	-Submit comments to GCMRC Secretary for distribution to full TWG	By Feb 19	TWG	Feb 23
		-Norm will revise chronology this week & Serena will dist to TWG	ASAP		
	-decide on split	Vote	Feb 23		
	-Lake Powell Annual Plan -needs to be developed	GCMRC to develop draft white & gray areas FY2000 Monitoring & Research Plan	By 4/1	GCMRC	AMWG July '99 decision
		Send to TWG & AMWG 6/21. TWG to approve prior to AMWG meeting & give recommendation.	before June 21	TWG	
2	AMP Guiding Principles -AMP SP meeting held on Feb 4-5, 1999	Review questions from ad hoc meeting. Provide clarification or add'l questions to S. Loveless.	by Feb 26	TWG	Apr 20
	-draft Guidance doc (dated Feb 17, 1999)	-submit comments to B. Moore or R. Winfree	by Mar 1		
3	TWG Chairperson -roles & responsibilities	Submit comments on R&R's to R. Winfree & B. Moore	by Mar 5	TWG	Mar 16

General Key to Adaptive Management Program Acronyms

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