

**Technical Work Group  
January 19, 2000  
Phoenix, Arizona**

**Presiding:** Rick Johnson, GCT (Chairperson)

**FINAL**

**Committee Members Present:**

Clifford Barrett, CREDA  
Andres Cheama, Pueblo of Zuni  
Kerry Christensen, Hualapai Tribe  
Wayne Cook, UCRC  
Wm. Davis, EcoPlan Assoc/CREDA  
Kurt Dongoske, The Hopi Tribe  
Brenda Drye, So. Paiute Consortium  
Amy Heuslein, BIA  
Rick Johnson, GCT  
Matt Kaplinski, GCRG

Robert King, UDWR  
Phillip Lehr, Colo. River Comm./Nevada  
Don Metz, FWS  
Bill Persons, AGFD  
Randall Peterson, USBR  
Mindy Schlimgen-Wilson, Am. Rivers  
John Shields, WY State Engr. Office  
Robert Winfree, NPS  
Fred Worthley, CRBC

**Committee Members Absent:**

Mark Anderson, USGS  
Dave Cohen, Trout Unlimited  
Alan Downer, Navajo Nation  
Christopher Harris, ADWR

Norm Henderson, GCRA  
Randy Seaholm, CWCB

**Alternates Present:**

Nancy Hornewer  
Robert Begay  
Gary Burton

**Alternate for:**

Mark Anderson, USGS  
Alan Downer, Navajo Nation  
Clayton Palmer, WAPA

**Other Interested Persons Present:**

Mary Barger, WAPA  
Shane Collins, WAPA  
Nancy Coulam, USBR  
Barry Gold, GCMRC  
Peter Evans, CWCB  
Dennis Kubly, USBR  
Ruth Lambert, GCMRC

Mike Liszewski, GCMRC  
Robert S. Lynch, Attorney  
Clay Nelson, AGFD  
Ted Melis, GCMRC  
Mary Orton  
Barbara Ralston, GCMRC  
Tom Ryan, USBR  
Jeff Sorensen, AGFD

**Recorder:** Linda Whetton, USBR

## **Meeting Opening and Administrative Items**

**1/19/00: Convened:** 1:00 p.m.

**Adjourned:** 3:20 p.m.

### **Welcome and Introductions**

The Chairperson welcomed the TWG members, member alternates, and guests. All introduced themselves. The Chairperson determined there was a quorum established.

**Attendance:** Attendance Sheets were distributed ([Attachment 1](#) - List of Attendees)

**MOTION:** Approve Dec. 7-8, 1999 meeting minutes. Linda Whetton will incorporate changes and finalize minutes. Motion seconded and passed.

**Hydrology/Spring Runoff Forecast** - Randy Peterson stated that as a result of very low snowpack, there is now an opportunity to conduct a test of the low steady flow component of the Biological Opinion Reasonable and Prudent Alternative. Reclamation has the responsibility for complying with the opinion and is seeking comments or concerns in designing a test that would significantly benefit the native fish.

Tom Ryan reported there are dry conditions in the basin and presented an overhead of the snow map as forecasted by the NWS as of Jan. 18, 2000. There is very little snowpack in the San Juan River basin. There is some potential for runoff in the Upper Green and Yampa and the headwaters of the Colorado River. At present, the integrated snow water equivalent average for the Colorado River Basin is 60%. The January 1 forecast by the NWS of the April-July runoff was 52% of average, 4 maf, and there has never been an April-July forecast issued in January that was that low. That's remarkable in terms of the impact it has on Reclamation's operation. The forecast received on Jan. 14 was increased to 4.5 maf which is 58% of average. Tom said a lot can happen between January and what you actually see in the April-July runoff. He cautioned not to look at the January forecasts as being indicative of what the year will be and presented an overhead which showed some deviations.

Reclamation takes the NWS forecasts and inputs into their models and then determines how they are going to operate a facility. They run three alternate hydrologic scenarios in January ([Attachment 2a](#)). With the 4.5 maf mid-month January forecast, they come very close to an 8.23 maf minimum objective release year at Glen Canyon ([Attachment 2b](#)).

Tom presented another graph which showed some possible ways that the release volumes could be adjusted so that they could implement some kind of a test of low steady summer flows ([Attachment 3](#)). This is a strictly a hypothetical exercise at looking at how releases could be reorganized to perhaps meet some of the objectives of making sufficient progress toward the Reasonable and Prudent Alternative.

### **Compliance Issues During FY 2000**

**BHBF Biological Assessment** - Dennis Kubly said that as the prospect of an 8.23 maf year increases, the likelihood of having the conditions necessary for a BHBF diminish. There is a draft Biological Assessment completed but it hasn't been sent to the FWS yet. The compliance they have previously completed for the March-April period would cover those two months. The draft BA covers the period May-July with Feb. 1 a decision point. The information that Tom has been gathering is very important to them in assessing the likelihood of the two scenarios, one in which we would have the BHBF and the other in which we would be moving towards a program of experimental flows characterized by LSSF.

Copies of the "Native Fish Group: An Approach to Removal of Jeopardy from Native Fishes in the Grand Canyon," ([Attachment 4](#)) were distributed. It has been over 20 years since the issuance of the first BO which had in it a jeopardy for native fishes and characterized that time period as being reactive than proactive, particularly on the part of Reclamation and FWS. They are seeking to move beyond that in the spirit of adaptive management to develop a native fish work group which will be a technical body having a core of primarily agency biologists but also supplemented by academicians and consultants having the expertise needed to put together a program of management actions to remove jeopardy from native fish in the Grand Canyon. Once there is concurrence between physical scientists, lower trophic level scientists, and the native fish work group, then the proposal would come up through the Technical Work Group as a review body.

**Native Fish Work Group** - Barbara Ralston reviewed the schedule of the long term monitoring plan development group. There is a need to look at historical data to determine the value of that data in relationship to baseline information for native fish, as well as how that data is going to be incorporated into a long-term monitoring effort. They also need to consider how they will maintain monitoring within the mainstem that characterizes native fish parameters, such as recruitment, spawning, and habitat conditions.

There was a lengthy discussion on whether the monitoring could be completed in the time frames presented, the difference between monitoring and testing, as well as the members' dissatisfaction of having not received a complete copy of the document (pages missing) in advance of the meeting so there was adequate time to review and advise their AMWG representative.

**Action:** Barry will provide a new set of copies and it will be on the AMWG agenda (1/21/00) for discussion.

**Testing of Low Steady Summer Flows in FY 2000** - Dennis reviewed what was in the RPA with respect to the flows: The FWS has stated that Reclamation needs to develop a program of experimental flows that are characterized by at least two facets, one being high spring flows and the other being low summer flows. Barbara showed the hydrograph presented by Rich Valdez in

the TWG Sept. 1999 meeting. The hydrograph starts in March and goes through March so it crosses over water years. The graph is divided into three sections. The first section has a high discharge followed by low steady flows in sections 2 and 3. These sections are split up based on native fish life histories. The hypothesis is that the high spring runoff will have created shoreline habitats like backwaters and as the hydrograph is reduced, those habitats will become available to the young fish to utilize. Habitats such as backwaters might not necessarily be needed until later in the season (June-Sep.) when fish are moving from the tributaries into the mainstem. They are also proposing that the 8,000 cfs be maintained again through March as a way of providing stable shoreline habitat for the young fish as well as maintaining productivity through the wintertime as these fish grow from the larval stage. Barbara passed out copies of "The Influence of Dam Discharge on Water Temperature" ([Attachment 5](#)).

**Comments and Concerns Raised (Flip Chart):**

- Question about temperature and pooling effect at LCR for various flows
- look at habitat up the LCR
- if peak spring flows were up to 45,000 cfs, backwater effects would be greater additional benefits
- concerns of low flows during monsoon season Jun-Sep might escalate head cutting from tributaries. Also, consider benefits of BHBF deposition.
- displacement of non-natives w/high flows
- monitoring of non-native species important
- consider equalization impacts on fall spike
- 45K BHBF is based on spill avoidance
- low release annual volumes are set by law
- is the baseline data there to do test?
- will monitoring plan be in place?
- will test count as 1 of the 5 years required (are 5 tests required?)
- let GCMRC develop plan w/work groups then get TWG comment
- good opportunity to test 8000 low flow, but consider conducting BHBF
- is BO flow being considered starting May 1?  
what will test hydrograph look like given tradeoff between spring and lower summer flows, preference is to keep summer flow >8,000 cfs
- is it necessary to test consecutive 3 years, or is it the first of several years?
- plans and products are not yet in place. Use this year for data analysis/monitoring plan development
- finite amount of time to decide

**Action:** The above comments will be given to the Native Fish Work Group (NFWG) or the GCMRC to address. If there are more comments, get to Randy by the end of the week.

## **TWG and AMWG Ad Hoc Group Updates**

**TWG Experimental Flow Group** - Rick Johnson said that he talked with a few people and they felt that they needed to wait until the MO development process continues on before they can really make much progress with that group. It is idling at this point in time. If there are any ideas on how to move forward with this, provide comments to him.

**AMWG Strategic Plan / Goals Group** - Rick Johnson outlined the steps needed in order to get the MOs ready for presentation to the AMWG in April 2000 ([Attachment 6](#)).

### **Comments and Concerns Raised (Flip Chart):**

- have TWG meeting to discuss draft MOs - sufficient lead time for review
- review existing MOs and EIS table 2-7

Rick said that the schedule should be determined and hopefully on Friday the dates can be set. Mary Orton said the ad hoc group would like to see an interim approval of the goals.

Rick said the second thing the AMWG Ad Hoc Group recommended to the full AMWG is that the Downstream Ad Hoc Group address the socio-economic concerns that are in the downstream report.

**Kanab Ambersnail Panel Report** - Jeff Sorensen presented results and recommendations from the KAS Workshop ([Attachment 7](#)). He reviewed how the review panel was formed, their objectives, information that was given to them, and the recommendations they provided. He has solicited comments from those involved and once the KAWG has met and reviewed them, he could make another presentation to the TWG, perhaps in March.

## **Public Comment and Wrapup**

Matt Kaplinski said he placed a Fact Sheet on the back table. If there are any comments on how the material is presented, give those to him, Ted Melis, or Barry Gold.

Adjourned at 3:20P

**Technical Work Group  
January 21, 2000  
Phoenix, Arizona**

**Presiding:** Rick Johnson, GCT (Chairperson)

**Committee Members Present:**

Clifford Barrett, CREDA  
Andres Cheama, Pueblo of Zuni  
Wm. Davis, EcoPlan Assoc./CREDA  
Kurt Dongoske, The Hopi Tribe  
Brenda Drye, So. Paiute Consortium  
Norm Henderson, GCRA  
Amy Heuslein, BIA  
Rick Johnson, GCT  
Matt Kaplinski, GCRG

Phillip Lehr, Colo. River Comm./Nevada  
Don Metz, FWS  
S. Clayton Palmer, WAPA  
Bill Persons, AGFD  
Randall Peterson, USBR  
Mindy Schlimgen-Wilson, Am. River  
John Shields, WY State Engr. Office  
Robert Winfree, NPS  
Fred Worthley, CRBC

**Committee Members Absent:**

Mark Anderson, USGS  
Dave Cohen, Trout Unlimited  
Kerry Christensen, Hualapai Tribe  
Wayne Cook, UCRC

Alan Downer, Navajo Nation  
Christopher Harris, ADWR  
Robert King, UDWR  
Randy Seaholm, CWCB

**Alternates Present:**

Nancy Hornewer

**Alternate for:**

Mark Anderson, USGS

**Other Interested Persons Present:**

Jan Balsom, NPS  
Gary Burton, WAPA  
Shane Collins, WAPA  
Nancy Coulam, USBR  
Barry Gold, GCMRC

Dennis Kubly, USBR  
Mike Liszewski, GCMRC  
Mary Orton  
Tom Ryan, USBR

**Recorder:** Linda Whetton

## **Meeting Opening and Administrative Items**

1/21/00: Convened: 1:00 p.m.

Adjourned: 3:15 p.m.

## **Welcome and Introductions**

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**Attendance:** Attendance Sheets were distributed ([Attachment 1](#) - List of Attendees)

## **Followup on AMWG Assignments**

Rick said the major assignment was the completion of the MOs for the AMWG meeting on April 5. He said the AMWG Ad Hoc Group prepared the following calendar:

- produce first draft (Jan. 28)
- obtain comments from TWG (month of Feb.) Taking goals and lumping into obvious groups and have AMWG Ad Hoc and other people get together in February. They will review the old MOs and produce a new set of MOs.
- incorporate TWG comments
- meet with TWG and make final revisions (March 2)
- mail out documents to AMWG (March 20)
- present MOs to AMWG at spring meeting (April 5)

## **Comments and Concerns Raised (Flip Chart Notes):**

- KAWG response to expert panel report and report to TWG
- completion of MOs by April 5
- send out electronic version of MOs
- send out action items out right after meeting (Linda)
- display what was done with existing MOs
- managing post dam environment
- written input prior to Jan. 28
- MOs should come from managing stakeholder
- schedule Ad Hoc/ TWG MO meetings temporally adjacent to allow people to attend multiple meetings.
- which group should address INs ? Ad hoc or GCMRC?
- comments and response to comments format very good
- CREDA will provide comments before January 28
- plan to succeed rather than fail

The following small group were formed to assist the AMWG Ad Hoc Group in addressing specific goals:

GROUP	CHAIRPERSON	GOALS	MEMBERS
Food & Fish	Barry Gold	1, 2, 3 (part), 4	Gary Burton, Bill Davis, Don Metz, Debra Bills, Bill Persons, Bob Winfree, Kerry Christensen
Physical Processes	Randy Peterson	5, 6	Ted Melis, Matt Kaplinski, Bill Davis, Norm Henderson, Fred Worthley, John Shields, Bob Winfree, Nancy Hornewer, Kurt Dongoske, Mike Yeatts, Wayne Cook, Rick Johnson
Riparian	Barry Gold	7, 8, 9, and 3 (otter)	Gary Burton, Bill Davis, Debra Bills, Amy Heuslein, Bob Winfree, Kurt Dongoske, Mike Yeatts, Kerry Christensen, Bob Winfree
Cultural	Rick Johnson	12, 16	Mary Barger, Brenda Drye, Andres Cheama, Jan Balsom, Kurt Dongoske, Mike Yeatts, Ruth Lambert, Nancy Coulam
Recreation	Andre Potochnik	10	Bill Davis, Norm Henderson, Bob Winfree, Kurt Dongoske, Mike Yeatts, Ruth Lambert, Nancy Coulam, Wayne Cook
Economic	Wayne Cook	11 & TBD	Matt Kaplinski, Clayton Palmer, Cliff Barrett, Fred Worthley, Bob Winfree, Ruth Lambert
Admin.	Barry Gold	13, 14, 15	Cliff Barrett, John Shields, Bob Winfree, Rick Johnson

**NPS Cultural Resource Monitoring - Synthesis Report** -Jan Balsom reported they have been working on a synthesis report as their annual summary report on activities related to archeological site monitoring along the river corridor. They went back to the initial survey information of the river corridor in 1990-91. There were 10,506 acres that were surveyed at that time. They recorded 475 archeological sites and 489 isolated occurrences. Of the archeological sites, 118 had been previously recorded and 357 were newly recorded. All of that information was used as the basis for the impact evaluation in the EIS and was also the basis for the Programmatic Agreement.

Since 1992, 49 sites have shown rapid deterioration. Those sites represent sites with river based drainages which is consistent with geomorphology studies. Of the 118 sites that have no developed drainages, there are 14 in poor condition due to visitation. There is only one that may have something to do with depletion of a sediment supply. The NPS prepared a draft report in October and received extensive comments. A revision should be available in March.

## **TWG Meeting Management**

**Discussion on Improving TWG Interactions** - Mary Orton said that in addition to the four items listed on her agenda ([Attachment 8](#)), she was asked by Rick to address one segment of the Operating Procedures on the order of priority of who gets to speak at TWG meetings. She reviewed parts of the document and addressed specific concerns:

“Appropriate staff of Reclamation and GCMRC shall provide pertinent information relevant to discussion when appropriate.” That means Reclamation staff and GCMRC staff are here for the members. The way it is interpreted is that any member of the TWG can call on them.

“A member or an alternate may request a representative from their organization to respond to questions or make presentations, when approved by the group.” If someone other than Reclamation or GCMRC around the table wants to have somebody from their staff speak on a specific issue, they should simply ascertain whether folks are comfortable with it and have that person speak.

The last sentence reads, “The public will be allowed to comment after discussion of each agenda item requiring a decision of the group and at the end of the TWG meeting or as provided in the agenda.” The way this is interpreted is that it is before the actual vote is taken but after TWG discussion that the public is asked to speak.

Mary suggested the members help Rick remember the above procedures. Rick said it would really help him if only the members were at the table. There was some discussion on how informal and formal the group needs to be run. Mary said that if the members aren't comfortable with some of the procedures, then they need to amend them. Ultimately, the chairman has the primary responsibility for allowing people to speak.

Mary said there was an ad hoc group on effectiveness that came up with a lot of good ideas on how to improve the effectiveness of the group. There were several things that came out of the committee: use flip charts, be clear on what the decision was, have clearly defined charges, keep track of tasks, and better tracking of assignments. At the end of each meeting action items will be reviewed to facilitate tracking those tasks. Randy Peterson will take the responsibility for capturing action items at each TWG meeting and they will be sent out (e-mailed or faxed to members) the following day after the meeting by the recorder (Linda Whetton).

**Potential Training on Use of Robert's Rules** - Mary Orton said the purpose for Robert's Rules are to protect the minority while allowing an organization to accomplish its purpose with civility. It can give you as much flexibility or as much structure as you want. There is nothing in Robert's Rules that mandates you have to do everything by the book. Business is conducted in these types of organizations by the making and disposing of motions. There are six things that have to happen before a motion is official (see [Attachment 9](#)).

Mary distributed copies of "Robert's Rules of Order: Brief Summary of Basic Procedures" ([Attachment 10](#)) and reviewed it with the members. Rick asked her to address substitute motions because it isn't in the above handout. A substitute is a special case of amendment. If you want to move to strike an entire paragraph or more in the motion and insert a new paragraph or more in the motion, that is called a substitute. You're simply saying, "I move to delete a whole paragraph and I'm going to add something else in its place." One main difference between a motion to substitute and a motion to amend is that with a motion to substitute, the debate can go into the merits of the main motion.

After Mary's presentation, there was discussion about whether having a TWG meeting immediately before the AMWG meeting would give the TWG members enough time to adequately advise their AMWG representatives as to what is going to be on the AMWG agenda. Would it give the staff adequate time to respond to TWG issues and concerns? Should the half-day immediately prior to the AMWG be moved to a week prior to or another time?

**Comments and Concerns Raised (Flip Chart Notes):**

- issue isn't the meeting but having materials in time
- ok with meeting - need material early
- prefer separate meeting - for clearer discussion
- burnout on 3 days of meetings
- materials - if meeting is earlier, they may be harder to get out
- should be 2 weeks before
- can't mail on those last minute items
- travel would be prohibitive
- what is the problem to be addressed
- burnout, time to screen material for AMWG
- if material is 2 weeks before, meeting schedule is fine
- discussion should still be allowed even if materials are not sent out
- review Operating Procedures for mailing out materials/voting on in meetings
- need relevant material for AMWG (can't do one day before the meeting)

Rick read from the Operating Procedures: In the event materials are not provided in advance of the meeting, action on this topic may be delayed at the Chairperson's discretion. The previous page indicates that mailings should be 10 days.

**Action:** The above issues will be addressed in a conference call and brought back to the TWG as a future action item. The following people will be involved in that discussion: Barry Gold, Clayton Palmer, Bill Persons, and Rick Johnson.

**Future TWG Discussion Items - Rick Johnson**

Bill Person asked if there would be Press Release issued on the LSSF. Randy said there would be. Reclamation will work with AGFD staff in preparing that release

### **Public Comment and Wrapup**

None.

### **ACTION ITEMS (from Flip Chart):**

1. KAWG response to expert panel report and report to TWG
2. Completion of MOs by April 5
3. Send out electronic versions of MOs (Barry Gold)
4. Send out action items right after meeting (Linda Whetton)
5. Small group of TWG members to address pre-AMWG TWG mtg.  
(Barry Gold, Clayton Palmer, Rick Johnson, Bill Persons)

**Next TWG Meeting** - March 2, 2000

**Adjourned:** 3:15 p.m.

## 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	