Glen Canyon Dam Technical Work Group Meeting
October 20, 2011

Conducting: Shane Capron, Chairperson **Convened:** 8:15 a.m.
Facilitator: Mary Orton, The Mary Orton Company, LLC

Committee Members/Alternates Present:
Jan Balsom, NPS/GRCA
Cliff Barrett, UAMPS
Kerry Christensen, Hualapai Tribe
Jerry Lee Cox, Grand Canyon River Guides
Bill Davis, CREDA
Paul Harms, NM Interstate Stream Commission
Amy Heuslein, BIA
Chris Hughes, NPS/GLCA
John Jordan, Federation of Fly Fishers
Glen Knowles, U.S. Bureau of Reclamation
Ted Kowalski, CWCB
Nikolai Lash, Grand Canyon Trust
Tricia McCraw, ADWR
Gerald Myers, Federation of Fly Fishers
Don Ostler, UCRC
Clayton Palmer, WAPA
LeAnn Skrzynski, Southern Paiute Consortium
Pam Sponholtz, USFWS
Bill Stewart, AGFD
Jason Thiriot, Colo. River Commission/NV
Michael Yeatts, Hopi Tribe

Committee Members Absent:
Charley Bulletts, Southern Paiute Consortium
Kurt Dongoske, Pueblo of Zuni
Tony H. Joe, Jr., Navajo Nation
Robert King, UDWR
John Shields, Wyoming State Engineer's Office
Larry Stevens, Grand Canyon Wildlands Council

Interested Persons:
Mary Barger, public
Perri Benemelis, ADWR
Todd Chaudhry, NPS/GRCA
Marianne Crawford, USBR
Craig Ellsworth, WAPA
Helen Fairley, USGS/GCMRC
Dave Garrett, M^{3}Research/Science Advisors
John Halliday, DOI
Leslie James, CREDA
Ted Melis, USGS/GCMRC
Jack Schmidt, Utah State University
Dave Slick, Salt River Project
Scott Vanderkooi, USGS/GCMRC
Terry Wilhite, WAPA

Meeting Recorder: Linda Whetton

Welcome and Administrative. Shane Capron welcomed the members. He thanked GCMRC for all their hard work in presenting information at the Knowledge Assessment Workshop held the past two days.

Approval of the June 28-29, 2011, Meeting Minutes. Mary Orton said there were two sets of minutes posted, one with more details of the discussion and the other in a more succinct, shorter format, mostly focused on decisions made. Members were asked to review the shorter version and communicate any concerns about that format. If no concerns are expressed, the new format will be adopted. Without objection, the original minutes were approved by consensus.

ACTION ITEM: TWG will provide comments on the shorter minutes format to Linda Whetton (lwhetton@usbr.gov) by November 4, 2011.

Review of Action Items (***Attachment 1***). Shane briefly reviewed and updated the action items list.

Old Business
AMWG Motion & Votes (***Attachment 2***). Mary reported that the AMWG acknowledged receipt of the Species of Concern AHG report at their last meeting. They also asked that TWG reconstitute the Cultural Resources AHG and provide two recommendations to AMWG: the first on how the program should

address conflicts of cultural values, specifically those involving Native American perspectives; and the second on how tribal values should be monitored and tracked in the program.

TWG Ad Hoc Group Updates: Shane provided brief updates on the work being done by the groups.

- Budget AHG – This group will start meeting again early next winter.
- Cultural Resources AHG – Kurt Dongoske, the CRAHG chair, was not present. Shane said he would like to revise the charge to the CRAHG today based on AMWG's request.
- Core Monitoring AHG – Appendix B of the Core Monitoring Plan will be discussed later today.
- Socioeconomics AHG – Dr. Dave Garrett, the new chair, will provide an update later today.
- Species of Concern AHG –Their work being completed, TWG disbanded the group by consensus without objection.

Several members indicated their desire to be removed from or added to the ad hoc groups. The list was updated accordingly (***Attachment 3***).

Environmental Assessment Updates. Reclamation continues to work on the two EAs (High Flow Experiment Protocol and Non-Native Fish Removal). Reclamation hosted a meeting on September 6-8, 2011 with tribes, SHPOs, THPOs, and other interested parties, at which time draft MOAs were developed. Reclamation is also working with FWS on ESA consultation and would like to get a final BO for these two EAs and MLFF operations completed by the end of November.

ACTION ITEM: TWG requests that they be allowed to review and comment on the final BO. Reclamation will inform the TWG how they intend to handle this request.

Long Term Experimental Management Plan Environmental Impact Statement Update. A Federal Register notice was published October 17, 2011 (***Attachment 4***) that includes the schedule for scoping meetings for this EIS. A scoping report will be developed 30 to 60 days after the close of scoping. Reclamation and the National Park Service – co-leads for the EIS – will offer consultation with the tribes. Bill Stewart offered to be involved in the process and contribute to the scoping/poster sessions. Glen said Argonne Labs is overseeing the scoping process, and invited the group to review the LTEMP website (http://ltempeis.anl.gov/).

Programmatic Agreement. Glen reported that, at the September meeting referenced above, the following timeline was developed for a new PA that would address long-term effects and recognize the entire canyon as a traditional cultural property:

- January 1, 2012: A small group of individuals will compile and review background documents and create an annotated bibliography that will be sent to all participants.
- March 1, 2012: Face-to-face meeting(s) will be held for brainstorming and drafting sessions.
- June 30, 2012: A final PA document will be ready for review.

New Business

Next TWG Meeting – The Knowledge Assessment workshop will be held January 30-February 1, 2012, with the TWG meeting to follow on February 2, 2012. Dr. Schmidt said the KA would focus on the major questions concerning geomorphology, sediment transport, and terrestrial and cultural resources.

Humpback Chub Five-Year Review Report (***Attachment 5***). Shane encouraged everyone to read this important document. The U.S. Fish and Wildlife Service will make a presentation on it at the next TWG meeting.

GCMRC Direction and Tasks: Discussion Challenges with GCMRC and Upcoming To-Do List (***Attachment 6***). Having served as the chief of GCMRC for two months, Jack Schmidt said he wanted to share his preliminary thoughts on GCMRC's role in the Glen Canyon Dam Adaptive Management

Program (GCDAMP). He is searching for ways to achieve the mandate that GCMRC be a world-class scientific organization, while meeting the needs of the program. He thought that it would serve GCMRC well if they were involved with other basins besides Colorado River through Grand Canyon. This could involve additional fund sources as well as additional knowledge. He had spoken with several people involved in the program, and said he would contact each TWG member for further conversation. He was concerned about some of the feedback he had received, including an indication that some people did not trust that GCRMC scientists were committed to the GCDAMP.

Several members thanked him for sharing his thoughts and said they look forward to working with him. Other comments made included:

- Concern that the scope of GCMRC's work should be expanded beyond CRE and the magnitude of cost.
- The staff at GCMRC are highly skilled and their expertise isn't limited to just the Grand Canyon.
- Interested in the potential for collaboration and consider doing different things to fulfill management of conservation for both Glen and Grand Canyons.
- Need for GCMRC to develop better understanding of historical knowledge so that the tribes can provide and incorporate that into future plans for the Center.
- GCMRC has excellent staff and practices "pure" science, in that the scientists aren't influencing the data.
- Concern about improving coordination with the Park.
- Suggest integrating science and tribal values by looking at the linkages and developing greater understanding on how to use that knowledge.
- There is a lot of overlap with other programs and we need not duplicate work.
- WAPA would be willing to provide money and staff to help GCMRC gather good science in an effort to resolve the uncertainties.
- Am happy you're looking at other areas and leveraging agencies to look at other issues.
- Concern that our processes and procedures allow us to respond to a unique opportunity to gain knowledge.
- Concerned with how "success" is defined. It might be a balance and nothing is perfect.
- We're strong on science but weak on process. We need to add that to become a more efficient organization.

CRAHG Direction from AMWG Motion: Shane read the motion passed at the last AMWG meeting:

> Motion: To address cultural resources issues #1 and #2, below, AMWG requests Reclamation develop a timeline and process for their resolution during the meeting already scheduled for September 6-8, 2011, to discuss Section 106 and PA issues. AMWG further requests that results of that meeting be shared at the next AMWG meeting. To address cultural resource issue #3 below, AMWG directs the TWG to reconstitute the Cultural Resources Ad Hoc Group and make a recommendation to the AMWG on the issue at its February 2012 meeting.
>
> 1. AMWG recommends that the Secretary of the Interior consider a review of the GCDAMP programs related to archaeological site monitoring and compliance with NHPA section 106 and the GCPA, to clarify how DOI (and the GCDAMP) is achieving compliance with both NHPA section 106 and the GCPA and what is specifically necessary to do so.
> 2. AMWG recommends to the Secretary that Reclamation implement the process that has been identified in Reclamation's 2007 Treatment Plan to comply with the requirements of NHPA section 106 for the operation of Glen Canyon Dam.
> 3. AMWG indicates its intention to make a recommendation to the Secretary on the following questions: How should the program fairly treat conflicts of cultural values, specifically those involving Native American perspectives? How will tribal values be monitored and tracked in this program?

ACTION ITEM: The TWG agreed without objection that the CRAHG would work on answering the following questions and provide an update to the TWG at its February 2, 2012, meeting:

- How should the program fairly treat conflicts of cultural values, specifically those involving Native American perspectives?
- How will tribal values be monitored and tracked in this program?
- How should TEK be integrated into the GCDAMP science program?

Shane will work with Kurt on how to address the direction given from the AMWG to the CRAHG.

GCMRC/AMP To-Do List. Shane reviewed the following items, indicating that GCMRC may not be able to produce updates to all of them in the coming year:

Strategic Science Plan (***Attachment 7***). This establishes the high-level roles of GCMRC, SSQs, general monitoring, and science needs, and what is needed in the revised budget process table. This document is current through 2011.

Monitoring and Research Plan. This is a five-year plan for GCMRC. It establishes the general science programs and forms the basis for the workplan. This document is current through 2011.

Biennial Workplan (BWP): This is a detailed description of GCMRC activities, required sometime in late winter. The draft timeline for the budget process is based on a revised table from ASWS:

- January – Reporting meeting. TWG provides issues and priorities for DOI to consider, GCMRC provides annual reports using the agreed-upon format used in 2009 and 2010.
- February – DOI provides and discusses BWP priorities and major issues, for discussion at AMWG.
- March – Draft BWP is sent to the ASWS from GCMRC.
- April – TWG reviews the initial BWP budget spreadsheet and workplan and provides direction to the Budget Ad Hoc Group (BAHG)
- May – BAHG reviews the initial BWP.
- June – TWG makes a recommendation on the BWP to AMWG, with policy issues to be resolved by AMWG.

Annual Reports: This report details the science which has been accomplished over the past year, and is given over a two-day meeting where scientists and cooperators report on their research. For the past two years, following the annual reporting meeting, TWG provided a list of issues derived from the annual reports to Interior to help inform development of the budget and workplan.

Core Monitoring Plan (***Attachment 8***). Even though core monitoring has been a consistent part of the vision of the program, a comprehensive plan has not been completed. This document would be the result of a planning process to reach agreement on long-term monitoring programs. The tradeoffs for the monitoring programs beyond the workplan cycle have never been fully evaluated. The plan has been to complete the general core monitoring plan (a strategy document including Appendix B from the TWG), and then, in 2012, develop some specific core monitoring programs, such as for fish, sediment and vegetation. Shane said he felt the TWG is ready to approve the CMP with Appendix B and make a recommendation to AMWG to approve it.

Jack noted that GCMRC has finite capacity, and to the degree that GCMRC is engaged in producing administrative and planning documents, they cannot do research or monitoring. He suggested that shorter documents could be more effective, in some cases, than longer ones, and suggested that critical thinking was more important than lengthy documents.

Shane said he would work with Jack behind the scenes to streamline reporting on projects, preparing documents, and developing the workplan, and then report to TWG.

As a proposal, the SSP and MRP could be revised and combined into a much smaller document. The following notes were taken on the discussion:

Monitoring and Research Plan
- Report every five years at the Knowledge Assessment Workshop
- Combine SSP and MRP, revise for review this spring

Biennial Workplan
- The workplan could include brief Annual Reports (or biennial reports), including an evaluation of last few years, successes/ failures, and the plan for the next few years

Shane asked the group to brainstorm what they feel would be the essential elements of a workplan.
- More clarity and detail on how a project relates to an SSQ – how and over what timeframe.
- Clarify SSQs (to be done as SSP/MRP is updated).
- Bruce Taubert developed a list we should refer to.
- Clearly defined deliverables.
- How projects relate to others, how projects link to others that are being done by other agencies.
- In the reporting section: Evaluate the SSQs based on what has been learned.
- Progress element – here is answer, here is how confident we are.
- Here is SSQ, here is where we are in answering it, here is what we think the answer is, here is how certain we are as a percentage.
- TWG should take lead in developing/revising SSQs (management side).
- Information on project costs.
- Systems orientation.

In response to a question about the reporting required by Reclamation, Marianne Crawford said she and Jack have come to agreement on what is expected of GCMRC to meet its contractual requirements. Jack assured the group there would be transparency in expenditures.

Shane reminded the group that Anne Castle identified the program's priorities as:
(1) Compliance with ESA, which means focus on the native fish and particularly the humpback chub,
(2) Focus on sediment, which includes concerns for resources downstream from the dam and being able to respond to a high flow experimental release, and
(3) (3 and 4) science on both non-native fish control and the recreational trout fishery.
He reiterated that TWG's job is to revise the MRP based on what they know and the Secretary's priorities.

Economist Position. Ted Melis said the economist position description has been developed and the announcement will be open for 20 business days in November. They hope to hire someone by mid-March 2012. As in the past, GCMRC could set up a webinar for those stakeholders who wish to participate in some of the interview process.

Election of the TWG Chair. Glen asked for nominations for TWG Chair. Jason nominated Shane, there were no other nominations, and Shane was elected to chair for FY12.

Socioeconomic Plan. Dr. Garrett said the SEAHG will be meeting on November 2, 2011, to merge the socioeconomic Information Needs (INs) into a final document. He invited the group to review the INs in Table 1 and his PPT presentation (***Attachment 9***), and let him know if any INs should be added or merged. He said he would present, at the February 2012 TWG meeting, revised INs plus program elements that could be connected. The Ad Hoc Group would then develop a longer-term science or management plan.

ACTION ITEM: SEAHG members planning to attend the SEAHG meeting at the Salt River Project (SRP) office on November 2, 2011, need to let Dave Garrett (m3research@2starband.net) and Linda Whetton (lwhetton@usbr.gov) know by October 26, 2011.

Administrative History Project. Mike Yeatts referred to the prospectus (***Attachment 10***) which was part of his presentation to the AMWG in August 2011.

Motion (proposed by Mike Yeatts, seconded by Amy Heuslein): TWG recommends that AMWG recommend to the Secretary to accept the Administrative History Prospectus dated August 2011. Passed by consensus.

Public Comment: There was no public comment.

Adjourned: 2:55 p.m.

Respectfully submitted,

Linda Whetton
U.S. Bureau of Reclamation
Upper Colorado Regional Office

General Key to Adaptive Management Program Acronyms

ADWR – Arizona Dept. of Water Resources
AF – Acre Feet
AGFD – Arizona Game and Fish Department
AIF – Agenda Information Form
AMP – Adaptive Management Program
AMWG – Adaptive Management Work Group
AOP – Annual Operating Plan
BA – Biological Assessment
BAHG – Budget Ad Hoc Group
BCOM – Biological Conservation Measure
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
CAHG – Charter Ad Hoc Group
CAPA – Central Arizona Project Association
GCT – Grand Canyon Trust
CESU – Cooperative Ecosystems Studies Unit
cfs – cubic feet per second
CMINs – Core Monitoring Information Needs
CRBC – Colorado River Board of California
CRAHG – Cultural Resources Ad Hoc Group
CRCN – Colorado River Commission of Nevada
CRE – Colorado River Ecosystem
CREDA – Colorado River Energy Distributors Assn.
CRSP – Colorado River Storage Project
DAHG2 – Desired Future Conditions Ad Hoc Group
DASA – Data Acquisition, Storage and Analysis
CWCB – Colorado Water Conservation Board
DBMS – Data Base Management System
DOE – Department of Energy
DOI – Department of the Interior
DOIFF – Department of the Interior Federal Family
EA – Environmental Assessment
EIS – 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 (October 1 – September 30)
GCD – Glen Canyon Dam
GCT – Grand Canyon Trust
GCMRC – Grand Canyon Monitoring & Research Center
GCNP – Grand Canyon National Park
GCNRA – Glen Canyon National Recreation Area
GCPA – Grand Canyon Protection Act
GLCA – Glen Canyon National Recreation Area
GRCA – Grand Canyon National Park
GCRG – Grand Canyon River Guides
GCWC – Grand Canyon Wildlands Council
HBC – Humpback Chub (endangered native fish)
HMF – Habitat Maintenance Flow
HPP – Historic Preservation Plan
INs – Information Needs
KA – Knowledge Assessment (workshop)
KAS – Kanab ambersnail (endangered native snail)
LCR – Little Colorado River
LRRMCP – Lower Colorado River Multi-Species Conservation Program
LTEP – Long Term Experimental Plan
LTEMP – Long-Term Experimental and Management Plan
MAF – Million Acre Feet
MA – Management Action
MATA – Multi-Attribute Trade-Off Analysis
MLFF – Modified Low Fluctuating Flow
MO – Management Objective
MRP – Monitoring and Research Plan
NAU – Northern Arizona University (Flagstaff, AZ)
NEPA – National Environmental Policy Act
NHPA – National Historic Preservation Act
NPS – National Park Service
NRC – National Research Council
O&M – Operations & Maintenance (USBR funding)
PA – Programmatic Agreement
PEP – Protocol Evaluation Panel
POAHG – Public Outreach Ad Hoc Group
Powerplant Capacity = 31,000 cfs
Q/A/C/R = Question/Answer/Comment/Response
R&D – Research and Development
RBT – Rainbow Trout
RFP – Request For Proposals
RINs – Research Information Needs
ROD Flows – Record of Decision Flows
RPA – Reasonable and Prudent Alternative
SA – Science Advisors
Secretary – Secretary of the Interior
SCORE – **S**tate of the **Co**lorado **R**iver **E**cosystem
SHPO – State Historic Preservation Office(r)
SOW – Scope of Work
SPAHG – Strategic Plan Ad Hoc Group
SPG – Science Planning Group
SSQs – Strategic Science Questions
SWCA – Steven W. Carothers Associates
TCD – Temperature Control Device
TCP – Traditional Cultural Property
TES – Threatened and Endangered Species
TMC – Taxa of Management Concern
TWG – Technical Work Group
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)

Updated: Sept. 1, 2011