

## Glen Canyon Dam Technical Work Group WebEx Meeting

June 26, 2013

**Conducting:** John Jordan, Chairperson  
Facilitator: Robert Wheeler with Triangle Associates, Inc.

**Convened:** 10 a.m. (MDT)

### **Committee Members/Alternates Present:**

Cliff Barrett, UAMPS  
Garry Cantley, BIA  
Shane Capron, WAPA  
Todd Chaudhry, NPS  
Kerry Christensen, Hualapai Tribe  
Jerry Lee Cox, Grand Canyon River Guides  
Kevin Dahl, Grand Canyon Trust  
Bill Davis, CREDA  
Paul Harms, State of New Mexico  
Vineetha Kartha, State of Arizona  
Tony Joe, Jr., Navajo Nation

Robert King, State of Utah  
Glen Knowles, Bureau of Reclamation  
Ted Kowalski, State of Colorado  
Gerald Myers, Federation of Fly Fishers  
Don Ostler, State of Wyoming  
Larry Stevens, GCWC  
Bill Stewart, AGFD  
Jason Thirirot, State of Nevada  
Kirk Young, USFWS

### **Committee Members Absent:**

Jan Balsom, NPS/GRCA  
Kurt Dongoske, Pueblo of Zuni  
Chris Hughes, NPS/GLCA  
Nikolai Lash, Grand Canyon Trust

McClain Peterson, State of Nevada  
John Shields, State of Wyoming  
Mike Yeatts, Hopi Tribe

### **Grand Canyon Monitoring and Research Center:**

Phil Davis  
Chris Schill, Budget Analyst

Scott Vanderkooi, Acting Deputy Chief

### **Interested Persons:**

Marianne Crawford, Bureau of Reclamation  
Todd Dillard, Robert Lynch & Associates  
Lesley Fitzpatrick, USFWS  
Alan Foster, Triangle Associates  
John Hamill, Federation of Fly Fishers  
Brian Healy, NPS  
Leslie James, CREDA

Lisa Meyer, WAPA  
Clayton Palmer, WAPA  
Ted Rampton, UAMPS  
Sarah Rinkevich, FWS/Federal Tribal Liaison  
Mike Runge, USGS  
Seth Shananan, SNWA  
Bob Wheeler, Triangle Associates

**Meeting Recorder:** Linda Whetton

1. Welcome and Administrative. Mr. Jordan welcomed the members and the public.
2. Approval of April 3, 2013, Meeting Minutes. Pending minor edits, the minutes were approved by consensus.
3. Report on May 8, 2013, AMWG Meeting. Mr. Jordan reported the AMWG accepted the TWG Operating Procedures without any substantive changes, the AMWG Charter was approved for renewal, and the timeline for working on the FY 2015-16 budget was moved back (winter/spring) to allow GCMRC more time to complete its science work.
4. Review of Action Items. (**Attachment 1**).
5. LTEMP EIS Update. Mr. Knowles reported the group is still in the process of finalizing performance metrics and the first round of modeling on the eight alternatives has begun. That work should be completed before the August 5-7 LTEMP EIS workshop in Flagstaff, Arizona. Details on the workshop and public meetings will be sent out soon.

**TWG Operating Procedures** (**Attachment 2a** = AIF). Mr. Capron distributed copies of the revised operating procedures (**Attachment 2c**) and asked for comments.

Question: Can DOI members propose and second motions since they are non-voting members? "Ex-officio" DOI participants in other basin and state programs are allowed to make and second motions, therefore the TWG should also allow DOI members the same opportunities in both the AMWG and TWG. The concern is that DOI members need to express their points of view prior to voting on any motions. The solution to the question was that Mr. Wheeler would encourage participation as part of the facilitation function at both AMWG and TWG meetings.

**Motion** proposed by Cliff Barrett, seconded by Don Ostler: TWG approves the Draft TWG Operating Procedures, as revised June 26, 2013, and recommends that the TWG Chair approve and sign the operating procedures. Passed by consensus.

Pending inclusion of the above and minor edits, the TWG Operating Procedures were revised (**Attachment 2c**) and submitted to John Jordan for his signature.

**TWG Election of Chair and Vice-Chair.** Mr. Glen Knowles thanked Mr. Jordan for doing such a good job as TWG Chair for FY13. Glen opened the floor for nominations. Mr. Jason Thiriot nominated Mr. John Jordan to serve a second term. No other nominations were offered. Hearing no objections, Mr. Jordan was elected as TWG Chair for FY14. Ms. Vineetha Kartha nominated Mr. Shane Capron to continue serving as the TWG Vice-Chair. Hearing no objections, Shane was nominated as the TWG Vice-Chair for FY14.

**FY 2013-14 Budget and Work Plan (Attachment 3a).** Mr. Glen Knowles. As requested by the BAHG on June 17, two budgets were presented (**Attachment 3b (Attachment 3c)**), one not including sequestration cuts and the other one including them. Sequestration requires a 5.1% cut to the FY13 Budget which is \$532,939 and may require an 8% cut in FY 14 which would be \$861,063 from the Budget. Cost savings due to travel restrictions and the following potential changes to the budget are proposed to cover sequestration:

- Facilitation budget for FY13 = \$41,747 and for FY14 = \$43,000 (old)  
FY13 = \$82,942 and FY14 = \$85,430 (new)
  - The increase to facilitation is primarily a result of the three individuals from Triangle attending the Annual Reporting meeting in January 2013 as requested and additions of tasks not included in their scope of work.
  - Cost saving as a result of having TWG webinars rather than meetings can be reallocated to cover facilitation.
- Native Fish Conservation Carryover Fund for FY13 = \$782,660 and FY14 = \$1,321,139
  - Triggers for trout removal haven't been met for several years and consequently this fund hasn't been used. The 5.1% cut from sequestration (\$532,939) when applied to this fund leaves \$249,721 which insures that other projects are fully funded. If sequester is applied in FY14 at 8% (\$861K) it could again come from nonnative fish carryover, leaving \$418,658 in FY14. Reclamation won't know if sequestration will continue in FY 14 until the next fiscal year begins on October 1.
- Tribal Participation in LTEMP EIS Process. Funding in the Reclamation Cultural Program has been reallocated to fund tribes for tribal perspectives on the LTEMP EIS process.

Concerns:

- Budget implications to GCMRC.
  - Due to sequestration, and a resultant hiring freeze GCMRC salary costs were reduced. Those savings were used to retain some staff and increase foodbase sampling. GCMRC is working with professional river guides to collect data and have expanded other data collection through private citizen groups.
- Confusion in submitting two budgets to AMWG.
  - If a "sequestration" budget is submitted, the Department might conclude that the program can continue on a reduced budget. With the likelihood that the sequestration will continue through FY14, it would be proactive to present that information to AMWG.

**Motion** proposed by Cliff Barrett, seconded by Jason Thiriot: TWG recommends the changes to the Federal Fiscal Year 2013-14 Budget and Work Plan, as described in the attached Glen Canyon Dam Adaptive Management Program FY 2013-14 Bureau of Reclamation Budget without 2014 Sequestration, and that it be forwarded to AMWG for their consideration in recommending to the Secretary. TWG further forwards to AMWG for their consideration information on a budget which anticipates sequestration in 2014. Noting one abstention, but not blocking consensus (Larry Stevens), the motion was passed by consensus.

**Basin Hydrology and GCD Operations Report (Attachment 4).** Ms. Katrina Grantz. The snowpack peaked at 81% of average in late April but the snow was gone by mid-June. The most probable forecast for April-July Lake Powell unregulated inflow issued on June 1 was 3.0 maf or 42% of average for the spring runoff season with a range of about 2.48 to 3.48 maf. The mid-month indicates a decreasing trend and projections are about 40% of average inflow. The official forecast for July is anticipated early next week. Currently we're locked into an 8.23 maf release year for the remainder of WY 2013. In WY 2014 there are two possibilities, an 8.23 maf release (55% probablye) or a 7.48 maf release (45%) probable. The elevation at Lake Powell on June 18 was 3601.2 feet and is declining. Based on the June 24-month study, the projected elevation for the end of the WY is about 3588.7 feet. The projected January 1<sup>st</sup> elevation will be 3577.0 feet which is two feet above the threshold trigger for being the mid-elevation release tier. Given the current conditions of Lake Mead, it is possible that WY-14 will be the mid-elevation release tier with a release of 7.48 maf. The August 24-month study will determine what the operating tier will be in WY 2014.

**GCD Maintenance Schedule.** Ms. Katrina Grantz. There are eight hydropower units at Glen Canyon Dam and currently it is a low release year. If there is sufficient sediment in November to trigger an HFE, it would be possible to get approximately 33,000 cfs, based on the current maintenance schedule. Steady flows of 8,000 cfs were released for the GCMRC airborne data collection overflights. In June the releases were 800 kaf with fluctuations between 9,000 and 17,000 cfs daily. In July they will be about 847 kaf with projected fluctuations between 10,000 and 18,000 cfs. In August, releases will be very similar to the 800 kaf pattern. There will not be steady flows in September-October as in the past, releases will be about 600 kaf.

**Glen Canyon Dam FY2014 Hydrograph (Attachment 5).** Mr. Dave Trueman. Development of the FY 2014 hydrograph begins with the 2012/13 hydrograph. This year, 2013, was unusual because the reservoir is low and the operational tiers, both at 7.48 and 8.23 maf releases are relatively fixed. There is a small chance of equalization next year if it reaches the 7.48 tier and is lower than the 10% probability normally reported on. Reclamation is trying to conserve August-October inputs for a potential November HFE. The graph shows that there wasn't a lot of export of sand in the 500-600 range but as you get up to 900 kaf, there is a fair amount of export. The goal is to slide down at strategic moments in the year into lower volumes. In working through the DOI/DOE hydrograph development, the FWS asked Reclamation if releases could be lowered in June to create warmer water temperatures downstream for native fish. Under the 2013 hydrograph water was moved out of August and into June. Higher June releases had a cooling effect on the temperatures at the mouth of the Little Colorado River. An attempt will be made to avoid releasing water in June by moving it to another part of the year. Hopefully it can be moved to a time period that will be of equal value to WAPA and result in a win-win situation. The warming of the water mostly occurs as it slowly meanders its way down to the LCR. The result is temperatures above 14 degrees at the LCR which is desirable. The DOI/DOE hydrograph recommends a continuation of lower releases for August through October in order to retain late summer and fall sediment inputs, avoid shifting extra water to June that cools the temperatures at the mouth of the LCR and to move water from August to other equal value months if possible. Mr. Trueman presented the DOI/DOE 2014 hydrograph (refer to slide #9) and the group made adjustments.

**Motion** proposed by Cliff Barrett, seconded by Bill Davis: TWG recommends to AMWG to recommend to the Secretary of the Interior, approval of the DOI-DOE Proposed Hydrograph for Water Year 2014 as defined in the attached Water Year 2014 Hydrograph. (see below)

- Annual Release Volumes will be determined in compliance with the 2007 Interim Guidelines (in consultation with the Basin States as appropriate).
- Monthly release Volumes are anticipated to shift depending upon: (1) the Annual Release Volume, and (2) the magnitude of a potential High Flow Experiment.
- Monthly Release Volumes may vary within the targets identified below. Any remaining monthly operational flexibility will be used for existing power production operations under the Modified Low Fluctuating Flow (MLFF) alternative selected by the 1996 ROD and contained in the 1995 FEIS and in compliance with all applicable NEPA compliance documents (HFE EA, NNFC EA, 2007 IG).
- Release objective for June is 600 kaf to 650 kaf .
- Release objective for August is 800 kaf.
- Release objective for September and October is 600 kaf to 630 kaf.
- Monthly Release Volumes will generally strive to maintain 600 kaf levels in the spring/fall timeframe and 800 kaf in December/January and July/August timeframe.
- Additionally, the Bureau of Reclamation will continue to apply best professional judgment in conducting actual operations and in response to changing conditions throughout the water year. Such efforts will continue to be undertaken in coordination with the DOI/DOE agencies, and after consultation with the Basin States as appropriate, to consider changing conditions and adjust projected operations in a manner consistent with the objectives of these parameters as stated above and pursuant to the Law of the River.

Motion passed by consensus.

**Ad Hoc Group Updates** (**Attachment 6**). Mr. Jason Thiriot provided updates on the AMP “wiki” website which now includes a calendar function, tribal monitoring reports, TWG bios, TEK information, and an audio clip that was recently uploaded by Larry Stevens. He’s encouraged by the amount of information that has been added to the site and urges others to get involved with it. The next step is to get familiar with the “dashboard” concept, which is like a bird’s eye view of operations, from which you can swoop down into the particular details.

### **Science Update**

**GCMRC Economist.** Mr.Scott Vanderkooi. GCMRC has hired Mr. Lucas Bair who will start in August.

**2013 Overflight Wrapup** (**Attachment 7a**). Dr. Phil Davis. The 2013 image collection was a success. Totally cloud-free imagery for the entire corridor was collected in 6 days. Certain lines required reflights due to turbulence which produces image smears. Turbulence was the only delaying factor, especially in flight block G, because it is perpendicular to the prevailing high winds. The total cost of the overflight was \$525K.

**Sediment and Fisheries Update** (**Attachment 7b**). Mr. Scott VanderKooi. Sediment conditions before and after the November 2012 High Flow Experiment (HFE) were projected. Sites included Cathedral Wash RM 2.5 L, 22-Mile RM 22 R, Sand Pile RM 30R, Carbon RM 65.1 R, and Emerald Camp RM 104

R. Following the HFE, 90% of age-0 RBT were recaptured within 0.25 mile of the release location from October-December 2012. This data suggests that most RBT move very little. The Natal Origins project has produced similar results from each of its five sampling reaches. Juvenile chub monitoring indicates that 2013 humpback chub catches in the mainstem just downstream of the Little Colorado River confluence are lower than those observed in 2012, but are similar to those observed during the 2009-2011 NSE project. It should be noted that the abundance of young fish for many species, including humpback chub, can be highly variable seasonally and annually. This same project has seen an increase in catches of brown trout in 2013. Catches ranged from 2-4 fish per sampling trip in 2012, but have ranged from 14-18 per sampling trip in 2013. Brown trout catches in 2013 have been dominated by smaller fish (< 300 mm). The Tailwater Synthesis project is nearing completion of the data collection phase with fish population data from 57 tailwaters and a promise for data from 15 more. Duration of data sets range from 1-45 years with 34 systems having 1-10 years of data, 15 systems with 11-20 years of data, and 8 with 21 or more years of data. Invertebrate data is available from half of the systems, but the information is generally poor. Discharge data is available from all systems, but only a few have water temperature data.

**Public Comment:** None

**Wrap-Up.** John thanked everyone for being in attendance and looks forward to seeing many people at the August AMWG meeting:

**Next TWG Meeting**

To Be Determined.

**Adjourned:** 1:40 p.m. (MDT)

Respectfully submitted,

Linda Whetton  
Upper Colorado Regional Office  
Bureau of Reclamation

Key to Glen Canyon Dam 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  
ASMR – Age-Structure Mark Recapture  
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  
BWP – Budget and Work Plan  
CAHG – Charter Ad Hoc Group  
CAP – Central Arizona Project  
GCT – Grand Canyon Trust  
CESU – Cooperative Ecosystems Studies Unit  
cfs – cubic feet per second  
CMINS – Core Monitoring Information Needs  
CMP – Core Monitoring Plan  
CPI – Consumer Price Index  
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  
CWCB – Colorado Water Conservation Board  
DAHG – Desired Future Conditions Ad Hoc Group  
DASA – Data Acquisition, Storage, and Analysis  
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  
GCES – Glen Canyon Environmental Studies  
GCT – Grand Canyon Trust  
GCMRC – Grand Canyon Monitoring & Research Center  
GCNP – Grand Canyon National Park  
GCNRA – Glen Canyon Nat'l Recreation Area  
GCPA – Grand Canyon Protection Act  
GLCA – Glen Canyon Nat'l Recreation Area  
GRCA – Grand Canyon National Park  
GCRG – Grand Canyon River Guides  
GCWC – Grand Canyon Wildlands Council  
HBC – Humpback Chub (endangered native fish)  
HFE – High Flow Experiment  
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  
LCRMCP – Lower Colorado River Multi-Species Conservation Program  
LTEMP – Long-Term Experimental and Management Plan  
LTEP – Long Term Experimental 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  
NNFC – Non-native Fish Control  
NOI – Notice of Intent  
NPS – National Park Service  
NRC – National Research Council  
O&M – Operations & Maintenance (USBR Funding)  
PA – Programmatic Agreement  
PBR – Paria to Badger Creek Reach  
PEP – Protocol Evaluation Panel  
POAHG – Public Outreach Ad Hoc Group  
Powerplant Capacity = 31,000 cfs  
R&D – Research and Development  
RBT – Rainbow Trout  
RFP – Request for Proposal  
RINs – Research Information Needs  
ROD Flows – Record of Decision Flows  
RPA – Reasonable and Prudent Alternative  
SA – Science Advisors  
Secretary – Secretary of the Interior  
SCORE – State of the Colorado River Ecosystem  
SHPO – State Historic Preservation Office  
SNARRC - Southwest Native Aquatic Resources and Recovery Center  
SOW – Statement 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  
TEK – Traditional Ecological Knowledge  
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