

Glen Canyon Dam Technical Work Group WebEx Meeting

November 6, 2013

Conducting: Shane Capron, Vice-Chair

Convened: 10 a.m. (MST)

Committee Members/Alternates Present:

Cliff Barrett, UAMPS
Kerry Christensen, Hualapai Tribe
Bill Davis, CREDA
Paul Harms, State of New Mexico
Vineetha Kartha, State of Arizona
Glen Knowles, Bureau of Reclamation
Ted Kowalski, State of Colorado
Chip Lewis, Bureau of Indian Affairs

Gerald Myers, Federation of Fly Fishers
Dave Rogowski, AGFD
John Shields, State of Wyoming
Larry Stevens, GCWC
Jason Thiriot, State of Nevada
Mark Van Vlack, State of California
Mike Yeatts, Hopi Tribe
Kirk Young, USFWS

Committee Members Absent:

Jan Balsom, NPS/GRCA
Todd Chaudhry, NPS
Jerry Lee Cox, Grand Canyon River Guides
Kurt Dongoske, Pueblo of Zuni
Chris Hughes, NPS/GLCA

Tony Joe, Jr., Navajo Nation
Robert King, State of Utah
John Shields, State of Wyoming
Larry Stevens, GCWC
Bill Stewart, AGFD

Grand Canyon Monitoring and Research Center:

Lucas Bair, Economist
Jack Schmidt, Center Director

Scott Vanderkooi, Acting Deputy Chief

Interested Persons:

Marianne Crawford, Bureau of Reclamation
Craig Ellsworth, WAPA
Dr. Dave Garrett, M³Research/Science Advisors
Leslie James, CREDA

Lisa Meyer, WAPA
Don Ostler, UCRC
Clayton Palmer, WAPA
Sarah Rinkevich, FWS/Federal Tribal Liaison

Meeting Recorder: Linda Whetton

1. Welcome and Administrative. Mr. Knowles explained that due to the two-week government shutdown, Reclamation wasn't able to execute the TWG Chair contract for John Jordan. Mr. Jordan can't conduct meetings until the contract is in place, so today's meeting will be conducted by TWG Vice-Chair Shane Capron. Today's webex is being conducted in lieu of the October 1 webex that was cancelled due to the government shutdown.
2. Approval of June 26, 2013, Meeting Minutes. Approval will be sought at the next meeting.
3. Review of Action Items. (**Attachment 1**). Note that Item #2012-10-24(6) will be addressed at the Jan. 30, 2014 TWG meeting. Three new items were added to the list and were e-mailed to the TWG on Nov. 8, 2013.

High Flow Experiment in fall 2013.

Sediment Update (**Attachment 2a**). Dr. Schmidt; large sediment inputs from the Paria River and the low fall flows are responsible for the current conditions. Immediately before the 2012 HFE, sandbars in Marble Canyon were as small as they had been since monitoring began in 1990 and were larger in Grand Canyon. The 2012 HFE came at an appropriate time because the resource was in a diminished state. Although the median trend in Marble Canyon is negative, there are sites that have increased since 1990. Immediately after the 2012 HFE there was substantial gain in 18 sandbars, no substantial change in 12 and substantial loss in 3 sandbars. Most sandbars constructed by the 2012 HFE eroded by May; 8 sites were still somewhat larger, 14 sites about the same and 7 sites were smaller than they had been

before the HFE. Dr. Schmidt directed the members to visit GCMRC's website (<http://www.gcmrc.gov>) as two new sites were added: (1) Discharge, Sediment, and Water Quality Monitoring Data, and (2) Photos: Sandbar Changes Caused by 2012 HFE. He provided the following updates:

- The amount of sand delivered in late summer and fall 2013 was large in relation to the long-term median sand delivery.
- As sand comes into the system it is also leaving. Total dam releases were decreased in the fall shoulder months which lessened this. At river mile 30, 1.9 million tons (mt) of sand came in and 0.13 mt went out.
- Between 1,500,000 mt and 2,400,000 mt accumulated in upper Marble Canyon since July 1. This amount provides for the largest HFE that can be implemented under the HFE Protocol. Dave Topping's group didn't revise these numbers and they won't change.

Fisheries Update. Dr. VanderKooi reported that rainbow trout populations were very high in the upstream third of Marble Canyon but very low where HBC live. However, they did see a lot of YOY trout this summer with about one-third of RBT <100 mm suggesting emigration from Lees Ferry or production in Marble Canyon. They haven't had time to analyze the fall data which was delayed due to the government shutdown. He provided the following updates:

- No difference in midgefly concentrations in the drift pre- and post-HFE
- Increase in blackfly concentrations in the drift in Glen Canyon post-HFE
- Spring abundance estimates of HBC in the LCR remain well above the Biological Opinion trigger, and total catches of juvenile HBC in the mainstem were lower than 2012 but higher than those observed during the NSE project.

HFE Protocol Decision Process. (**Attachment 2b**) Mr. Knowles reviewed the steps involved in the HFE Protocol decision-making process, and the reporting commitments. He encouraged the members to read USGS Circular 1366, "Effects of Three High-Flow Experiments on the Colorado River Ecosystem Downstream from Glen Canyon Dam, Arizona" (**Attachment 2c**) as it gives a synthesis of the 1996, 2004, and 2008 HFEs that forms the basis for evaluating decision to conduct future HFEs in concert with the latest resource modeling results. The modeling component in the protocol indicated the maximum magnitude and duration HFE should be conducted. The Technical Team provided a recommendation to the Glen Canyon Leadership Team on October 23, 2013, to conduct a HFE in November 2013 as a result of the very high sediment inputs available in the system and the fact that no major concerns had been identified on the effects of a 2013 HFE on downstream resources. Assistant Secretary Anne Castle transmitted the Glen Canyon Leadership Teams decision to conduct a fall 2013 HFE to Larry Walkoviak on November 4, 2013. The quantity of sand available is huge, and to put it in perspective, there will be more sand after this HFE (about 800,000 mt) than before last year's HFE (about 650,000 mt). Two units are down at the dam for maintenance which will limit the release to 34,100 cfs and the duration will be the maximum under the protocol of 96 hours. Additional details are as follows:

Schedule and Duration

- Nov 11 10 a.m. begin upramp to power plant capacity (~19,100 cfs) [6 generation units]
- Nov 11 1 p.m. open bypass tubes, reach full bypass at 8 p.m.
- Nov 16 5 a.m. end of bypass
- Total duration: 5 days and 3 hours; 4 days at peak release

Ramp Rates

- Ramp up: 4,000 cfs/hr from 8,000 – 19,000 cfs, then 1,875 cfs/hr to peak (34,100 cfs)
- Ramp down: 1,500 cfs/hr

HFE Release Details

- Maximum total release: 34,100 cfs
 - Powerplant capacity: 19,100 cfs
 - River outlet tubes: 15,000 cfs

Hydropower generation units available: 6 (one unit off-line for replacement; one for repairs)
River outlet tubes: 4

Anne Castle will offer a few remarks around 11 a.m. next Monday at the Glen Canyon Dam rotunda, and then attendees will be allowed to go down to the base of the dam and view the opening of the jet tubes. All GCDAMP members are invited to attend.

Comments:

- It's important the public be made aware that the water released will be recaptured in Lake Mead and not lost, and that the total annual release in water year 2014 will be the same as without the HFE, 7.48 maf.
- Reclamation's report to FWS in January 2014 should also be provided to the AMWG.
- Contact Brandon Lewis (AZ Republic) to make sure he has accurate information on the HFE. Mr. Lewis recently completed a series of articles on the 50th anniversary of the last bucket of concrete poured at Glen Canyon Dam.

Wrap-Up and Next Steps.

FY 2015-16 Budget Development (**Attachment 3a**). Mr. Capron reminded the members to review the following documents in preparation for the next TWG meeting:

- **Attachment 3b**: GCDAMP Budget Process Paper dated May 6, 2010
- **Attachment 3c**: Budget Process Paper amended 3/20/11 (Table 1).
- **Attachment 3d**: GCDAMP Biennial Budget and Work Plan—Fiscal Years 2013-14
- **Attachment 3e**: Budget and Work Plan Science Questions

Action Item: The CRAHG is requested to meet and provide any budget issues/concerns for the January 28-29, 2014, Annual Reporting Meeting, to Linda Whetton (lwhetton@usbr.gov) by Friday, November 22, 2013, including the need for tribal participation at the meeting, and tribal and cultural values topics that should be covered.

Next Steps:

- Initial budget interests/concerns/synthesis items to Linda Whetton & SCAHG by 11/23/13.
 - Use Science Questions document to help you, prompt you with important issues, which is important to you?
 - Which management objectives questions will you ask?
- SCAHG will consider all input and provide to GCMRC/BOR in November.
- SCAHG/GCMRC/BOR coordinate Jan. 28-29 Annual Reporting Meeting Agenda
- TWG homework: develop your budget ideas/concerns for AR Meeting, last year's items?
- January objective: budget ideas/concerns to GCMRC/BOR (maybe via BAHG)

Action Item: TWG should provide input to Linda Whetton (lwhetton@usbr.gov) (who will forward to SCAHG) on topics of interest for the January 28-29, 2014, Annual Reporting Meeting, including tribal participation, by Friday, November 22, 2013.

Action Item: TWG members should provide concerns about holding webinars versus in-person meetings (what's working, not working, limit on how many webinars to hold) and provide to Linda Whetton (lwhetton@usbr.gov) by November 22, 2013.

Upcoming Meetings:

Date	Times	Meeting	Location
(Tue) Jan., 28, 2014 (Wed) Jan. 29, 2014	9:30a – 5:30p 8:15a – 5p	Annual Reporting Meeting	Arizona Department of Water Resources Verde Conference Room, 2 nd Floor 3550 N. Central Avenue Phoenix, AZ 85012
Thu., Jan. 30, 2014	8:15a – 3:00p	Technical Work Group Meeting	<u>Hotel Room Block :</u> The Wyndham Garden Hotel 3600 N. 2nd Avenue Phoenix AZ 85013 T: 602-604-4900 Rate: \$105 (includes breakfast) --> lower than \$133 govt rate. Phoenix Place Hotel

Adjourned: 12:03 p.m.

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