

Glen Canyon Dam Adaptive Management Work Group
WebEx/Conference Call

May 8, 2013

Conducting: Anne Castle, Secretary's Designee
and Larry Walkoviak, Alternate for Secretary's Designee

Start Time: 12 p.m. (MDT)

Facilitator: Bob Wheeler (Triangle Associates)

Committee Members/Alternates:

Charley Bullets, Southern Paiute Consortium
Tom Buschatzke, State of Arizona
Jennifer Gimbel, State of Colorado
Ann Gold, Bureau of Reclamation
Martha Hahn, NPS (GRCA)
Amy Heuslein, Bureau of Indian Affairs
Leslie James, CREDA
John Jordan, Federation of Fly Fishers
Lynn Jeka, Western Area Power Administration

Nikolai Lash, Grand Canyon Trust
Don Ostler, State of New Mexico
Ted Rampton, UAMPS
Larry Riley, AZ Game and Fish Department
John Shields, State of Wyoming
Steve Spangle, U.S. Fish and Wildlife Service
Larry Stevens, Grand Canyon Wildlands Council
Dennis Strong, State of Utah
Michael Yeatts, Hopi Tribe

Committee Members Absent:

Jayne Harkins, State of Nevada
Loretta Jackson-Kelly, Hualapai Tribe
Sam Jansen, Grand Canyon River Guides
Estevan Lopez, State of New Mexico

Arden Kucate, Pueblo of Zuni
Leigh Kuwanwisiwma, Hopi Tribe
Dave Uberuaga, National Park Service (GRCA)
Frederick H. White, Navajo Nation

USGS/Grand Canyon Monitoring and Research Center

David Lytle, SBSC Director
Jack Schmidt, Center Director

Mark Sogge, USGS
Scott Vanderkooi, Program Manager

Interested Persons:

Cliff Barrett, UAMPS
Rob Billerback, Adam Arellano, WAPA
Lori Caramanian, DOI
Bill Carter, public
Marianne Crawford, USBR
Dr. Dave Garrett, M³Research/Science Advisors
Katrina Grantz, Bureau of Reclamation
Paul Harms, State of New Mexico
Beverley Heffernan, Bureau of Reclamation
Gerald Hooee, Sr., Pueblo of Zuni
Vineetha Kartha, AZ Dept. of Water Resources
Glen Knowles, Bureau of Reclamation
Jane Lyder, DOI/Fish, Wildlife and Parks

Mark Martinez, Pueblo of Zuni
McClain Peterson, State of Nevada
Gerald Myers, Federation of Fly Fishers
Sarah Rinkevich, U.S. Fish and Wildlife Service
Melynda Roberts, Bureau of Reclamation
Mike Runge, USGS
Kendra Russell, public
Seth Shanahan, SNWA
Don Shannon, public
Jason Thiriot, State of Nevada
Shana Tighi, Bureau of Reclamation
Tanya Trujillo, State of California
Larry Walkoviak, Bureau of Reclamation

Recorder: Linda Whetton, USBR

Welcome and Administrative.

Ms. Caramanian welcomed the members and the public. She reported:

- Ms. Castle was currently testifying before congress on the budget and will join the call later.
- Ms. Sally Jewell has been appointed the new Secretary of the Interior and will be getting briefed on Colorado Basin issues.
- Due to the sequestration, \$500 million was cut from the FY 2013 budget which now puts the Department at 2006 funding levels.

As Ms. Castle's alternate, Mr. Walkoviak conducted the first part of the meeting.

1. Introductions and Determinations of Quorum - A quorum was present.
2. Webinar Protocols - Mr. Bob Wheeler reviewed conference call etiquette and rules for participation.
3. Review and Purpose of the Meeting – Mr. Walkoviak reviewed the agenda and noted items may be switched around in order for Ms. Castle to participate in the budget discussion.

4. Approval of February 20-21, 2013, Meeting Minutes – Hearing no objections, the minutes were passed by consensus.
5. Tribal Consultation Report - (**Attachment 1** = AIF) Ms. Rinkevich provided the following updates:
 - She is working with Michael Runge in scheduling individual meetings with the tribes to discuss the performance measures for LTEMP. They had a productive workshop on March 14 in Flagstaff with the tribal representatives. LTEMP resource goals related to tribal values were drafted.
 - The Tribal Consultation Plan is being finalized and will be under review/approval from the tribes.
 - She is working closely with the Hualapai Tribe with regard to their TEK project, and looking into possible pilot projects that could be accomplished in order to integrate TEK into the AMWG program.
 - Ms. Caramanian noted that because of sequestration impacts to the budget, the Department hasn't been able to hire the tribal half of the AMP tribal liaison team. Contracting issues are being worked out and incremental progress is being made.
6. New Economist at GCMRC – Dr. Schmidt announced that a firm offer has been made to an individual for the term economist position. The person was vetted through a USGS natural resource economist in Fort Collins and with Dave Harpman at Reclamation and should be on board by late July/early August.
7. New Cultural Resources Science Advisor – Dr. Garrett announced that Dr. Barbara Mills from the University of Arizona School of Anthropology has been selected as a new member of the Science Advisors. The SAs screened 34 representatives from various universities and agencies, interviewed 14, and provided a final list to Dr. Schmidt. Both he and Dr. Schmidt concurred on the appointment of Dr. Mills. She has extensive activities in science, grants, and awards and has done considerable collaboration with tribes, agencies, and research in the southwest.

Basin Hydrology Report (**Attachment 2** = AIF and PPT) – Ms. Katrina Grantz said that the Upper Colorado Region snow map shows that conditions are significantly lower than average. There was a melt off at the end of March and a few good storms in mid-April, but the peak was still below average. The May forecast is about 42% of average, 3.0 maf. It was dry last year resulting in a higher percentage of snowpack than runoff. The soil moisture is low so it is anticipated that some of the snow this year will be absorbed into the soil and reduce actual runoff. Historically, the average inflow is 7.16 maf and the most probable for this year is below the historic average. Not only is the forecast low in each of the sub-basins, but the reservoirs are also low. Lake Powell is currently 47% full, Flaming Gorge at 80%, Blue Mesa at 41%, and Navajo at 55% full. If the upper basin reservoirs get runoff, they're going to try to meet some target elevations rather than releasing any inflow. As for projected operations for the remainder of the year, modeling is currently underway using the May forecast. There was a slight increase in Lake Powell stage from April to May; 38% to 42%. If the inflow volume is large, 8.23 maf will be released this year. If the April forecast is more than 12 maf, there is a possibility for equalization. Summer projections indicate the reservoir will not rise significantly from the current elevation of 3,596 feet and it's not anticipated to fluctuate more than two feet. In an average runoff the elevation would go up about 40 feet. Normally the reservoir would recover with spring runoff, but that is not being seen this year. In May there will be fluctuations throughout the day and at the end of May, there will be steady flows of 8,000 cfs for airborne data collection. In June 800 kaf will be released with daily fluctuations. The WY 2014 April projection showed an 8.23 maf pattern for next water year, resulting in an elevation for Lake Powell of 3,573 feet on January 1. Because that elevation is under the 3,575 trigger Powell/Mead coordinated operations would be in the mid-elevation release tier and releases would be 7.48 maf in WY 2014. The actual operating tier won't be determined until the August 2013 24-month study.

Glen Canyon Dam Maintenance – Unit 6 is currently unavailable. There was some testing done in January by Denver TSC staff and they noted hairline cracks in several of the rotor arm wells and significant vibration going on in that unit. They recommended that for the safety of the unit and individuals at GCD that the unit be taken out of service. It's likely to be offline for all of next year. If contracting goes as planned, unit 6 may be up by mid-2015. If an HFE were triggered in November, the maximum release would be about 33,400 cfs.

Science Update – Mr. Scott Vanderkooi provided results from the RBT Natal Origins work being done in Glen and Marble Canyons (**Attachment 3**). There were sampling trips in January and April. Rainbow trout populations are high near the dam and incrementally drop before they reach the LCR and the HBC population. Similar patterns were seen in 2012 with higher densities upstream and a drop off down river before the LCR. In 2013 the trout distribution pattern has been maintained, the fish didn't move that much and approximately 90% were recaptured within 0.25 miles of the release location.

Dr. Schmidt gave a demonstration on a new GCMRC website (http://gcmrc.gov/discharge_gw_sediment/) which makes discharge, sediment transport, sediment mass balance, and water quality monitoring data available to all users. This website will facilitate effective monitoring of sediment inflows to the CRE during the sediment accumulation periods associated with the HFE Protocol. Dr. Dave Topping and his staff developed this program and it's an unprecedented achievement. Mr. Larry Walkoviak congratulated those who had developed the website. Dr. Larry Stevens offered his praise as well and suggested there be more discussion on this at the next TWG meeting.

Technical Work Group Chair Report (**Attachment 4** = AIF) – Mr. John Jordan provided the following updates:

- The April 2013 TWG meeting - the operating procedures were approved with the request that they be reviewed for comment by the AMWG prior to the June TWG meeting. Based on what is received by the May 3rd deadline, the OPAHG will revise the document and forward to the TWG for consideration/approval at its June meeting.
- The Administrative History AHG continues to refine the GCDAMP "wiki" website (http://gcdamp.com/index.php?title=Main_Page). Everyone is encouraged to look at the site and provide feedback to the AHAHG on ways to improve and/or include more information.

Review of AMWG Charter (**Attachment 5a** = AIF) - Ms. Ann Gold:

- Adjustment of Administrative Costs due to sequestration - The CAHG advised not changing the \$600K amount with the understanding that it might need to be adjusted before the next charter renewal.
- Havasupai Tribe Participation in AMP - Reclamation staff made contact with the tribe and will hold additional meetings to see if they want to participate.
- Significant work has been done on developing the DFCs a statement to that effect should be added in the charter. The following motion was offered:
Draft Motion proposed by Ms. Gimbel, seconded by Mr. Stevens: The Charter Ad Hoc group recommends to the AMWG to add, 'Desired Future Conditions' to section 4f of the charter and renew the charter. Section 4f will read, 'Annually review long-term monitoring data to provide advice on the status of resources and whether the Desired Future Conditions, and AMP Strategic Plan goals and objectives are being met...' The rest of the charter remains as is."

Ms. Lori Caramanian advised that the Secretary didn't approve the DFCs but recommended that the AMWG use them in providing advice to the Secretary (**Attachment 5b**). Ms. Gimbel offered a clarification (in red text below) and Mr. Stevens concurred.

Final Motion proposed by Ms. Gimbel, seconded by Mr. Stevens: The Charter Ad Hoc group recommends to the AMWG, they add 'Desired Future Conditions' to section 4f and renew the charter. Section 4f will read, 'Annually review long-term monitoring data to provide advice on the status of resources and whether the Desired Future Conditions, as recognized by Secretary Salazar in his April 30, 2012, memorandum, and AMP Strategic Plan goals and objectives are being met...' The rest of the charter remains as is."

Hearing no objection, the motion was passed by consensus.

Long-Term Experimental and Management Plan EIS (**Attachment 6** = AIF and PPT) - Mr. Rob Billerback reviewed the purpose and scope of the project which will address specific options for the dam operations, flow regime, non-flow actions, and appropriate experimental and management actions. Mr. Glen Knowles reported on the progress of group which is in the preliminary assessment phase.

- Performance metrics to evaluate the proposed alternatives have been developed.
- Resource models to help measure the performance of the different alternatives against the goals and objectives are being developed.
- A stakeholder tradeoff analysis workshop is planned for August 5-7 in conjunction with the AMWG meeting to be held on August 8-9.
- Phase II will involve reevaluating the alternatives and incorporating the modeling that's been developed to assess alternative performance.
- There will be a public meeting in late winter or early spring 2014 to present the science and the final set of draft alternatives that would be included in a public draft EIS.

Mr. Mike Runge said it is obvious to him from LTEMP/AMWG meetings that people don't fully understand what's involved in the decision making process. He's been working on a document that describes the process in greater detail and hopes to provide it soon.

- Experimental design hasn't been discussed adequately and has created some confusion.
 - Of the eight alternatives, the first five are long-term strategies that don't have experimental design imbedded except for the extent that the HFE is an experiment. Alternatives 6-8, especially the resource targeted condition dependent strategy, explicitly have an experimental design built in.

Treatments are "pieces" of a long-term strategy and need to be tested in order to achieve the best operation of Glen Canyon Dam. Work has started on developing the "consequence evaluation" of the component long-term management strategies against the performance metrics and the competing hypotheses.

- Phase I uses analytical methods to forecast or predict how each of the long-term management strategies will perform against the performance metrics. This information will be compiled and brought to the workshop in August and all the assessment work will be laid out. Preliminary tradeoff analysis will be done using the techniques of multi-criteria decision analysis.

FY2013-14 Budget and Work Plan (**Attachment 7** = AIF and PPTs) – Ms. Anne Castle discussed the budget. Currently GCDAMP is seven months into the 2-year budget cycle. At what time is it necessary to start planning for the next two-year budget and workplan, FY 2015-16? It's a little too early to start the next 2-year process.

- The results of the 2012 HFE are still being analyzed.
- The LTEMP needs to evolve further to allow the development of the next 2-year budget and work plan such that is appropriately responsive to the LTEMP.
- GCMRC will not be focused on getting ready for FY 2015-16 because they need to devote resources to working within the current BWP.
- There are many and considerable constraints on financial resources

USGS/GCMRC Budget Update – Dr. Jack Schmidt noted there are big issues that GCMRC struggles with in developing the new FY15-16 biennial work plan. The answers to some of these questions are still evolving, and it's prudent that the answers mature a bit before developing a new biennial work plan.

The last time the AMWG developed a set of guiding priority science questions was in 2004 and those five questions are essentially the five questions that were posed to GCMRC. He provided his take on where they stand in dealing with those questions.

Dr. Schmidt has set a very high bar for his staff and the January 2014 Annual Reporting Meeting will be the time for them to provide focus and interpretation of what they did in only the first year of this BWP and will need to place that data in a broad scientific and management context. They have to wait that long because they need at least one field season to figure out what's working, what's not, what they're learning, and what they're not. The reality is that the FY13-14 BWP officially ends on September 30, 2014. Because of the CPI, GCMRC's budget is \$6,000 higher than what was discussed last August.

Mr. Glen Knowles reported on Reclamation's budget concerns:

1. As a result of sequestration, power revenues to the GCDAMP were cut by 5.1% which equates to about \$533K in FY13. The easiest way to deal with that cut is to take it out of existing carryover. The budget was restructured in FY13-14 to create a carryover fund to support non-native fish control if needed. That fund is \$783K in FY13 so we are proposing to take that money from the carryover fund which would leave \$250K in FY13 and reduce FY14 from \$1.3 million to \$765K. That change can be made with some confidence because as Mr. Vanderkooi explained the HBC are doing very well and perhaps more importantly RBT are at very low numbers in the vicinity where HBC are focused at the Little Colorado River. They do not perceive a need in FY13 or 14 to conduct non-native fish control. There is the possibility of an 8% cut in FY14 forecast if sequestration continues.
2. Triangle Facilitation Contract – The contract was underfunded and additional funds are needed to ensure they're able to do all the work required. The figures have been adjusted so the funding moved from \$43K to \$83K per year. The funds will be pulled from the TWG portion of the budget as a result of savings from doing an April webinar. They're also proposing to do the same in FY14.
3. Cultural Program – Reclamation originally proposed \$66K in FY13 and \$50K in FY14 for treatment of archaeological sites in Glen and Grand Canyons. Those amounts have been decreased (\$50K in FY13, \$61K in FY 14) to more accurately estimate what will be spent on treatment. \$10K was allocated each year for non-native fish control consultation with the tribes, but will not be needed because nonnative fish control is not planned. The cost savings will be used to address a need for tribal input into the LTEMP EIS process. The LTEMP line item has been increased to \$60K for FY13 and \$15K in FY14 to increase tribal grants in order for the tribes to provide input into the EIS.

Mr. Stevens asked how Triangle's facilitation bid compared to other bids submitted since it has nearly doubled to what was approved in the budget. Mr. Knowles said he wasn't at liberty to divulge that information due to contracting regulations. Ms. Castle said they would look into this and report back via e-mail to the AMWG.

ACTION ITEM: Reclamation will check with contracting officials about releasing information on the AMWG facilitation bids and report back to the AMWG via e-mail.

Ms. James asked if Reclamation or Western had an estimate for the steady flows in conjunction with this month's overflight work. Neither Reclamation nor WAPA could provide that information, however, Ms. Jeka said she would check into it and report back to the AMWG.

ACTION ITEM: Ms. Jeka will provide the cost of the steady flow operation in conjunction with the 2013 overflights to the AMWG.

Mr. Jordan expressed concern about how the budget process is slowed down by numerous levels of review as established by the AMWG in May 2010. He suggested the process be revisited and looked at in a forum that makes it more manageable. Instead of unfolding a budget over a two-year period of time perhaps it could be set up to unfold over a year or a half-year period of time and have a better connection with the realities of the process that GCMRC faces.

AMWG Next Steps – Ms. Castle announced that in addition to holding the AMWG meeting in August, there will be a 3-day workshop on the structured decision analysis on August 5-7. The AMWG meeting would follow on August 8-9. Both meetings will be held in Flagstaff, Arizona. A request will be sent for possible AMWG agenda items and Ms. Castle offered the following for consideration:

1. LTEMP update – Feedback on the structured decision analysis work shop August 5-7.
2. Potential for an HFE in the fall of 2013
3. Science Update – GCMRC will provide information from the fall 2012 HFE and ongoing research.
4. TWG Operating Procedures

5. Basin Study Update – There is a “next step” process underway from the Colorado River Basin Study. That will formally kick off probably at the end of this month, and there will be work groups focused on different elements of the next step in the basin study like municipal conservation, agricultural conservation, and environmental flows.
6. Cultural Resources Update.

Mr. Stevens suggested that since this is the 50th year of Glen Canyon Dam closure on the system, it might be fruitful to review what the long-term consequences of the dam have been on the ecosystem and what the next 50 years might bring.

Public Comment: None

NPS Fish Management Plan – Ms. Hahn announced that NPS will be sending out a link for the Draft NPS Fish Management Plan EA tomorrow. There will be a 30-day comment period.

Adjourned: 4:01 p.m. (MDT)

Next AMWG Meeting: August 8-9, 2013, in Flagstaff, Arizona

Attachment 8: Report and Recommendations from AS-WS Anne Castle to DOI Secretary Sally Jewell dated December 9, 2013.

Respectfully submitted,

Linda Whetton
Bureau of Reclamation
Upper Colorado Region

Key to Glen Canyon Dam Adaptive Management Program Acronyms

ADWR – Arizona Dept. of Water Resources	HFE – High Flow Experiment
AF – Acre Feet	HMF – Habitat Maintenance Flow
AGFD – Arizona Game and Fish Department	HPP – Historic Preservation Plan
AIF – Agenda Information Form	INs – Information Needs
AMP – Adaptive Management Program	KA – Knowledge Assessment (workshop)
AMWG – Adaptive Management Work Group	KAS – Kanab Ambersnail (endangered native snail)
AOP – Annual Operating Plan	LCR – Little Colorado River
ASMR – Age-Structure Mark Recapture	LCRMCP – Lower Colorado River Multi-Species Conservation Program
BA – Biological Assessment	LTEMP – Long-Term Experimental and Management Plan
BAHG – Budget Ad Hoc Group	LTEP – Long Term Experimental Plan
BCOM – Biological Conservation Measure	MAF – Million Acre Feet
BE – Biological Evaluation	MA – Management Action
BHBF – Beach/Habitat-Building Flow	MATA – Multi-Attribute Trade-Off Analysis
BHMF – Beach/Habitat Maintenance Flow	MLFF – Modified Low Fluctuating Flow
BHTF – Beach/Habitat Test Flow	MO – Management Objective
BIA – Bureau of Indian Affairs	MRP – Monitoring and Research Plan
BO – Biological Opinion	NAU – Northern Arizona University (Flagstaff, AZ)
BOR – Bureau of Reclamation	NEPA – National Environmental Policy Act
BWP – Budget and Work Plan	NHPA – National Historic Preservation Act
CAHG – Charter Ad Hoc Group	NNFC – Non-native Fish Control
CAP – Central Arizona Project	NOI – Notice of Intent
GCT – Grand Canyon Trust	NPS – National Park Service
CESU – Cooperative Ecosystems Studies Unit	NRC – National Research Council
cfs – cubic feet per second	O&M – Operations & Maintenance (USBR Funding)
CMINS – Core Monitoring Information Needs	PA – Programmatic Agreement
CMP – Core Monitoring Plan	PBR – Paria to Badger Creek Reach
CPI – Consumer Price Index	PEP – Protocol Evaluation Panel
CRBC – Colorado River Board of California	POAHG – Public Outreach Ad Hoc Group
CRAHG – Cultural Resources Ad Hoc Group	Powerplant Capacity = 31,000 cfs
CRCN – Colorado River Commission of Nevada	R&D – Research and Development
CRE – Colorado River Ecosystem	RBT – Rainbow Trout
CREDA – Colorado River Energy Distributors Assn.	RFP – Request for Proposal
CRSP – Colorado River Storage Project	RINs – Research Information Needs
CWCB – Colorado Water Conservation Board	ROD Flows – Record of Decision Flows
DAHG – Desired Future Conditions Ad Hoc Group	RPA – Reasonable and Prudent Alternative
DASA – Data Acquisition, Storage, and Analysis	SA – Science Advisors
DBMS – Data Base Management System	Secretary – Secretary of the Interior
DOE – Department of Energy	SCORE – State of the Colorado River Ecosystem
DOI – Department of the Interior	SHPO – State Historic Preservation Office
DOIFF – Department of the Interior Federal Family	SOW – Statement of Work
EA – Environmental Assessment	SPAHG – Strategic Plan Ad Hoc Group
EIS – Environmental Impact Statement	SPG – Science Planning Group
ESA – Endangered Species Act	SSQs – Strategic Science Questions
FACA – Federal Advisory Committee Act	SWCA – Steven W. Carothers Associates
FEIS – Final Environmental Impact Statement	TCD – Temperature Control Device
FRN – Federal Register Notice	TCP – Traditional Cultural Property
FWS – United States Fish & Wildlife Service	TEK – Traditional Ecological Knowledge
FY – Fiscal Year (October 1 – September 30)	TES – Threatened and Endangered Species
GCD – Glen Canyon Dam	TMC – Taxa of Management Concern
GCES – Glen Canyon Environmental Studies	TWG – Technical Work Group
GCT – Grand Canyon Trust	UCRC – Upper Colorado River Commission
GCMRC – Grand Canyon Monitoring & Research Center	UDWR – Utah Division of Water Resources
GCNP – Grand Canyon National Park	USBR – United States Bureau of Reclamation
GCNRA – Glen Canyon Nat'l Recreation Area	USFWS – United States Fish & Wildlife Service
GCPA – Grand Canyon Protection Act	USGS – United States Geological Survey
GLCA – Glen Canyon Nat'l Recreation Area	WAPA – Western Area Power Administration
GRCA – Grand Canyon National Park	WY – Water Year
GCRG – Grand Canyon River Guides	
GCWC – Grand Canyon Wildlands Council	
HBC – Humpback Chub (endangered native fish)	

(Updated: 2/5/2013)