




United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240

DECISION MEMORANDUM FOR THE SECRETARY

From: Anne Castle  SEP 29 2014
Secretary's Designee, Glen Canyon Dam Adaptive Management Work Group
Assistant Secretary – Water and Science

Subject: Report and Recommendations from the Glen Canyon Dam Adaptive Management Work Group (AMWG) Federal Advisory Committee Meetings held on February 19-20, 2014, May 27, 2014, and August 27-28, 2014

I. RECOMMENDATION

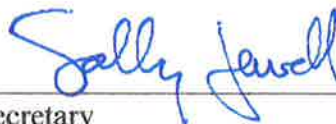
The AMWG brings a wealth of dedication, passion, and knowledge to help guide our efforts to appropriately manage the operations of Glen Canyon Dam. The group makes it possible for the Secretary to consider multiple views about how to protect downstream resources and to reach an appropriate balancing of interests on river operations. The Department of the Interior (Department) agencies and my staff and I work very closely with the AMWG to ensure good dialogue and informed and practical recommendations to you. The two recommendations forwarded to you from the AMWG meeting in August 2014 were adopted by consensus. I recommend you approve both recommendations, and the Department agencies will then work to carry them out.

II. SECRETARY'S DECISION

APPROVE
 DISAPPROVE

SEP 30 2014

Date


Secretary

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Washington, DC 20240

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DECISION MEMORANDUM FOR THE SECRETARY

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To: Secretary

SEP 29 2014

From: Anne J. Castle *Anne J. Castle*
Secretary's Designee, Glen Canyon Dam Adaptive Management Work Group
Assistant Secretary – Water and Science

Subject: Report and Recommendations from the Glen Canyon Dam Adaptive Management Work Group (AMWG) Meetings Held on February 19-20, 2014, May 27, 2014, and August 27-28, 2014.

Introduction

The Glen Canyon Dam AMWG is a Federal advisory committee chaired by a designee of the Secretary of the Interior. I am the current designee. The AMWG provides advice and recommendations to the Secretary relative to the operation of Glen Canyon Dam and the actions of the Glen Canyon Dam Adaptive Management Program (GCDAMP) and reports to the Secretary through the Secretary's designee.

Members of the AMWG are appointed by the Secretary with representation from the Colorado River Basin states, tribal nations, environmental and recreational groups, and power interests. The Department of the Interior (Department) agencies participating in the AMWG include the U.S. Fish and Wildlife Service (FWS), National Park Service (NPS), Bureau of Indian Affairs, Bureau of Reclamation (Reclamation), and the U.S. Geological Survey (USGS). Western Area Power Administration is also represented.

Background

The AMWG held three meetings in 2014. The first was a 2-day in-person meeting on February 19-20, 2014, in Tempe, Arizona. The second was a 3-hour webinar on May 27, 2014. The third was a 2-day in-person meeting on August 27-28, 2014, in Flagstaff, Arizona. The meetings were well attended and positive. This memorandum contains a summary of issues discussed, actions taken, and recommendations to you.

February 19-20, 2014, Meeting:

The AMWG held a 2-day in-person meeting on February 19-20, 2014, in Tempe, Arizona. The following key items were discussed:

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1. Panel on the Potential Effects of Long-Term Drought on Colorado River Operations. Water managers throughout the Colorado River Basin have been working to develop strategies for the long-term implications of climate change for the basin through collaborations such as the recently completed Reclamation Colorado River Basin Water Supply and Demand Study. The partners in the study, as well as other stakeholders, initiated the “next steps” process that is looking into the potential for municipal conservation, agricultural conservation, transfers, a focus on environmental and ecosystem flows, and how those things can be melded together to create a strategy that will address the anticipated range of future inflows into the system, as well as the resulting effects of that range of flows. A diverse panel of people and agencies involved in this process provided their perspectives on the issues facing the basin and the potential solutions: Ms. Katrina Grantz, Reclamation; Mr. Eric Kuhn, Colorado River District; Ms. Jayne Harkins, Colorado River Commission of Nevada; and Dr. Jack Schmidt, USGS Grand Canyon Monitoring and Research Center (GCMRC).
2. Long-Term Experimental and Management Plan Environmental Impact Statement (LTEMP EIS) Update. Reclamation and the NPS as joint lead agencies continue to work with various stakeholders and cooperators in developing the LTEMP EIS. The co-lead agencies, with assistance from Argonne National Laboratory, and working with the cooperating agencies, have defined 12 resource goals, 33 performance metrics, and 6 alternatives. Dr. Mike Runge from the USGS, a nationally recognized expert in structured decision-making, is working with stakeholders to undertake a swing-weighting exercise as part of the work of the EIS.

May 27, 2014, Webinar:

In order to conserve costs, the AMWG has been holding webinars when possible. The May webinar/conference call focused on the following issues:

1. Hydrology and Hydrograph for Fiscal Year (FY) 2015 – Reclamation is forecasting a most-probable release of 9.0 million acre-feet (maf) from Lake Powell to Lake Mead in FY 2015. The proposed hydrograph is similar to FY 2014, with a focus on sediment conservation in the late summer and fall.
2. Triennial Budget and Work Plan – The program will move from a 2-year to a 3-year budget and work plan cycle. Reclamation and the GCMRC are developing a comprehensive and ambitious work plan for FYs 2015-17.
3. Southwest Biological Science Center Facilities and Overhead – Due to aging buildings that do not meet current needs, the GCMRC will have to move into a new facility by 2017. This will cause a substantial increase in the facility overhead rate from 3.8 to 19.9 percent. The GCMRC will have to reduce expenditures on monitoring and research for several years to absorb these costs.
4. Glen Canyon Dam LTEMP EIS – A workshop was conducted March 31-April 2 with stakeholders to present the results of modeling and analysis of the six LTEMP

alternatives, including a swing-weighting exercise to facilitate stakeholder involvement in the decision-making process. By all accounts the workshop and follow-up webinars were a success and the swing-weighting results were informative, although not all stakeholders chose to participate.

August 27-28, 2014, Meeting:

This meeting was held in Flagstaff, Arizona. The following issues were discussed:

1. FYs 2015-2017 Budget and Work Plan – Reclamation and the GCMRC drafted a triennial budget and work plan for FYs 2015-2017. The level of detail and caliber of science provided in the GCMRC work plan (and the coordination with stakeholders as the plan was developed) was extraordinary and many stakeholders expressed their thanks for the work that went into the document. The members discussed and passed the following motion by consensus:

The AMWG recommends the FY 2015-2017 Triennial Budget and Work Plan from Reclamation and the GCMRC, as presented at the August 27-28, 2014 meeting, to the Secretary for approval.

2. Water Year 2015 Hydrograph – The 2014 hydrograph that prescribes operation of Glen Canyon Dam worked very well at retaining sediment inputs high in the system in anticipation of a possible high flow experiment. A very similar strategy is proposed for the 2015 water year to facilitate a high flow release if sediment and other resource conditions are appropriate. The AMWG discussed the Department/Department of Energy (DOE) proposed hydrograph and passed the following motion by consensus:

The AMWG recommends to the Secretary for her approval the Department/DOE Proposed Hydrograph for Water Year 2015 as follows:

- **Annual Release Volumes will be determined by the 2007 Interim Guidelines and shall be reviewed and adopted through the normal annual operating plan process (in consultation with the Basin States as appropriate).**
- **Monthly Release Volumes are anticipated to shift depending upon: (1) the projected Annual Release Volume, (2) powerplant capacity, and (3) the magnitude of a potential High Flow Experiment (HFE).**
- **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 Record of Decision and contained in the 1995 Final EIS and in compliance with all applicable National Environmental Policy Act of 1969 compliance documents (HFE and Non-Native Fish Control Environmental Assessments, 2007 Inspector General).**

- **Release objective for June is:**
 - **600 to 650 thousand acre-feet (kaf) for annual releases below 9.0 maf.**
 - **800 kaf for annual releases of 9.0 maf to less than 9.5 maf.**
 - **900 kaf for annual releases of 9.5 maf to less than 10 maf.**
 - **Greater than 900 kaf for annual releases of 10 maf and greater.**
 - **Release objective for August is 800 kaf.**
 - **Release objective for September is:**
 - **600 kaf for annual releases below 9.0 maf.**
 - **700 kaf for annual releases of 9.0 maf to less than 10.0 maf.**
 - **800 kaf or greater for annual releases of 10.0 maf or greater; up to powerplant capacity for high equalization releases.**
 - **Monthly Release Volumes will generally strive to maintain 600 kaf levels in the shoulder months (spring and fall) and 800 kaf in the December/January and July/August timeframes.**
 - **Additionally, 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 Department/DOE agencies, and in 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.**
3. Planning for a Potential 2014 HFE – The HFE Protocol process provides for substantial collaboration and coordination among Reclamation, GCMRC, NPS, and GCDAMP stakeholders, and has been further refined now that two HFEs have been completed under the HFE Protocol in 2012 and 2013. Many beaches have shown improvement since the HFE Protocol was implemented in 2012 and no adverse impacts to endangered humpback chub or other important resources have been identified. Based on the current status of resources, a 2014 HFE will likely be recommended if there is sufficient sediment input in the fall (which appears likely based on current conditions). Currently in excess of 109,000 tons of sand have entered the system from the Paria River. A minimum of approximately 200,000 tons are needed to conduct a 2014 HFE.
 4. Glen Canyon Dam LTEMP EIS Update – The joint lead agencies, Reclamation and the NPS, are working to craft a hybrid alternative based on the best aspects of the six alternatives under consideration for the operation of Glen Canyon Dam. Based on initial analyses, the draft hybrid alternative is projected to perform better than no action on important resource goals including sediment conservation and native fish including endangered humpback chub. It is the goal of the Department to develop the hybrid alternative into a consensus preferred alternative for the draft EIS. The EIS will also include a robust climate change analysis. The public draft of the EIS is planned for release in January 2015.

5. AMWG Discussion on Issues, Concerns, and Challenges – The AMWG members held a brainstorming session during which various stakeholders discussed a broad range of issues they believe should be considered for the future direction of the GCDAMP. Individual members identified specific ideas that the member viewed as important for the Secretary to consider. During the discussion it was recognized that some of these ideas are likely to have legal, policy, or other ramifications, and would require further analysis. Key ideas discussed (in no particular order) include: (1) a need for greater focus on resource improvement and restoration versus prioritizing research and monitoring; (2) a need to work outside of Grand Canyon in other parts of the Colorado River Basin to consider status of resources and approaches more holistically and basin-wide to address high priority needs; (3) the AMWG should develop a more detailed “second tier” of the Desired Future Conditions; (4) the AMWG should update its foundational documents; (5) the AMWG should work harder to incorporate tribal values into the GCDAMP; (6) the GCDAMP should work towards the big pay-offs to get the most “bang for the buck,” both in Grand Canyon and basin-wide; (7) the AMWG should work with the FWS to evaluate whether the Grand Canyon population of humpback chub is eligible for delisting as an endangered species; (8) the AMWG works best with strong leadership and should look to expand membership basin-wide in the future; (9) hydropower is a renewable, green energy source, and the AMWG should recognize that constraints on hydropower may result in additional carbon dioxide emissions from replacement energy sources; (10) the AMWG should develop ways to directly consider climate change; (11) the AMWG should incorporate in its thinking the fact that water deliveries from Lake Powell are essential to maintaining the economy, including agricultural and municipal and industrial uses; and (12) while the important work of the GCDAMP proceeds, there are important legal issues in dispute between and among the seven states that share the Colorado River and continued diligence should be undertaken not to inadvertently or prematurely trigger conflicts and controversies among the states (particularly in this time of extended and historic drought in the basin).
6. The departure of Mr. Larry Walkoviak, Ms. Ann Gold, and Dr. Jack Schmidt – Mr. Larry Walkoviak retired from Federal service on September 3, 2014. He was appointed Regional Director of Reclamation’s Upper Colorado (UC) Region in September 2007, and has served as the AMWG Secretary’s Designee alternate since 2010. In his more than 35 years of Federal service, all with Reclamation, Mr. Walkoviak has served in numerous positions and places around the west for Reclamation. His dedication and leadership, as well as his calm and warm personality and thoughtfulness, will be sorely missed by both Reclamation and the GCDAMP.

Ms. Ann Gold also retired from Federal service on September 3, 2014. She has been a Deputy Regional Director for Reclamation’s UC Region since November 2007. With over 30 years of Federal service, Ms. Gold began her career with the Soil Conservation Service, and worked for the Forest Service and Bureau of Land Management, prior to moving to Reclamation’s Upper Colorado Region in 1983. Ms. Gold has been a Special Assistant to Reclamation’s Deputy Commissioner for Policy, Administration and Budget, and also served as the UC Region’s Human Resource Officer. She has played a key role in many important AMWG accomplishments including the completion of the GCDAMP

desired future conditions and revisions of the AMWG charter, and has always been a perceptive voice in AMWG deliberations.

Dr. Jack Schmidt is leaving his position as Chief of the GCMRC to return to being a professor in stream geomorphology at Utah State University. In his short tenure as the Chief of the GCMRC since 2011, he has made tremendous efforts to increase the scientific credibility and standing of the GCMRC and to ensure clear and transparent communication of GCMRC results to stakeholders and policymakers. Dr. Schmidt's efforts to integrate the water quality, sediment, biology, and cultural program areas, to focus projects and programs on the key resource issues and questions facing the program, and his ability to inspire and propel his staff to develop new methods of delivering science to support dam operations, has been remarkable. The FY 2015-2017 GCMRC Budget and Work Plan is by far the most advanced to date, an accomplishment that is a testament to his leadership, and which has been unanimously heralded by the members of the AMWG and the Science Advisors. Dr. Schmidt's efforts to make much of the water quality and sediment monitoring done by the GCMRC available in real time on the internet have resulted in one of the most advanced science center websites in the world. His tenure may have been short, but it transformed the GCMRC.

The AMWG works very hard to provide you with informed recommendations concerning the operations of Glen Canyon Dam, and has consistently been collegial and positive in its working relationships. The Department has been very fortunate to have such tremendous staff and stakeholders during my tenure as the Secretary's Designee. I am honored to have had the opportunity to chair this group and to have been a part of the work they have done.

Recommendation

The AMWG brings a wealth of dedication, passion, and knowledge to help guide our efforts to appropriately manage the operations of Glen Canyon Dam. The group makes it possible for the Secretary to consider multiple views about how to protect downstream resources and to reach an appropriate balancing of interests on river operations. The Department agencies and my staff and I work very closely with the AMWG to ensure good dialogue and informed and practical recommendations to you. The two recommendations forwarded to you from the AMWG meeting in August 2014 were adopted by consensus. I recommend you approve both recommendations, and the Department agencies will then work to carry them out.

The attached approval document is provided for your consideration.

cc: Principal Deputy Assistant Secretary, Fish, Wildlife and Parks
Assistant Secretary, Indian Affairs
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Acting Commissioner, Bureau of Reclamation
Director, U.S. Fish and Wildlife Service
Director, National Park Service
Director, Bureau of Indian Affairs

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Adaptive Management Work Group Alternates
Technical Work Group Members and Alternates
(via e-mail)