




# United States Department of the Interior

OFFICE OF THE SECRETARY  
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## MEMORANDUM

To: Jack Schmidt,  
Chief, USGS Grand Canyon Monitoring and Research Center  
Glen Knowles,  
Chief, Adaptive Management Group, Reclamation, Upper Colorado Region

From: Anne J. Castle, Secretary's Designee, Assistant Secretary for Water and Science 

Subject: Glen Canyon Dam Adaptive Management Program Triennial Budget and Work Plan

This memo provides the strategic direction for the development of the Glen Canyon Dam Adaptive Management Program (GCDAMP) work plan and associated budget, consistent with the priorities of the Secretary of the Interior on ensuring healthy watersheds and sustainable, secure water supplies and with the directives of the Grand Canyon Protection Act. Since development of the last biennial budget and work plan, we have had many conversations about the Adaptive Management Program. The goal of these conversations has been to improve the effectiveness of the GCDAMP. Moving from a single year budget to a biennial budget was a step forward, but the Interior representatives and many GCDAMP stakeholders believe there remains room for improvement based on what we have learned during the last few years. In an era of shrinking federal budgets, we must target our limited resources to the highest priorities, stay sufficiently nimble to respond to changing needs, and make sure that we are funding those activities that continue to address critical questions. We also need to ensure that the impressive collective knowledge, judgment, and experience of the members of the Adaptive Management Work Group (AMWG) are put to the most valuable use.

The GCDAMP needs a budget and work plan process that is flexible and resilient, that maintains the adaptive management focus of the GCDAMP, and that continues efforts to transition from a concentration on large-scale experimental science to increased focus on applied science to inform management actions. In 2010, we adopted a two-year non-rolling process for review of the Grand Canyon Monitoring and Research Center (GCMRC) and Bureau of Reclamation work plan and budget, partly in order to reduce the amount of time spent by the AMWG stakeholders (as well as GCMRC) on detail-level budget issues. Similarly, as recommended by the Institute for Environmental Conflict Resolution, we have refined the role of the AMWG to better utilize the AMWG's expertise and leadership by focusing discussions on policy consultation and more substantive, less-detailed review of individual elements of the budget and work plan. Most AMWG members and interested parties agree that the GCDAMP has been well served by these efforts to "get out of the weeds" on budget issues. By working with the Secretary to delineate more specifically the issues on which the AMWG's advice is requested and focus the agenda on

those science and policy priorities, the AMWG has become more effective at meeting its charge to advise the Secretary on how best to operate Glen Canyon Dam.

There is still room for improvement. As we discussed at our February 2014 AMWG meeting, there are inefficiencies in the biennial process. The budget is adopted on a fiscal year basis, meaning that it starts on October 1. The first year's field work typically begins the following summer, and the second fiscal year of the biennial budget begins before the first field season has ended. The existing schedule calls for the program to begin development of the next biennial work plan during the early part of the second fiscal year, but, at that point, the results of the first year's data collection effort are only just becoming available and have not been subject to much interpretation. Under Dr. Jack Schmidt's leadership, the budget development process is inclusive and transparent, which has been applauded by AMWG and TWG members, but it still requires considerable time and resources. As currently structured, this detailed process for development of the two-year work plan and budget is not well informed by the most recent science because of the overlap between the timing of field work, the time it takes to process and analyze data, and the time frames of fiscal years and the budget development process.

I believe we can improve on our efforts to make the GCDAMP and AMWG more effective by further refining the time GCMRC, Reclamation, the AMWG, and the Technical Work Group (TWG) spend in the budget development process by creating a work plan with a three-year scientific vision on which the annual budgets are based. Nevertheless, a three-year budget process must also recognize that scientific learning and funding availability may require mid-course adjustments.

Accordingly, I am directing GCMRC and Reclamation to develop a three-year scientific work plan and associated budgets for the GCDAMP for fiscal years 2015-2017 and to work with the AMWG and TWG to prepare a triennial budget development timeline and process that can be used in the future. This proposed timeline and process will reflect the priorities and transitions described above. The timeline will also provide target dates for mid-course review of the work plan and budget.

I recognize that it will be a challenge to develop both a three-year budget and work plan as well as a process for the development of future work plans, and I thank you in advance for the effort required. This concept is consistent with the process and planning document that the AMWG approved on May 6, 2010 (when the biennial process was first adopted), which was explicitly intended "to reduce the effort currently expended on the budget process while maintaining a high-quality adaptive management program." By further focusing this process, we will make even more effective use of AMWG, TWG, and Budget Ad Hoc Group (BAHG) members' time. The draft FY 2015-2017 budget and work plan (DBWP) will be developed by GCMRC and Reclamation based on input received from the TWG and Interior agencies and will be organized around the four Desired Future Conditions: Colorado River Ecosystem, Cultural Resources, Recreation, and Hydropower. Reclamation and GCMRC will also consider the recommendations TWG provided following its April 2014 meeting. The DBWP must also be responsive to the outcomes of the LTEMP EIS and be able to provide monitoring and research support for the experimental framework established by the LTEMP. Thus, work plan



development may necessitate modifications late in the process to address LTEMP monitoring and research needs associated with the expected completion of LTEMP later this year.

In my March 31, 2011, memorandum to GCMRC regarding science planning, I identified three main science priorities: science relevant to compliance with the Endangered Species Act, particularly relative to native fish and humpback chub; science informing our compliance with the Grand Canyon Protection Act, especially the sediment resource; and science on non-native fish control and the recreational trout fishery. Our understanding of these issues and the interactions among them has continued to evolve, and these priority issues will be fully analyzed in the LTEMP EIS. Thus, the need for this science continues.

As I also noted in my memorandum, however, it is expected that our concerns about other resources might increase in response to development of Desired Future Conditions and other recommendations. At the time of my 2011 memorandum, it did not appear that there were significant science questions related to cultural resources, although those resources were identified as a high priority for resource management. Subsequently, there have been advancements in understanding about how cultural and archaeological sites are linked to modern river processes and the role of Traditional Ecological Knowledge (TEK) in contributing to scientific understanding and river operations, and the FY13/14 biennial science plan included a research project to help understand that issue. These issues should also be considered priorities.

While LTEMP will address these issues and others, I think these four issues (the three described in my 2011 memo and the evolving issue related to cultural/archaeological resources as linked to modern river processes) are the primary areas where GCMRC should concentrate its scientific resources. It is also important to reiterate that these priorities do not preclude other issues for scientific investigation where such investigation has widespread support and furthers the purposes of the Adaptive Management Program. Additionally, long-term monitoring of core ecosystem components must continue. The challenge of Work Plan development is to develop a robust scientific program within the relevant budget constraints.

Pending development of the triennial timeline and process described above, I suggest the following procedure for moving forward this year: Reclamation and GCMRC will distribute the DBWP to the Budget Ad Hoc Group (BAHG) and TWG prior to their respective meetings in spring 2014. Reclamation and GCMRC will respond to input from the BAHG and TWG in the materials submitted to the TWG at its June meeting. The TWG will provide a budget recommendation to the AMWG for its August meeting that includes the revised triennial budget and work plan development process created by TWG. The Science Advisors will have an opportunity to review the DBWP and the TWG budget process revisions prior to the June TWG meeting and will present its review of these materials at the meeting. The TWG will consider the revised FY2015-2017 work plan and budget materials at its June meeting. That process will allow for any TWG recommendations to the AMWG on significant unresolved issues to be considered at the August AMWG meeting.

This revised work plan process invests the BAHG and TWG with significant responsibility for working closely with GCMRC and Reclamation to resolve detailed or complex issues. The goal

remains to elevate to the AMWG only science and policy issues related to the work plan and budget and avoid detailed discussion of specific line items at the AMWG level.

I greatly appreciate the work that Reclamation and GCMRC have done to improve the process, as well as the thoughtful comments of many AMWG and TWG members on this subject. We all share the goal of utilizing the time and expertise of the AMWG as efficiently as possible for the benefit of the entire Adaptive Management Program. I believe these changes move us in a positive direction, and will make the program more effective.