

Glen Canyon Dam Adaptive Management Work Group
Agenda Item Information
August 29-30, 2007

Agenda Item

Monitoring and Research Plan Update

Action Requested

- √ Motion requested. The following motion is provided as a courtesy to AMWG members by GCMRC. *Note: no motion is presumed to be made unless and until an AMWG member makes the motion in accordance with the AMWG Operating Procedures.*

The AMWG recommends that the Secretary of the Interior approve the July 30, 2007 draft of the Monitoring and Research Plan.

Presenter

John Hamill, Chief, Grand Canyon Monitoring and Research Center

Previous Action Taken

- √ By AMWG: AMWG approved the following motion at its December 2007 meeting by a vote of 19-1 with 2 abstentions:

AMWG approves the Monitoring and Research Plan (MRP) as a working document to help guide preparation of the FY08-09 workplan and budget; and recommends to the Secretary of the Interior the GCMRC be charged with (1) addressing the concerns listed in the TWG Minority report in a final FY07-11 document, and (2) bringing that document to the AMWG for further consideration in summer 2007.

- √ By TWG: The TWG approved the following motion at its June 2007 meeting by a vote of 8-7 with 4 abstentions:

The TWG moves to accept the revisions to the MRP and forward the revised MRP to the AMWG for approval.

- √ Other: The Secretary of the Interior responded to the December 2007 motion (above) in May 2007 as follows:

The Department concurs with this recommendation. To expedite this process, GCMRC should evaluate and address the concerns identified in the TWG Minority Report, identify proposed changes to the TWG for their concurrence, and upon receiving concurrence, submit the revised MRP to AMWG at their summer 2007 meeting so the FACA committee can fully consider it as a potential recommendation to the Department.

Relevant Science

N/A

Background Information

Please see the attached background materials, which describe the TWG minority report and the revisions made to the MRP in response to the minority report.

**Monitoring and Research Plan (MRP) Revisions
to address the TWG Minority Report
John Hamill, Chief
GCMRC
July 24, 2007**

AMWG Recommendation

“AMWG approves the MRP as a working document to help guide preparation of the FY 08-09 work plan and budget; and recommends to the Secretary of the Interior the GCMRC be charged with (1) addressing the concerns listed in the TWG minority report in a final FY 07-11 document and (2) bringing that document to the AMWG for further consideration in the summer of 2007.” AMWG Meeting, December 5, 2007

The TWG minority report (Appendix A) was authored by NPS, Colorado, and WAPA.

Secretary of the Interior Response

“The Department concurs with this recommendation. To expedite this process, GCMRC should evaluate and address the concerns identified in the TWG Minority Report, identify proposed changes to the TWG for their concurrence, and upon receiving concurrence, submit the revised MRP to AMWG at their summer 2007 meeting so the FACA committee can fully consider it as a potential recommendation to the Department.” (Memo from the Deputy Secretary of the Interior to the AMWG dated May 2007)

NPS Issues Related to the MRP

The NPS and GCMRC met on 1/11/2007 regarding NPS concerns over the draft MRP that had been specified in the TWG minority report. The discussion boiled down to a concern that the draft MRP (11/14) lacked a comprehensive list of critical science questions that would be addressed over the next 5 years. To address this NPS concern, GCMRC and NPS agreed that GCMRC would develop a crosswalk table showing how the 250 +/- Research Information Needs (RIN) in the AMP Strategic Plan relate to the Strategic Science Questions in the draft MRP. Through a review of this table, GCMRC and NPS would identify new science questions to be included in the MRP. GCMRC would bring the revised list to the TWG for review. The crosswalk table and additional science questions would be included in the revised draft MRP and brought to the AMWG for approval at its summer meeting.

Appendix 2 of the revised MRP (attached) provides the crosswalk between RINs in the AMP Strategic Plan and strategic science questions in the MRP. MRP Appendix 2 identifies five new Strategic Science Questions which have been added to the MRP. These include:

1. What habitats and habitat characteristics, if any, will enhance survival, growth, and reproduction of native Grand Canyon fishes, especially humpback chub, in the mainstem Colorado River?
2. What are the most effective strategies and control methods to limit nonnative fish predation on, and competition with, native fishes?
3. What life stage(s) of rainbow trout pose the greatest threat to humpback chub and other native fishes in Grand Canyon? Are the rainbow trout that threaten native fishes in Grand Canyon produced above or below the mouth of the Paria River?

Monitoring and Research Plan Update, continued

4. What are the effects of ramping rates on sediment transport and sandbar stability?
5. What is the rate of change in eddy storage (erosion) during time intervals between BHBFs?
[both 4 and 5 were derived from the 2006 Knowledge Assessment report]

The criteria that GCMRC used to determine whether a new SSQ should be added to the MRP included:

1. The RIN has not been met or resolved, *and*
2. The RIN is not addressed by an existing SSQ or other aspect of the MRP, *and*
3. The RIN is a priority for the next 5 years based on whether it was (a) relevant to an AMWG priority questions, and (b) feasible to accomplish, *and*
4. the RIN is a science (not policy) related question

All criteria needed to be met before a new question was proposed.

WAPA and State of Colorado Issues Related to the MRP

John Hamill (GCMRC) met with Rod Kuharich (CO), Randy Seaholm (CO), Mary Barger, (WAPA), and Clayton Palmer (WAPA) on December 6, 2006, in Las Vegas, NV, to discuss issues identified in the TWG minority report on the MRP. Three major issues were identified:

1. **Humpback Chub monitoring:** There is a concern that the Fish and Wildlife Service (FWS) has not accepted the protocols/models used by GCMRC to determine the humpback chub population status in the Grand Canyon. GCMRC has been working with FWS to ensure that the monitoring protocols and models for humpback chub in the Grand Canyon are consistent with the requirements of the Humpback Chub Recovery Plan. **Language was included in the MRP that clarifies that the humpback chub monitoring being conducted under the auspices of the AMP will be designed to meet the standards or requirements specified in the Humpback Chub Recovery Plan.**
2. **Sediment:** The primary sediment issues were that:
 - Policy guidance needs to be provided on the geographic scope of sediment work in the Grand Canyon, i.e., is the focus on the entire Colorado River from Glen Canyon Dam to Lake Mead or just to the Marble Canyon reach? **USGS supports the definition of this and other Desired Future Resource Conditions and will update the MRP when they are developed and agreed to by the managers.**
 - WAPA and Colorado would like the MRP to reflect that other options for sediment conservation will be addressed. **USGS is unaware of any other feasible options for sediment conservation over the next five years.**
 - Colorado expressed concern that use of sand bars by recreational users significantly threatens the persistence of sand bars. **This issue has not been identified by the AMP as a high priority research issue for the next 5 years.**

WAPA and Colorado were invited to draft proposed revisions to the MRP to reflect the points above; however none were provided.

3. Food Base

- The Nov 14, 2006 draft MRP specified that effects of stable vs. fluctuating flows on food base would be addressed through the Long Term Experimental Plan which is a work in progress. There is currently a place holder in the MRP to address the effects of alternative flow regimes on food base. GCMRC intends to update the MRP to be consistent with the LTEP once it is finalized. **Accordingly, USGS does not believe that the MRP needs to be modified to address this need at this time.**
- Palmer supports implementation of Argonne National Lab's proposal for doing short term experiments to evaluate the effects of fluctuating flows on drift and food base in FY 2008. **USGS recommended that this proposal be brought to the TWG for consideration during the preparation of the FY 2008 work plan. This was done and the study is now included in the FY 08 budget recommended by the TWG. Language was added to the MRP that describes the work recommended by WAPA.**

TWG Review and Action

The above changes to the MRP were reviewed by the TWG at their June 25-26 meeting. The TWG voted to accept the revisions to the MRP and forward the revised MRP to the AMWG for approval.

Voting Results: Yes = 8 No = 7 Abstaining = 4

Several TWG members expressed concerns about voting to approve the above changes before they could see the actual changes reflected in a revised MRP. Consequently, the MRP was revised and sent to the TWG for review on July 24, 2007.

TWG Review of Concerns related to Core Monitoring Program

The TWG Minority Report raised a concern that "the core monitoring development process (outlined in the MRP) did not follow the process developed and recommended by the core monitoring team." In response to this concern, GCMRC discussed this issue and reviewed the 4 step core monitoring process outlined in the MRP at the TWG meeting on April 2, 2007. At that meeting the TWG reaffirmed its support of the core monitoring approach as described in the Draft November 14, 2006 MRP, and recommended that GCMRC proceed with implementation of the approach in FY 07.

Revised MRP

The final draft of the MRP that reflects the above changes and addresses TWG comments is attached.

Recommendation

All of the issues raised in the TWG Minority Report were addressed by GCMRC in accordance with the recommendation of the AMWG and the Secretary of the Interior. Accordingly, GCMRC recommends that the AMWG recommend approval of the July 30, 2007, draft of the MRP to the Secretary of the Interior with the understanding that it will be revised to reflect the results of the LTEP EIS once it is finalized.

Appendix A

TWG Minority Report concerning the Monitoring and Research Plan to Support GCDAMP FY2007-11 concerning recommendation to AMWG for adoption of the MRP (Vote of 11/9/2006)

Eight TWG members either voted against (6) or abstained from voting (2) to approve the 09/13/2006 draft GCMRC MRP. This minority believes that the current MRP draft has several significant deficiencies as specified below:

- Unclear relationship between the AMP Strategic Plan (and prioritized RINs) and the proposed strategic science questions posed in the MRP. A great deal of time was spent on development of the Strategic Plan and the MRP effort should add more detail and not redirect priorities or their focus.
- Unclear relationship between the strategic science questions and the proposed GCMRC science programs (for the next five years).
- The core monitoring development process did not follow the process developed and recommended by the core monitoring team.
- The Humpback chub science questions and information needs only partially address the HBC questions and needs and those identified are not the top priorities. The top priorities identified were protection of the HBC in refuges the monitoring of HBC population size and composition in order to determine if recovery is being achieved. It is noted that the top priorities should be part of a separate recovery program and we agree. We would also note that all activities associated with the HBC should be part of a separate recovery program, the foundation for which is being developed as part of the Humpback chub management plan. The MRP should address the top HBC priorities or defer all HBC related activities to a separate recovery program. If tasks are going to be divided out, a much clearer description of how they will interface and work together is required.
- The sediment questions fail to provide a monitoring plan that will lead to the identification of the sediment lost or redistributed outside the primary study reach as a result of a BHBF.
- The five year food base program does not address how fluctuating flows affect production and delivery of the food base. As a result, a subgroup of stakeholders: Arizona Game and Fish, Western Area Power Administration, SWCA and Argonne National Labs, Federation of Fly Fishers and Arizona Wildlands Council provided a proposed science plan to GCMRC to expand or amend their program. This science plan, directed at a clear scientific uncertainty that would inform the policy debate, has been ignored by GCMRC and is not included in the MRP.

Without addressing the above deficiencies, it is unclear whether specific high priority stakeholder science questions are being or will be answered over the next five years.

We recommend that the draft document be approved as a working document to help guide preparation of the '08/'09 workplan and budget but that GCMRC be charged with addressing the above concerns in a final FY2007-11 document and that document be brought back to the AMWG for further consideration next summer.