



United States Department of the Interior

BUREAU OF RECLAMATION
125 South State Street, Room 8100
Salt Lake City, UT 84138-1102



IN REPLY REFER TO:

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Memorandum

To: Daniel Picard, Deputy Regional Director
Upper Colorado Basin - Interior Region 7, Bureau of Reclamation

From: Wayne G. Pullan
Chair, Glen Canyon Leadership Team
Acting Secretary's Designee to the Glen Canyon Dam
Adaptive Management Program

Subject: Approval of Recommendation for Macroinvertebrate Production Flow Releases at Glen Canyon Dam in Water Year 2022

WAYNE PULLAN

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PULLAN
Date: 2022.04.26 07:58:44 -06'00'

On April 8, 2022, the Glen Canyon Planning/Implementation Team (PI Team) provided a non-consensus recommendation to conduct Experimental Macroinvertebrate Production Flow releases (Bug Flows) at Glen Canyon Dam from May 1 through August 31, 2022 (Attachment - *Final Recommendation to Implement Macroinvertebrate Production Flow Releases ("Bug Flows") at Glen Canyon Dam May – August 2022*). The recommendation was developed to implement the provisions of the 2016 *Record of Decision for the Glen Canyon Dam Long Term Experimental and Management Plan Final Environmental Impact Statement* (LTEMP ROD) concerning annual planning for flow-based experiments.

The LTEMP ROD specifies the representation requirements for planning experiments at Glen Canyon Dam and is based on past successful planning and implementation of flow-based experiments. The PI Team includes technical representatives from the Bureau of Reclamation (Reclamation), the National Park Service (NPS), the U.S. Fish and Wildlife Service (FWS), the Bureau of Indian Affairs (BIA), the U.S. Geological Survey's (USGS) Grand Canyon Monitoring and Research Center (GCMRC), Western Area Power Administration (WAPA), the Arizona Game and Fish Department (AZGFD), the seven Colorado River Basin States (States), and the Upper Colorado River Commission (UCRC). The Glen Canyon Leadership Team (Leadership Team) is made up of decision makers from these same agencies.

The LTEMP ROD further requires that Reclamation notify Traditionally Associated Tribes (Tribes) at least 30 days in advance of planned experimental flows. On March 30, 2022, notification of the possible Bug Flow experiment and offer for consultation was emailed to the Tribes and parties to the LTEMP National Historic Preservation Act Section 106 Programmatic

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Agreement. It is my understanding that, to date, no input from the Tribes or requests for consultation have been received by Reclamation.

The Leadership Team met via webinar on April 11, 2022, to review and consider the PI Team's recommendation, including the assessment of key resources that may be impacted or affected by Bug Flows and the experiment monitoring plan. Leadership Team members voiced concerns related to operational uncertainties and the potential for adverse effects to the Basin Fund. Ongoing drought conditions and low lake levels have resulted in significant uncertainty in WY 2022 hydrology, annual and monthly operations, and resource conditions. As a result, the PI Team has recommended ongoing coordination throughout implementation of the Bug Flows experiment to evaluate whether new conditions or unanticipated negative impacts have occurred or are likely to occur. Using forecasted energy prices obtained in March 2022, WAPA estimates that the expense of a Bug Flows experiment in 2022 would be approximately \$1.4M. While these costs would result in a short-term impact to the Basin Fund, WAPA would ultimately receive a credit as if the funds had been returned to the U.S. Treasury to repay construction debt (i.e. constructive return credit).

Given the best available science, current assessment of resources, and the inclusion of potential off-ramps should unanticipated negative impacts occur, I have decided to approve the recommendation to conduct a Bug Flows experiment starting on May 1 and running through August 31, 2022. The Department of the Interior will consider PI Team recommendations to terminate implementation but retains discretion to decide how best to accomplish operations and experiments pursuant to the ROD and other binding obligations.

This will be the fourth implementation of the Bug Flows experiment conducted under the 2016 LTEMP ROD and demonstrates the utility of the LTEMP in allowing for experiments when conditions warrant and there would not be unacceptable adverse impacts to key resources. The approved Bug Flows will consist of steady weekend releases from Glen Canyon Dam that provide favorable conditions for insects to lay eggs along the Colorado River margins and slightly higher fluctuating releases during the weekdays designed to prevent the eggs from drying out. Weekend releases will be 750 cubic feet per second (cfs) higher than weekday lows, consistent with the H750 hydrograph evaluated in the technical report (Attachment). This experiment is expected to have positive benefits to the food base of the aquatic and terrestrial ecosystems downstream of Glen Canyon Dam. The recommended Bug Flow experiment will provide resource benefits in the near term and will also provide important scientific information to be used in future decision making. The Bug Flow experiment is consistent with applicable laws concerning the operation of Glen Canyon Dam and will satisfy the Department of the Interior's (Department) goal to ensure effective and coordinated implementation of important research that the Department is undertaking as part of the Glen Canyon Dam Adaptive Management Program.

This is the fifth full year of implementing the process for annual experimental planning under the LTEMP ROD, which requires the Department to “schedule implementation / planning meetings or calls with Interior bureaus (USGS, NPS, FWS, BIA, and Reclamation), WAPA, AZGFD, and one liaison from each Basin State and from the UCRC, as needed or requested by the participants.” At the conclusion of the experiment, the PI Team will review the planning process, implementation, and monitoring activities and develop a list of “lessons learned” to inform potential future experiments and experimental planning. In accordance with the LTEMP, the Department may make the decision to conduct future flow-based experiments (e.g., High Flow Experiments, Bug Flows, Trout Management Flows, and Low Summer Flows) at Glen Canyon Dam if it is determined that there are no unacceptable adverse impacts on other resource conditions. For future experimental planning, the Department welcomes any additional input from you and other Leadership Team members as to whether this or another process should be used to satisfy the coordination and communication process of the LTEMP ROD.

I would like to personally thank both the Leadership and the Planning/Implementation Teams for their dedication and continued work that has resulted in this recommendation. The individual efforts of the team members, especially the GCMRC is greatly appreciated. The coordination among the team members has been instrumental in making this process a success and has allowed the Department to continue its commitment to protect and improve the irreplaceable resources at and below Glen Canyon Dam.

Attachment - Final Recommendation to Implement Macroinvertebrate Production Flow (“Bug Flows”) Releases at Glen Canyon Dam in Water Year 2022