



# United States Department of the Interior

BUREAU OF RECLAMATION  
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## Memorandum

To: Chief of Staff  
Office of the Assistant Secretary for Water and Science

From Wayne G. Pullan  
Chair, Glen Canyon Leadership Team  
Secretary's Designee to the Adaptive Management Work Group (acting)

Subject: Notification of Decision to Implement a Spring Flow Experiment at Glen Canyon Dam

On April 10, 2023, the Glen Canyon Planning/Implementation (PI) Leadership Team finalized a majority recommendation to implement a Spring Flow Experiment (2023 Experiment) at Glen Canyon Dam in April 2023. Eight entities recommended the Spring Experiment, and 7 entities abstained from making a recommendation. No members objected to the 2023 Experiment based on information contained within the PI Technical Team Report and Recommendation.

The recommendation was developed and evaluated within the adaptive management framework and provisions of the 2016 Record of Decision (ROD) for the Glen Canyon Dam Long Term Experimental and Management Plan (LTEMP) Final Environmental Impact Statement (LTEMP ROD) concerning annual planning for flow-based experiments.

In accordance with the LTEMP, the Department may make the decision to conduct flow-based experiments (e.g., High Flow Experiments (HFE), Macroinvertebrate Production 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. LTEMP states that "Prior to implementation of any experiment, the relative effects of the experiment on the following resource areas will be evaluated and considered: (1) water quality and water delivery, (2) humpback chub, (3) sediment, (4) riparian ecosystems, (5) historic properties and traditional cultural properties,

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(6) Tribal concerns, (7) hydropower production and WAPA's assessment of the status of the Basin Fund, (8) the rainbow trout fishery, (9) recreation, and (10) other resources." Water Year 2023 was the sixth full year of implementing the process for annual experimental planning under the LTEMP ROD. For future experimental planning, the Department welcomes input from each of the Leadership Team members as to whether the current process or another process should be used to satisfy the coordination and communication requirements under the LTEMP ROD.

Traditionally Associated Tribes are notified at least 30 days in advance of planned experimental flows. On February 22, 2023, notification of the possible 2023 Experiment and offer for consultation was emailed to the Tribes and Parties to the LTEMP National Historic Preservation Act Section 106 Programmatic Agreement (LTEMP PA). A follow up letter was sent on March 29, 2023. At this time, no requests for consultation regarding the potential 2023 Experiment have been received.

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 Technical 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 PI Leadership Team is made up of decision makers from the same organizations.

The 2023 water year was an exceptional hydrological period for the Colorado River basin. High snowpack in the western United States was a welcomed change following multiple years of severe drought conditions. The low annual release volumes for the last year have also enabled the holdover of large amounts of sand in Marble Canyon, which in higher volume release years is quickly washed downstream. The 2023 Experiment takes advantage of that holdover sand and the new sand inputs from the Paria River from 2023 together with an anticipated large annual release volume of up to 9.5 million acre-feet in water year 2023. Focused analysis on the implications of this 2023 Experiment showed that there is no exacerbation of the non-native fish issues in the Colorado River below Glen Canyon Dam. In fact, no unacceptable adverse effects to any LTEMP resources were revealed within the Technical Report for any resources by the Planning and Implementation Technical Team.

Though the sediment triggers outlined by LTEMP ROD were not explicitly met during the accounting window to implement a spring HFE, the unique hydrology and sediment conditions in 2023 presented an exceptional opportunity to implement positive actions on the river, including compliance with the Grand Canyon Protection Act through a high flow action. Thus the 2023 Experiment was proposed and then analyzed under a Supplemental Information Report (SIR), which

concluded that the 2023 Experiment is covered under the analysis of the LTEMP Final Environmental Impact Statement. This type of spring flow action has been promoted by many members of the GCDAMP for years and was planned and will be implemented in a similar manner as a LTEMP spring HFE. The analysis in the SIR was undertaken for this 2023 April Experiment and the unique current conditions. The analysis, including the expedited consideration by the LTEMP PI Team, does not set a precedent for future LTEMP implementation.

Within the LTEMP, fall HFEs were predicted to be conducted frequently (~3 out of every 4 years) and it has been four years since the most recent HFE was triggered and implemented (fall 2018), and no spring HFEs have yet to be triggered. LTEMP anticipated spring HFEs in "26%" of the years covered under the 20-year period (i.e., 5 out of 20 years). The LTEMP anticipated proactive HFEs would occur in 10% of the years, so 2 out of 20. The GCDAMP is generally behind schedule for HFEs according to the above information, and sandbar condition in the Grand Canyon is currently poor owing to lack of HFEs and high monsoonal activity that has created gullies that make many sandbars inhospitable to camping.

This 2023 Experiment will provide a renewal of Grand Canyon beaches, which are used by over 25,000 visitors per year and have not been rebuilt since the last HFE in 2018. The 2023 Experiment creates progress towards a variety of LTEMP resource goals, including but not limited to the Sediment, Recreational Experience, Natural Processes goals.

Though there was majority support for the 2023 Experiment, support from Arizona and California was contingent upon the following qualifications:

Arizona (Department of Water Resources) and California support the 2023 Experiment recognizing the following:

- There are unprecedented and unique water supply and dam operation opportunities on the Colorado River in Water Year 2023, such as delayed balancing releases and the need to release additional water withheld in Lake Powell under modified DROA operations;
- The total actual sand accumulation load upon implementation is ~2.5 million metric tons, and Upper Marble Canyon is projected to receive an additional ~200,000 to ~500,000 metric tons of cumulative sand load for an April 2023 Experiment by the end of the 2023 spring accounting window;
- Reclamation is projecting a total annual release between 9.0 to 9.5 maf from Glen Canyon Dam within the remainder of the 2023 Water Year;

- The experiment is expected to have positive impacts on LTEMP downstream resources in the Grand Canyon;

And conditioned upon the following:

- The experiment does not create precedent for future actions. Future actions will be limited to the express terms of the LTEMP ROD;
- The expedited Planning & Implementation process and stakeholder review will be limited to this experiment and will not become a regular consultation tool;
- That monthly volumes for the remainder of the 2023 Water Year under a 9.0 to 9.5 maf release will not be significantly redistributed from the currently projected release patterns;
- This experiment will not result in lower Lake Powell reservoir elevations below the current projected May 1st elevation on May 1st of 2023;
- Pre- and post-experiment monitoring must occur to fully document and facilitate analysis of the effects of the experiment; and
- This support applies to Water Year 2023, and only to the extent that the experiment is within the scope and authority of the LTEMP ROD.

Based on the identification of high resource benefits by both the PI Technical and Leadership Teams, the determination of no unacceptable adverse impacts, and majority recommendation for the Department to implement a 72-hr duration Spring 2023 Experiment, I concur with the determination, and I have decided to conduct a Spring Experiment for 72-hrs of peak duration beginning on April 24. We will continue to work with our partners on future experimental flows and in the protection of the Grand Canyon and our most important resources.

I am grateful to both the PI Leadership and Technical Teams for their dedication and commitment to the process for annual experimental planning and for your continued support of the Glen Canyon Dam Adaptive Management Program.

For the deaf, hard of hearing or speech impaired, please dial 7-1-1 to access the telecommunications relay system.

Attachment: Final Technical Report and Recommendation Regarding a Spring Flow Experiment at Glen Canyon Dam, April 2023.

cc: Camille Calimlim Touton, Commissioner