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)

WAYNE PULLAN Digitally signed by WAYNE PULLAN Date: 2024.11.06 14:24:12 -07'00'

Subject: Notification of Smallmouth Bass Flow Offramp for 2024

On November 5, 2024, the Planning/Implementation (PI) Leadership and Technical Teams met to discuss the current status of the smallmouth bass flows and recommended to continue the Cool Mix flow until observed Glen Canyon Dam penstock release water temperatures are at or below 15.5°C (60°F). Please see Table 1 below for the PI Leadership Team members.

The 2024 Long-Term Experimental and Management Plan (LTEMP) Supplemental Environmental Impact Statement (SEIS) Record of Decision (ROD) authorizes the utilization of the river outlet works to cool the river in response to threats posed by smallmouth bass and other warmwater nonnative fish species. The ROD was signed on July 3, 2024 and stipulated the implementation of the Cool Mix alternative in 2024. Subsequently, on July 9, 2024 Cool Mix flows were initiated and have been operational since that date.

The ROD states that in 2024, *"The Cool Mix Alternative would be implemented until the mean daily water temperature (without bypass) falls below 15.5°C (60°F) at river mile 61."* Furthermore, it states that in any given year for each alternative, *"The trigger location for the 15.5°C (60°F) threshold could be anywhere upstream of river mile 61, depending on the smallmouth bass distribution and size class, frequency and efficacy of sampling, or other considerations as determined through the planning and implementation process."*

For much of the implementation period, river mile 61 has been used as the target river mile for managing temperatures and this has resulted in river temperatures staying below critical smallmouth bass spawning thresholds in the entire river from the dam to river mile 61. However, in recent weeks as the weather has cooled, river temperatures at river mile 61 have been cooler than those in the Lees Ferry reach approximately 60 river miles upstream. As a result, the observed temperatures in the upper reaches of the river nearer to the dam are at or above the 15.5°C threshold identified as the trigger in the 2024 LTEMP SEIS ROD.

As the Secretary's Designee, I asked Reclamation to convene an expert panel of biologists from the US Geological Survey, US Fish and Wildlife Service, National Park Service, Western Area Power

Administration (WAPA), and the Arizona Game and Fish Department. They were asked to assess risk and provide a recommendation for possible off ramping of the Cool Mix flows while release temperatures are above 15.5°C. Four out of the five panel members expressed concern regarding the potential for smallmouth bass to spawn and overwinter and suggested maintaining Cool Mix flows until dam release temperatures are below 15.5°C. WAPA's expert dissented, highlighting the number of days required for smallmouth bass to reach the size threshold needed for overwinter survival. This panel member recommended off ramping as soon as practical.

The expert panel information was provided to the PI Leadership Team who provided the following recommendation:

"Continue Cool Mix-flow to cool to River Mile 61. Stop Cool Mix flows when Glen Canyon Dam penstocks release water temperatures are observed to be at or below 15.5 and anticipated to remain below that threshold as measured by the sonde (NWIS #09379901) immediately below Glen Canyon Dam."

This recommendation was supported by all PI Leadership Team members present with WAPA, the state of Colorado and the state of Wyoming abstaining from making a recommendation (Table 1). WAPA expressed concerns that without another source of funding, extending Cool Mix flows will increase the financial risks posed on operation and maintenance requirements at Reclamation and WAPA facilities. Through the end of October WAPA's initial estimates of this experiment are $18.4 million.

Table 1. PI Leadership Team voting based on recommendation.

Entity	Leadership Team	Position (Based on PI Language)
DOI-BOR	Daniel Picard	Support
DOI-NPS	Ed Keable/Michelle Kerns	Support
DOI-FWS	Jess Newton	Support
DOI-USGS	Lewis Coggins	Support
DOI-BIA	Vacant	Not Present
DOE-WAPA	Brian Sadler	Abstain
Arizona	Kristen Johnson	Support
California	Jessica Neuwerth	Support
Colorado	Michelle Garrison	Abstain
Nevada	Colby Pellegrino	Support
New Mexico	Ali Effati	Support
Utah	Amy Haas	Support
Wyoming	Charlie Ferrantelli	Abstain
AZGFD	Julie Carter	Support
UCRC	Chuck Cullom	Not Present

With the information provided by the expert panel and the PI Leadership Team recommendation, I believe a conservative off ramping approach is warranted to set the baseline for the Cool Mix flows as the flows appear to have been successful in preventing spawning of smallmouth bass. It is my recommendation that Reclamation continue the Cool Mix flows as presented in the PI Leadership Team's consensus recommendation; based upon this recommendation, Reclamation will continue Cool Mix flows as described above.

Upon the conclusion of this year's Cool Mix flows, a comprehensive evaluation of the Cool Mix flows will be undertaken. In accordance with the 2024 LTEMP SEIS ROD, Reclamation will adopt an adaptive management approach for future implementation of flows should conditions necessitate cooling the river. This approach will encompass the consideration of alternative flow options outlined in the LTEMP SEIS, river mile targets, on/off ramp criteria, resource impacts, and other considerations related to use of the river outlet works for cooling the river. This process will be carried out in close coordination with the PI Leadership Team as defined in the 2016 LTEMP EIS and ROD.

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

Attachment: Science Panel Recommendation Regarding Smallmouth Bass Flow Offramps, November 2024.

cc: Camille Calimlim Touton, Commissioner