



November 3, 2023

Ms. Kathleen Callister
Adaptive Management and Water Quality Division Manager
U.S. Bureau of Reclamation

Electronically submitted to: LTEMPSEIS@usbr.gov

RE: Notice of Intent To Prepare a Supplemental Environmental Impact Statement for the December 2016 Record of Decision Entitled Glen Canyon Dam Long-Term Experimental and Management Plan

Dear Ms. Callister:

The Arizona Game and Fish Department (Department) appreciates the opportunity to provide input to the Bureau of Reclamation's (Reclamation) Federal Register notice of October 4, 2023 Notice of Intent To Prepare a Supplemental Environmental Impact Statement (SEIS) for the December 2016 Record of Decision Entitled Glen Canyon Dam Long-Term Experimental and Management Plan (LTEMP). The Department is aware of the changing conditions below Glen Canyon Dam, the risk of establishment of warmwater non-native fish in this section of the Colorado River, and the need to adjust the LTEMP high flow experiment sediment account window. The Department continues to manage fish and wildlife resources within the Colorado River watershed and its system of reservoirs, rivers, and canals of Arizona.

Under Title 17 of the Arizona Revised Statutes (ARS), the Department, by and through the Arizona Game and Fish Commission (Commission), has jurisdictional authority and public trust responsibilities to conserve and protect the state fish and wildlife resources. In addition, the Department manages threatened and endangered species through authorities of Section 6 of the Endangered Species Act and the Department's 10(a)(1)(A) permit. It is the mission of the Department to conserve and protect Arizona's diverse fish and wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations. The Department has formally accepted Reclamation's invitation to participate as a cooperating agency in the preparation of an SEIS to the December 2016 Record of Decision and provides the following comments based on the agency's statutory authorities, public trust responsibilities, and special expertise related to wildlife resources and wildlife-related recreation as they relate to the Federal Register notice.

Flow Options to Address High Risk Warmwater Non-native Fish

Higher water temperatures coming through Glen Canyon Dam and the increased risk of fish entrainment due to low reservoir elevations are the driving factors for establishment of

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Smallmouth Bass (SMB) and other high risk non-native fish species downstream of the dam. Although these factors are a result of the existing water conditions within the Colorado River basin, both release temperature and entrainment can be influenced and managed by operations at Glen Canyon Dam. As a stakeholder within the Glen Canyon Dam Adaptive Management Work Group (AMWG), the Department is supportive of the implementation of flow options to disadvantage high-risk warmwater species, such as SMB. Preventative measures such as temperature and flow control in the management of high-risk warmwater non-native fish are vital to reduce the risk piscivorous nonnative fishes pose to the Rainbow Trout Fishery at Lees Ferry and native fish populations downstream. Thus, the Department is supportive of Flow Options A-D as outlined within the draft Environmental Assessment (EA) as actions to achieve the stated purpose and believe that they serve as meaningful options to reduce the risk of establishment of SMB. Additionally, the Department encourages Reclamation to plan for flexibility within the implementation of action alternatives to fit within the adaptive management framework of the program.

Proposed iterations of flow options have suggested a trigger of 16°C detected at the Little Colorado River for implementation. The Department agrees with the designation of 16°C as the biologically meaningful threshold for management action and recommends including temperatures at Lees Ferry, as well as temperatures in the mainstem at the Little Colorado River inflow. Lees Ferry is the epicenter for establishment of SMB due to its proximity to the dam. Water temperatures conducive for SMB spawning have already been reached in Lees Ferry in 2022 and 2023, which has contributed to observations of young-of-year SMB during the Department's long-term fish monitoring program and by other cooperating agencies in the reach. Delaying establishment at Lees Ferry will increase chances of preventing high risk warmwater species from establishing in downstream areas.

The Department recognizes that the flow regimes outlined by the Grand Canyon Monitoring and Research Center and Reclamation to suppress SMB will disrupt recreational opportunities at Lees Ferry during high flows; however, they also represent an overall benefit to the LTEMP resource if effective in their suppression of SMB, and by maintaining colder water releases below the dam. To minimize impacting recreational users, the Department recommends Reclamation consider implementing peak flows during times of lowest use (i.e. weekdays), as feasible, and provide time for public announcement for recreationalists to adjust plans and minimize impacts to boating and angling trips.

It should be stressed that although the Department agrees that the mechanisms of the flow options proposed in the EA should disadvantage warmwater species, the efficacy of such actions to elicit population-level effects on unwanted species is yet unknown. Reliance on flow operations exclusively to disadvantage warmwater species at Lees Ferry is likely not an effective long-term strategy, unless paired with other preventative measures. Technologies preventing or limiting entrainment of warmwater fish through Glen Canyon Dam needs to be pursued concurrently, if not implemented first. For example, the reduction in the entrainment of fish through the dam would attempt to address the source and would not come with the same costs to water storage and hydropower resources that changes to flow operations have. The Department recognizes there would be a substantial cost associated with the development, implementation,

and maintenance of fish exclusionary devices but cost associated with post-establishment control efforts have the potential to be much larger. The high costs in managing high risk warmwater species in the upper basin can be referenced as evidence for the difficulty in controlling unwanted species once established. For these reasons, the Department believes that preventative measures continue to be the best defense against aquatic invasive species to minimize biological and economic impacts to existing resources.

Sediment Accounting Window

The Department is supportive of the changes to the sediment accounting window proposed by the Flow Ad Hoc Technical Work Group to the AMWG during the August 2023 meeting. The Department has long been advocating for adjustments to the accounting window to allow for additional spring high flow events as they fit more closely with natural processes of rivers. Further, these adjustments will address the changing precipitation conditions within the basin, which preclude current winter sediment triggers from being met. The Department believes strongly that the changes to the sediment accounting window are needed to meet sediment resource goals outlined in the LTEMP and are in the spirit of the adaptive management framework.

The Department has concerns with combining flow actions to address SMB and High Flow Experiments to address beach building by way of the sediment accounting window within the same SEIS. It is important that these actions not be considered mutually exclusive because the intended purpose benefits separate resources goals. Related to this concern, implementation of each should not be influenced by the other (e.g. cost, impact to water or hydropower resources). Additionally, the Department has concerns that the current decision process does not allow for adequate time to thoroughly discuss, deliberate, and make a determination on implementation for these actions separately and recommends BOR identify clear guidance that ensures adequate time for review and coordination.

Thank you for the opportunity to provide input on the SEIS for the December 2016 Record of Decision Entitled Glen Canyon Dam Long-Term Experimental and Management Plan. For further coordination, please contact Ryan Mann at rmann@azgfd.gov or by phone call to 623-236-7538.

Sincerely,



Luke Thompson
Habitat, Evaluation, and Lands Branch Chief

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