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To: LTEMP SEIS Project Manager
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Bureau of Reclamation

Re: Grand Canyon River Guides' Comments re: the Draft Supplemental Environmental Impact Statement for the Glen Canyon Dam Long-Term Experimental and Management Plan

Date: March 25, 2024

To whom it may concern,

Grand Canyon River Guides, Inc., (GCRG) founded in 1988, is unique in that it provides a unified voice for river guides and river runners in defense of the Colorado River through Grand Canyon. Our non-profit educational and environmental 501(c)(3) organization is comprised of over 1,700 individuals who are passionately dedicated to the continuing preservation of this national icon. Consequently, Grand Canyon River Guides' goals are to:

Protect the Grand Canyon

Provide the best possible river experience

Set the highest standards for the guiding profession

Celebrate the unique spirit of the river community

As the recreational river running stakeholder for the Glen Canyon Dam Adaptive Management Program, and as a longtime Grand Canyon defender, GCRG respectfully submits our comments and suggestions on the Draft Supplemental EIS for the Long Term Experimental and Management Plan (LTEMP) as per the Federal Register notice dated February 9, 2024. While we reiterate some of our comments made during the scoping period, we also augment them based on the content of the Draft SEIS.

We understand that the BOR must respond expeditiously to the significant threat of Smallmouth Bass (SMB) establishment below Glen Canyon Dam which could impact the federally listed Humpback Chub and other native fish populations. The BOR's purpose within this SEIS is to identify methods to prevent

this from happening by proposing multiple release (flow) options from the dam that cool the river below 16 degrees Celsius and introduce flow velocities that are unfavorable for SMB spawning.

In addition to the No Action alternative, the Draft SEIS analyzes five flow-option alternatives:

Cool Mix

Cool Mix with Flow Spikes

Cold Shock

Cold Shock with Flow Spikes

Non-Bypass Alternative

Although not required to do so under its NEPA handbook, the BOR does not identify an agency-preferred alternative.

Accordingly, Grand Canyon River Guides' comments, perspectives, and suggestions are as follows:

The Non-Bypass Alternative

Non-Bypass alternative is of serious concern. This alternative would not involve the use of Glen Canyon Dam's bypass system, but rather would focus on significant river stage fluctuations to theoretically disrupt smallmouth bass spawning.

Under the Non-Bypass Alternative, flows could swing between a low of 2,000 cfs to a high of over 27,000 cfs. If implemented, this alternative would wreak havoc to numerous sensitive resources downstream. While we can appreciate theoretical experimentation, many GCRG members witnessed firsthand the significant damage to downstream resources that occurred when Glen Canyon Dam was operated under a similar paradigm in the 1980's. Prior to completion of the Glen Canyon Environmental Studies (which ultimately led to the passage of the Grand Canyon Protection Act of 1992), similar fluctuations destroyed the sediment resource to a level from which we are still unable to recover. We find it both ironic and deeply disturbing that this SEIS would even include such an alternative that ignores the lessons of the past and is contrary to the legal obligations of the Grand Canyon Protection Act. The Non-Bypass Alternative would be a giant step backwards and would seriously diminish the credibility of the BOR and the intent behind establishing the Glen Canyon Dam Adaptive Management Program (AMP).

Along with the sediment, other devastating potential adverse impacts include damaged cultural resources, aquatic resources and more, by shortsightedly treating the dam like the headgate of a giant canal system. For example, this alternative would adversely impact the foodbase that has only recently seen significant improvement from the bug flows. We know through these studies that massive fluctuations would have significantly negative impacts to the aquatic invertebrates. This SEIS analysis underestimates and fails to consider as a key part of the aquatic environment's Gross Primary Productivity (GPP).

The Non-Bypass Alternative is ostensibly designed to de-water Smallmouth Bass (SMB) nests, followed by a rapid high spike flow to flush out any remaining nests. Unique to this alternative is no effort to cool the water, instead relying solely on water velocity to dislodge spawning SMB nests. This suggests that all of the other flow alternatives, which do involve a technique to lower water temperatures, are based on

a faulty assumption (that SMB spawning is in fact inhibited by lower temperatures). This flies in the face of science demonstrating otherwise and as such should not be considered for implementation. Along with the negative impacts from the Non-Bypass Alternative to the sediment resources and ecology of the Colorado River ecosystem in Grand Canyon is the extreme challenge of navigation. As the Grand Canyon river guiding community experienced in September 2023, there are severe and significant risks to running the river below 6,000 cfs. Consequences from 2023 included life-threatening injuries that were happening faster than SAR Teams could respond, and damaged equipment across all types of watercraft. Dropping levels down to 2,000 cfs would make river running infeasible and have major impacts to those unlucky visitors whose experience would not be that of a world-class whitewater rafting trip through the Grand Canyon.

A deeper look at the modeling for these types of flows shows that adverse impacts to the recreational experience extend far below the LCR. Of great concern is the failure of the Draft SEIS to accurately portray the impacts from the Non-Bypass Alternative on camping beaches by stating that ‘camping opportunities would be affected to a similar extent as under the other action alternatives.’ This assessment deserves greater explanation in light of years of evidence showing dramatic flow fluctuations adversely affect sediment resources and specifically camping beaches along the river corridor especially during periods with inadequate sediment mass balance in the system. It concludes by summarizing that the Non-Bypass Alternative would adversely affect whitewater boating due to low minimum flows but makes no mention of its impact to camping beaches. Overall, from navigability/safety, to trip management, to the quality of the recreational resource and recreational experience, the Non-Bypass Alternative is unacceptable and unworkable.

Advance a range of alternatives (Cool Mix, Cool Mix with Spike, Cold Shock, and Cold Shock with Spike) as *experiments* for maximum flexibility and adaptability, based on monitoring, and assessment of effectiveness.

The use of bypass is the only tool that will prevent SMB from gaining a foothold and spreading throughout the system. With a lack of consensus among fishery biologists about which experimental action would have the biggest impact on disrupting Smallmouth Bass during the spawning cycle, GCRG suggests an incremental and adaptive approach to experimental options that would minimize the negative impacts to other resources. We suggest initial experimentation with whichever alternative is deemed most potentially efficacious. This might, for example, be the Cool Mix Alternative, with plans in place to monitor results. If further action is needed to attain goals, the Cool Mix with a single Flow Spike should be initiated next, with intent to disrupt the spawning cycle.

After 20 years of monitoring native fish in the Upper Basin, we have learned that turbidity has no effect on Smallmouth Bass predation, therefore, the No Action alternative would be irresponsible in regard to the endemic, threatened species of native fish in Grand Canyon. Furthermore, as these experimental actions are just a ‘band-aid’ to the current situation, plans to modify the dam-conditioned environment of the slough in Glen Canyon, and installing a curtain in the forebay of Glen Canyon Dam are paramount to providing long-term solutions to this dire situation.

Please note that Grand Canyon River Guides remains concerned that the alternatives that include spike flows (Cool Mix plus Spike Flow, and Cold Shock plus Spike Flow) could be detrimental to sediment and substantially erode sand that has accumulated in the channel, precluding the opportunity to conduct an HFE. We disagree with the Draft SEIS’ conclusion that ‘in the long term, flow spikes have the highest potential to increase camping areas in the Grand Canyon.’ In fact, the SEIS explains that ‘in some years, flow spikes would cause sand export in the lead up to HFE implementation, which would reduce the

resulting HFE duration. Flow spikes would decrease mass balance at Marble Canyon to a slightly greater extent relative to the alternatives without flow spikes, while contributing slightly more volume to sandbars.' Evidently the SEIS ignores that the best tool to preserve camping beaches is by taking advantage of the scientifically proven benefits of HFEs conducted under sediment enriched conditions.

Given the admittedly experimental nature of these alternatives, GCRG advocates for expressly including a process to monitor and assess the effectiveness of any implemented alternative. It is paramount that the entire range of near term, midterm, and long-term activities to prevent nonnative predatory fish (and other species) from establishing and/or expanding be employed in an integrated fashion. It is an 'all-hands-on-deck' moment for the ESA-listed species that the BOR is legally mandated to protect. As such, the eventual decision space provided by the conclusion of this NEPA process must allow for rapid yet thoughtful, science-based adjustments for the next experiment, based on the results of monitoring studies in meeting the desired outcomes.

Impacts to recreation and the recreational resource in Grand Canyon

In our scoping comments, Grand Canyon River Guides suggested that the SEIS should analyze how the different flow alternatives would impact recreation and in particular explain the metrics to assess and compare alternatives in terms of impacts to river recreation. Unfortunately, the Draft SEIS ignored this suggestion and consequently fails to adequately assess impacts to recreation. Section 3.14.1 assesses the Affected Environment for recreation resources and limits discussion of boating in Grand Canyon National Park to camping beaches. It does not describe safety or the visitor experience, or make any mention of the considerations river guides must make on a daily basis due to predicted flow levels.

This is perpetuated in Section 3.14.2 where the Draft SEIS assesses the environmental consequences of the different proposed alternatives and fails to include any impact indicators to consider these important elements of boating the Colorado River through the Grand Canyon. Despite making no mention of this in the Affected Environment, the Environmental Consequences section describes presumed safe whitewater boating levels and cites a nearly 40-year-old study (Bishop et al. 1987) to capture the presumed preferred flow levels. **In the future, we would like to see 8,000 cfs as the minimal flow for navigational safety.** Anything below 8,000 cfs should be in 'worst case scenario' circumstances only - bottoming out at 6,000 cfs as an absolute low. Safety and navigability must be maintained as a priority to protect the unparalleled visitor experience that has made Grand Canyon whitewater trips world renowned.

This analysis continues to diminish the value and potential impacts to recreational boating in the subsequent discussion of Socioeconomics in Section 3.15. This analysis depends entirely on a study conducted in 2017 (Neher et al.) which aims to capture a willingness to pay per private whitewater trip by boat through the Grand Canyon under varying flows. Not only does this fail to capture the commercial visitor's perspective, but it does not even recognize the contributions of commercial river concessionaires and their knowledgeable guides (our membership). There is no discussion of how commercial operators in Grand Canyon support their local communities as they provision these trips, or the hundreds of employees they support, or the dramatic impact to the user experience that results in repeat visits and strong affinity to support the protection and conservation of the Grand Canyon's unique values over the long term.

Support for updating the High Flow Protocol

GCRG is in full support of amending the existing HFE Protocol to revise the sediment accounting periods and implementation windows, based on recommendations from Grand Canyon Monitoring and Research Center. Adjusting the semiannual sediment accounting period to an annual period with the

option for a naturally-timed spring or fall HFE release, or both, will advance the AMP and is an absolute necessity for protecting downstream resources into the future. This update demonstrates the benefits of an adaptive management approach by adjusting the timing to optimize the best available science when implementing HFE protocols.

At the same time, GCRG continues to respectfully request that this SEIS should revisit the HFE decision-making process as part of its evaluation of the HFE protocol. Greater inclusivity is fundamental to more fully realize the goals of the Grand Canyon Protection Act (GCPA), by expanding membership of the implementation/planning group [PI Team] described on page C-6 of the LTEMP ROD. The PI Team should include ALL stakeholders as GCRG and others requested in our [October 2021 letter to Secretary's Designee, Wayne Pullan](#). Otherwise, key stakeholders (recreation, environmental, and Tribes) are disenfranchised from the decision-making process for this key tool to manage downstream resources specifically cited as justification for their membership on the AMWG.

In our 2021 letter we stated, *"If the inclusion of our voices can only be achieved through a National Environmental Policy Act process, we request that the Secretary consider including our voices on the PI Team during the AMP's next NEPA-related effort."* The LTEMP SEIS should address how marginalizing some stakeholders from the process meets the stated goals of the GCPA and the underlying intent behind formation of the AMWG. GCRG believes that the current PI Team configuration does *not* in fact meet those mandates and must therefore be modified so that all voices and perspectives can be heard and incorporated into the decision-making process for High Flow Experiments. Supporting greater transparency, equity, and inclusion should be an important component of this LTEMP SEIS so that we can make the best recommendations to the Secretary of the Interior as we face the challenges ahead.

Time is of the essence – the LTEMP SEIS must be finalized immediately

Considering that 90% of the ESA-listed Humpback Chub population is found in Grand Canyon, if we fail to act, or if we do not act IMMEDIATELY, with signature documents in the next couple of months, it may simply be too late to save them as a species. *Nothing* must derail the timely implementation of this plan.

We recognize and very much appreciate the BOR's hard work to develop this Draft SEIS and sincerely hope it provides the essential tools, nimbleness, and flexibility necessary for adaptively managing Glen Canyon Dam *"in such a manner as to protect, mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreation Area were established,"* –a mandate that must be absolutely central to the Purpose and Need of this LTEMP SEIS.

Thank you very much for this opportunity to provide our comments. If you should have any questions or if we can be of further assistance, please let us know.

Respectfully,

Lynn Hamilton, Executive Director, David Brown, AMWG Member, and Ben Reeder, TWG Member