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To: Sarah Bucklin, sbucklin@usbr.gov
Bureau of Reclamation, gcd_smb_ea@usbr.gov

Re: Grand Canyon River Guides' Comments re: Smallmouth Bass Flow Options Draft EA

Date: March 10, 2023

Dear Ms. Bucklin,

Grand Canyon River Guides would like to submit the following comments regarding the Glen Canyon Dam Smallmouth Bass Flow Options Draft Environmental Assessment prepared by the Bureau of Reclamation (BOR) in February 2023. We understand that the BOR needs to respond to the dire threat of Smallmouth Bass (SMB) establishment below Glen Canyon Dam (GCD) which jeopardizes the federally protected humpback chub. The BOR's purpose is proposing multiple release (flow) options from the Glen Canyon Dam (GCD) that either in part or in combination cool the river below 16 degrees Celsius and introduce unfavorable flow velocities for SMB spawning.

The Proposed Action lists four different flow options which are:

- Flow Option A: Cool Mix
- Flow Option B: Cool Mix with Flow Spikes
- Flow Option C: Cold Shock
- Flow Option D: Cold Shock with Flow Spikes

The No action alternative was dismissed because it would not meet the purpose and need of this EA, and an alternative to release flows from the penstocks alone was considered, but not analyzed in detail for the same reason because it would not reduce water temperatures below 16 degrees Celsius.

Proposed Action with Flow Options

The range of alternatives in the EA is very narrow. In essence the BOR is presenting an Action/No Action EA while simultaneously dismissing the No Action alternative. This creates an all or none choice. With that in mind, GCRG believes the EA must consider modifying Flow Option B to include a larger magnitude (single) spike flow optimally timed in June to disrupt SMB spawning. A single flow above 40,000 CFS may be more beneficial than multiple flows at 30,000 CFS. Please refer to recent HFE optimization modeling conducted by Grand Canyon Monitoring and Research Center (specifically Paul Grams' September 1, 2022 presentation, Scenario C). Furthermore, because BOR is required to 'move water' through the dam this summer (i.e. DROA water that was held back in Lake Powell) adequate water should be available to increase the magnitude and duration of a spike flow. Based on Grand Canyon Monitoring & Research Center's recommendations, it may be possible to disrupt SMB spawning at a key juncture in order to inhibit their establishment, while also maximizing sediment deposition, and minimizing erosion throughout the Colorado River ecosystem. It is imperative that we capitalize on the current conditions that may not exist in the future – extra water and sediment enriched conditions.

The Proposed Action boxes BOR into a limited set of options to manage a dynamic system that has demonstrated an unwillingness to perform according to human expectations. With that in mind, the EA should build flexibility, adaptation, monitoring, and off-ramps into its decision-making process and implementation plan to ensure the desired outcome of inhibiting SMB establishment below the GCD. The very future of the humpback chub, camping beaches, and sandbars of Grand Canyon depend upon it.

Importance of Adaptive Management

The fact that four different flow options are being considered with no stated preferred option among the four demonstrates that preventing SMB establishment below GCD is full of conjecture. For example, the Proposed Action would allow BOR to *'utilize a flow option based on conditions at the time of implementation. Reclamation could switch to another flow option, as described below, to better match changing conditions.*' This statement acknowledges BOR's limitations in understanding viable solutions and underscores the necessity for adaptability, flexibility, and, most importantly, *data* on which to base decisions that meet the mandates of the Grand Canyon Protection Act of 1992. It also exemplifies why more variation in the range of flow options should be considered beyond the Proposed Action.

Many questions and concerns have been raised by GCRG and other stakeholders. What if the bypass infrastructure does not perform as expected? What if it is determined that spike flows have minimal effect? Or worse what if multiple spike flows exacerbate the deteriorating condition of sediment resources? Given the three-year planning window and the high stakes at hand, the EA should clearly describe the criteria and process by which the BOR would consider modifying or choosing flow options to meet the purpose and need of this EA. It is paramount that the BOR disclose how it intends to regularly monitor evolving conditions for multiple resources, track progress towards desired outcomes, mitigate adverse effects, and articulate the benchmarks it will use to formulate its decisions.

We must stress that monitoring should occur *subsequent to each component of flow action*. This data is critical to the success of this EA and its purpose and need. In turn, those critical decision points must be built into the implementation plan.

In addition, the decision-making process should not reside with an exclusive set of stakeholders, but rather be more inclusive of the varied interests represented by the full membership of the Glen Canyon Dam Adaptive Management Program (AMP).

Impacts to Sediment

Sediment is the foundational element for the entire ecosystem in Grand Canyon, and the lynchpin for the health of multiple resources – ecological, recreational, and cultural. With current climate conditions, aridification, and a significant, as yet unresolved supply/demand imbalance for the Colorado River, *we can no longer consider sediment to be a renewable resource*. Along with other GCD AMP stakeholders, GCRG submitted a letter prior to release of the EA that described our suggestions and concerns. After release of the EA we continue to be deeply concerned that Flow Options B and D (with potential for multiple spike flows) could be detrimental to sediment, resulting in substantial erosion of the sand that has accumulated in the channel from the Paria River over the last two seasons, and precluding the opportunity to conduct an HFE in 2023. The EA acknowledges this potential outcome.

This EA further describes an assumption of a maximum discharge of up to 32,000 cubic feet per second (cfs) (18,000 cfs through the penstocks and a maximum 14,000 cfs through the bypass tubes) yet releases of 34,000 to 37,000 cfs *or greater* are required to cause significant deposition at most long-term sandbar monitoring sites (Hazel et al. 2022). As a result, the spike flows could further exacerbate the deteriorating condition of sediment resources in the Grand Canyon ecosystem. However, the EA concludes that '*Flow Options B and D…would have the greatest potential for sandbar growth…*' This contradiction draws the EA analysis into question while failing to accurately disclose the potential impacts of these alternatives. What measures will BOR put in place to ensure that the spike flows not only meet the desired outcomes of preventing SMB establishment below the GCD but also do not denude the Grand Canyon ecosystem of its limited sediment resource?

The bottom line is – under this current operating range, if sediment enriched conditions exist, flow spikes under this EA should be as long in duration and as large in magnitude as possible. In sediment depleted conditions, any spikes should be as short and low as they can be. Again, we reiterate our valid concern for the already devastated beaches of Grand Canyon and our concern that multiple spikes may deteriorate conditions further. Decisions must be made on science, and in keeping with not only the EA purpose and need but sediment goals of the Long Term Experimental and Management Plan (LTEMP) EIS and the mandates of the Grand Canyon Protection Act of 1992.

We find ourselves at a critical juncture and inflection point regarding both the sediment resource and the future of native fish in Grand Canyon. This underscores the importance of capitalizing on the extra DROA water and the sediment enriched conditions this spring to implement the most robust flow option possible, in order to avoid adverse impacts to beaches while inhibiting smallmouth bass spawning to the best of our ability. These are our tools. Let's use them as wisely and as effectively as possible to maximize benefits across multiple resources while minimizing adverse impacts.

Recreational Boating Analysis

The EA has a sparse and inadequate analysis of impacts to recreational boating. It limits the analysis area to the reach between the dam and the Little Colorado River (LCR). In doing so it ignores over 160+ river miles below the LCR that includes critical camping beaches as well as the most severe impediments to

navigability (rapids), yet concludes that *'all four flow options would affect a relatively small portion of the Colorado River used by boaters in the Grand Canyon'* and further concludes (albeit limited to the analysis area) that '*Flow Options B and D would produce flows that would likely improve boater navigability in the Grand Canyon.'* The analysis area should be expanded to include the entire stretch of river impacted by the flow options proposed, while expanding the analysis of impacts, both positive or negative, to the camping beaches depended upon by over 24,000 river users annually.

Furthermore, important corrections to this section include:

1) The EIS incorrectly states that Colorado River Discovery has the concession for day trips between Glen Canyon Dam and Lees Ferry. CRD lost that contract to Wilderness River Adventures (Aramark) back in late 2017.
2) The EA states that visitor use from the Colorado River Management Plan (CRMP) is regulated by a lottery system. That is incorrect. Non-commercial and commercial use levels are specified in the CRMP, but only the non-commercial trips are awarded through a weighted lottery.

<u>Socioeconomic Analysis</u>

The socioeconomic impact fails to acknowledge the potential impacts to disadvantaged communities that rely on hydropower. As noted by the GCD AMP stakeholder Leslie James representing the Colorado River Energy Distributors Association, more than 50 tribes are customers of the Colorado River Storage Project who benefit from federal hydropower in ways as determined by the tribes. Ms. James further points out that reductions in hydropower could impact tribal customers 'n*ot only from a financial standpoint, but from a quality-of-life standpoint as well* .' The EA does not make any mention of this potential impact.

<u>Hydropower Impact Analysis</u>

The EA describes severe financial impacts from each flow option yet fails to disclose its core assumptions. The EA should disclose its calculations to estimate the costs for replacement power. Furthermore, those values should be scrutinized by an independent and qualified subject matter expert that can either substantiate or clarify information provided by the Western Area Power Authority (WAPA) and its contractors especially given WAPA has an inherent conflict of interest in preserving hydropower for its customers and fulfilling its contracts. Also considered in this analysis, how WAPA's new contracts address the cost of experiments. This is especially important because the values presented in the EA are high enough that it raises a concern of being deemed a 'significant impact', which would derail the possibility of reaching a Finding of No Significant Impact (FONSI). We acknowledge that the GCD plays a unique role in the Western electrical grid, which only substantiates the criticality for WAPA and its customers to act proactively, prudently, and urgently integrate replacement power sources into their energy portfolios which would minimize any adverse impacts from reduced hydropower. Difficult decisions need to be made to prevent SMB establishment below the GCD and those decisions should not be hindered because of a lack of contingency plans for low water conditions.

On behalf of our 1700 members and the broader river running public who care deeply about Grand Canyon and all that makes it unique, the importance of this Smallmouth Bass Environmental Assessment

cannot be understated. It is in fact, mitigation for the Supplemental EIS to come. We must act now. Thank you for your consideration of our comments.

Respectfully,

Lynn Hamilton, Executive Director, Grand Canyon River Guides, Inc.

David Brown, Adaptive Management Work Group representative

Ben Reeder, Technical Work Group Representative