A Letter to Secretary of Interior Deb Haaland Regarding Drought and Adaptive Management of The Colorado River Ecosystem Downstream from Glen Canyon Dam in Glen and Grand Canyons, Arizona

Submitted on Behalf of the Undersigned by Dr. Larry Stevens and Ms. Kelly Burke, Grand Canyon Wildlands Council

19 May 2022

Introduction

We the undersigned are stakeholders in the Federal Advisory Committee on the Glen Canyon Dam Adaptive Management Program (AMP), and we work through our organizations and governances to ensure the ecological and cultural sustainability, and recreational integrity of the Colorado River ecosystem (CRE) downstream from Glen Canyon Dam in Glen and Grand Canyons. The AMP is one of the premier adaptive ecosystem management programs in the world, doing so through the Long Term Experimental and Management Plan (LTEMP) Record of Decision (ROD) and various agency management actions and experiments. The AMP provides a framework for adaptive management of the operations of Glen Canyon Dam towards improved balance between economic and environmental values in the world's most famous national park and river ecosystems. We deeply appreciate the AMP's efforts to promote collaborative, science-based ecosystem advisement to assist the Secretary of the Interior's decision-making.

Our commitment within the AMP has been to achieve the vision of the Grand Canyon Protection Act (1992, GCPA) to manage the dam *"…under existing law 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, including, but not limited to natural and cultural resources and visitor use."* The AMP often has worked towards consensus among its stakeholders to support the use of credible science for best management of the CRE. However, we are deeply concerned that 1) despite its vision and mission, the AMP has not seriously acknowledged nor successfully integrated tribal perspectives and concerns over the CRE as an ancestral homeland; 2) although the AMP has a strong record of successfully implementing high flow experiments (HFEs) to restore CRE shoreline habitats and rejuvenate recreational camping beaches, the need for HFEs, and particularly springtime HFEs, has been downplayed; 3) drought-related climate change has not been sufficiently incorporated into planning and implementation, at a time when administrative flexibility is most needed; and 4) the AMP's ability to advise your office on CRE management has been compromised by the Colorado River Basin Drought Contingency Plans, and specifically the Drought Response Operations Agreement (DROA). Below, we elaborate on these concerns in relation to our advisory capacity on tribal trust and dam operations under accelerating climate changes.

Tribal Trust and the AMP

The AMP 's coordination with collaborating Tribes has failed to incorporate the broad range of tribal values and perspectives in CRE management (note that these are informed by First, or Natural, Law, and all together are thus issues of social, environmental, and legal justice).
For example, the AMP has consistently confused and conflated protection of the relatively few archeological sites in the river corridor, protection of their continuing material and scientific importance, with what the AMP continues to ignore: that is, the role these ancestral places play in the individual and collective identities of tribal communities and the associated spiritual well-being of the overall CRE. The AMP, with its insular focus on Western science, has engaged in obligatory archeological compliance and used standard federal "consultation" approach in tribal communications, rather than engaging the Tribes in sincere nation-to-nation dialogue about holistic tribal values, with their proper commensurate consideration. Such consideration would result in integration of tribal values into future management options and decisions. In fact, funding to support tribal participation in the program has remained at the same level as that established in 1999. Truly collaborative tribal participation and meaningful inclusion of traditional ecological knowledge is vital for improving the cultural integrity and credibility of the AMP's stewardship of the CRE. In accord with its stated mission, the AMP should acknowledge, respect and protect the CRE as the living home and sanctuary of the ancestors of the Hopi, Havasupai, Hualapai, Navajo, North Kaibab Paiute, and Zuni cultures, and for other Tribes with affiliation to Grand Canyon. Additionally, the AMP should meet Departmental obligations under the Joint Secretarial Order on Fulfilling the Trust Responsibility to Indian Tribes in the Stewardship of Federal Lands and Waters and "work to develop appropriate institutional structures to implement agreements related to co-stewardship."

High Flow Experiments

AMP decision-making on HFEs is wrongly framed, inequitable and nontransparent, overriding the intent of the GCPA: Abundant **s**cientific evidence supports the use of HFE's as the primary tool for sustaining shoreline habitats for native CRE fish and wildlife, and for rejuvenating recreational sandbars. Natural historical floods occurred during June, and CRE species and processes are adapted to a springtime flood cycle. CRE shoreline habitats and sandbars benefit most from springtime high flows when native fish spawning begins, and as the river running season begins. We consider it imperative that over the 20-year course of the LTEMP we test and learn the relevance of naturally timed high flows to the health of the CRE. In fact, the LTEMP explicitly calls for springtime HFE implementation early in the life of the plan. Although there is an urgent need for a high flow to rejuvenate Grand Canyon beaches, we refrain from advocating for such an event until sufficient water becomes available, or is set aside in terms of timing, to be released under this important management action.

Triggering criteria have been used since 2011 to decide whether, when, and what duration of HFEs can be conducted; however, those early decisions about HFE triggers did not consider the importance of naturally timed springtime floods to the health of the CRE. The present

sediment accounting periods defined in the springtime HFE triggering criteria render the implementation of springtime HFE's highly unlikely, thereby constraining achievement of LTEMP, AMP and GCPA goals. Meeting those goals requires conducting one or more springtime HFEs, likely as an untriggered experiment. The sooner such an experiment is conducted the more time there will be to analyze the trade-offs and integrate those results into management planning.

With considerable effort, the AMP was able to develop consensus and advised your office to permit a modest within-powerplant-capacity high flow in March 2021. The results of that flow event, as reported by the US Geological Survey's Grand Canyon Monitoring and Research Center, indicate slight positive effects on some resources and neutral effects on others, but no negative impacts. The flow magnitude of that event was insufficient to mobilize sufficient sediment for full-system sandbar rejuvenation; however, the results from that test flow set the stage for planning future HFEs, including effective springtime HFEs.

Despite near record inputs of fine sediment from tributaries in the late summer of 2021 (conditions that normally trigger an autumn HFE), the AMP's solely governmental Planning and Implementation (PI) Team, which currently excludes tribal, recreational, and environmental stakeholder voices, decided to not conduct an HFE. The PI Team decision, as it was conveyed to its non-governmental stakeholders, was based on anticipating limited water availability, but also on the fiscal condition of the Basin Fund. The solvency of the Basin Fund was used as a primary reason to decide against the conduct of the HFE, a rationale that we dispute. HFEs will always have trade-off costs to power generation, at least until hydropower production capacity is added to the dam's hollow jet tubes. Such an installation project has been recommended by Reclamation and, through our recommendation, unanimously approved by the AMP. Nonetheless, Basin Fund financial considerations should not override the intent of the GCPA. We urge you to not allow the 2021 "no HFE" decision to become a precedent, while we strongly advocate for allowing a springtime HFE at the earliest possible opportunity.

Climate Crisis

The AMP and Colorado River managers have insufficiently addressed long-term impacts of climate change: Climate-change reduction of Rocky Mountains snowpack has resulted in exceptionally low water storage in both Upper Basin and Lower Basin reservoirs, Lakes Powell and Mead. Considered to be the worst drought in 1200 years, the present 20-year megadrought crisis in the Southwest has seriously compromised Colorado River surface water availability, placed increasing demands on shrinking groundwater supplies, and affected resources downstream of Glen Canyon Dam. This constitutes a basic failure of public trust, and is a necessary consequence of the long-ignored over-allocation of the Colorado River. The magnitude of this oversight cannot be overstated. Nonetheless, creative options exist at least for replacement of some hydropower and improving environmental conditions in the CRE (e.g., through investment in renewable energy sources, riparian restoration of lower Glen Canyon, etc.).

However, the AMP is insufficiently flexible in its adaptive management capacity. Climate-based hydrologic conditions are changing rapidly, and may worsen significantly, with unexpectedly rapid degradation of some resources. The AMP needs to be sufficiently nimble to quickly evaluate and advise your office as changes arise. While there is an understandably

strong impulse to conduct bureaucratic "business as usual", clear and transparent contingency planning, increased awareness, and a proactive approach also are needed. The issue of administrative flexibility is critical in adaptive management, requiring consideration of both flow and non-flow management options and rapid responses in the AMP toolbox of recommendations.

DROA and AMP Interactions

The DROA circumvents established AMP advisement and violates the spirit of the GCPA and adaptive ecosystem management: We are uncertain as to how or whether the AMP will continue to provide your office with drought-based decisions on Glen Canyon Dam releases during 2022 and beyond because the AMP cannot presently review or respond as a body to DROA recommendations. The DROA and the Annual Operating Plan, but not the AMP, now appear to advise your office on allocation of Colorado River water during drought to meet hydropower and downstream flow obligations. This appears to be a significant deviation from past practices and appears to violate federal NEPA requirements: the decisions being made clearly affect a wide spectrum of the public, business, tribal, and other communities. We recommend that your office establish a clear connection among these advisory bodies, and particularly by authorizing the AMP to review and advise regarding DROA decisions.

Conclusions

Our comments here are presented to inform you about distinct challenges within the AMP regarding tribal trust, the need and urgency for conducting a well-framed springtime high flow event, as well as problems related to climate change adaptation, and competing policies between the DROA and the AMP. We present these alternative stakeholder views, which apparently differ from those of the AMP leadership. We take considerable exception to the manner in which DROA decisions are being made without AMP or NEPA consultation and review. It is our considered opinion that your office should at least direct the AMP to review and advise you on DROA decisions. After all, the spirit of adaptive ecosystem management is to respect, incorporate, and benefit from scientific information and the views of all program stakeholders.

Please rest assured that we intend to continue to work together though the AMP and under your guidance towards consensus on adaptive management advisement, wherever possible, and to continue to make the best science-based and culturally informed recommendations to your office.

Respectfully, the Signatories on this Letter include:

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David Brown, Grand Canyon River Guides
Rod Buchanan, Trout Unlimited/Fly Fishers International
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