

Comments: Supplemental EA for experimental flows in Grand Canyon

November 16, 2004

Mr. Dennis Kubly

Bureau of Reclamation, Upper Colorado Region

125 South State Street, Room 6107

Salt Lake City, Utah 84138-1102

Re: Draft Supplemental Environmental Assessment. Proposed Experimental Actions For Water Years 2005–2006, Colorado River, Arizona, in Glen Canyon National Recreation Area and Grand Canyon National Park.

Dear Mr. Kubly,

Living Rivers and Colorado Riverkeeper submit the following comments on the Supplemental Environmental Assessment (EA) concerning proposed experimental releases from Glen Canyon Dam to conserve sediment and to disadvantage non-native fish at Grand Canyon National Park, as released on November 5, 2004.

1. Introduction

Living Rivers is keenly aware of the rapidly declining Humpback Chub population, as well as other Grand Canyon native fish species, caused by the operations of Glen Canyon Dam. This also includes the acute reduction in stored fine sediments, which are needed to provide rearing habitat for endangered fish, to preserve the cultural heritage of the First Nations and to provide camping beaches for visitors in Grand Canyon National Park.

While the purpose of this EA is in response to modify the operations of Glen Canyon Dam to conserve both sediment and endangered fish and to test methods to mitigate such impacts, the proposed actions, especially as they pertain to sediment retention and habitat-building, are fundamentally flawed. Of critical concern to us is how the EA does not evaluate any alternatives for increasing the sediment load below Glen Canyon Dam, as the dam is entirely responsible for blocking 95 percent of historic sediment load from ever entering the river ecosystem in Grand Canyon.

To adequately address the problems associated with sediment retention and augmentation, as well as the problems associated with non-native trout species, necessitates a Supplemental Environmental Impact Statement (EIS) and not the cursory analysis undertaken in this EA. Such an EIS must fully evaluate the decommissioning of Glen Canyon Dam in addition to other appropriate alternatives to meet sediment needs and to disadvantage non-native trout populations in Grand Canyon.

We believe the need for a Supplemental EIS stems far beyond the above and includes a host of other issues affecting the dramatic decline in Grand Canyon Humpback Chub populations. This would include water temperature, water quality, historic seasonal flows, nutrients for the food web and the ability to migrate in response to the environmental needs of endangered fish. The reduction in adult Humpback Chub

population constitutes significant and new information to that which was evaluated in the 1994 Fish and Wildlife Service Biological Opinion and the 1996 Final EIS on Glen Canyon Dam operations.

Lastly, the public process for this proposed action has been wholly unsatisfactory once again, as when the initial EA was first presented in October of 2002. The Bureau of Reclamation (Reclamation) and its Adaptive Management Program (AMP) for Glen Canyon Dam must overhaul its procedures for public participation.

2. Insufficient sediment to justify further experimentation outside of augmentation

The EA focuses on utilizing experimental flows from Glen Canyon Dam to manage sediment for the benefit of Humpback Chub populations. However, the abundance of study and experimentation done previously has already demonstrated conclusively that in the long-term, little to nothing will be gained from the proposed action. The sediment conserved during this experiment will return to the river and flow downstream to Lake Mead. The resources of Reclamation and the AMP would be better invested in aggressively pursuing alternatives that stand a greater likelihood of achieving this goal.

Ninety five percent of the historic sediment load for Grand Canyon native fish remains trapped in Lake Powell. In theoretical optimum conditions, such experiments, as proposed in the EA, could manage only five percent of the sediment that would exist in natural conditions. This five percent has already proven insufficient to meet the sediment and nutrient requirements to recover native fish. Sediment is a key missing component for advancing the recovery of native fish in Grand Canyon (Rubin, et. al., EOS v83, n25, 2002). The proposed action focuses solely on flood releases to store this minimal amount of sediment on the margins of the river, while at the same time failing to demonstrate any long-term availability of sufficient sediment to aid recovery in the future. Reclamation must therefore address through an EIS process methods to augment sediment into the system.

3. Climate change and the associated effects on long-term habitat improvement

The EA ignores climatic factors that will affect the proposed experimental releases. The Colorado River watershed is experiencing much lower flows than were anticipated when such spike flows for sediment conservation were first conceived in the original EIS. The US Geological Survey (USGS) has reconstructed the historic climate conditions for the Colorado River basin. Their findings indicate that a sustained and severe drought could lie before us and that such a climate regime would affect resource management challenges (Webb et. al. 2004) (Meko et. al. 2004). Furthermore, the Department of Energy projects that the Colorado and other Western rivers will see a 30 percent decline in flows over the next fifty years due to climate change (Accelerated Climate Prediction Initiative 2002).

This is already proving to be a problem for the proposed action. Sediment conservation strategies require a sufficient amount of water in Lake Powell to generate optimum flood flows. USGS scientists have stated that the ideal flood magnitude for sediment conservation in Grand Canyon should be 60,000 cfs (Weile 2003). At present the

spillway portals, which must be utilized to achieve this target, are perched above the current reservoir level. The EA ignores this and now suggests that the maximum flow for this experimental release need only be 41,000 cfs. It is quite possible that this flood magnitude will not prove sufficient in 2004, much less in subsequent years should river flows remain below that necessary to refill the reservoir.

4. Timing of spike flows and sediment deposition will provide no benefits to native fish rearing

Under ideal circumstances sediment inflows from the Paria River would be better conserved through dam releases at low flow, with the spike flow commencing in conjunction with the natural rearing of Humpback Chub in the spring and summer. Past experiments have already demonstrated that much of the habitat building from spike flows disappears within six months after the spike. Since the proposed action would occur six to seven months in advance of the Humpback Chub's ability to benefit from it, there is no justification to time such flows so far in advance. To be of any benefit such spike flows should be timed to coincide with the natural high flows entering Lake Powell.

5. Proposed flows ignore Fish and Wildlife Service opinion for the recovery of Humpback Chub

The EA of 2002 stated that the present flow regime from Glen Canyon Dam (Modified Low Fluctuating Flow or MLFF) has failed to benefit the habitat of the Humpback Chub. This conclusion resulted from data provided by the Grand Canyon Monitoring and Research Center (Coggins and Walters 2001), which found that a dramatic reduction in the Humpback Chub population has occurred since this flow regime was implemented.

This flow regime was selected as the preferred alternative by the Secretary of Interior despite objections by the Fish and Wildlife Service (FWS) in its 1994 Biological Opinion. That opinion specifically stated that the MLFF alternative would "likely destroy or adversely modify designated critical habitat." FWS recommended the alternative known as the Seasonally Adjusted Steady Flow (SASF). FWS, in conjunction with the Department of Biological Sciences at Northern Arizona University, reiterated these recommendations in their September, 2002 report, Monitoring and Research: The Aquatic Food Base in the Colorado River, Arizona during 1991-2001 (Benenati, et. al., 2002). This report states, "We recommend a decade of Seasonally Steady Flow alternative, with spring beach building flows as the climate permits and unlimited hydropower ramping within 10% of the predicted seasonal mean. We feel these flows in combination with alien fish suppression and thermal modification of GCD could make Grand Canyon a sanctuary for native fishes of the Colorado River basin."

The proposed experimental releases outlined in the EA will continue to conflict with these recommendations in two ways. First, as noted above, the habitat-building releases do not occur at the preferred time-period of the annual, historic snowmelt, to which these native fish are naturally attuned. Second, the prescribed fluctuating flows

for non-native fish suppression would disrupt the food supply for the native fish species and transport sediment out of the Grand Canyon river system.

Additionally, the EA does not sufficiently analyze the impacts to other habitats with their associated species caused by experimental releases inconsistent with the river's natural hydrograph.

6. Water quality

As the reservoir is now only 38 percent full, the potential exists for water quality problems to materialize during the experimental release, which were not addressed in the EA and must be prior to any experimentation. The reservoir water extracted at the depth near the river outlet works may be high in sodium, phosphorus, nitrogen, hydrogen sulfide, dissolved oxygen and heavy metals. We are curious how Reclamation and US Geological Survey will monitor the water quality should this experiment proceed, and will these chemicals impair the food web and habitat of the endangered fish of Grand Canyon?

7. Public review process

Reclamation did not fully comply with the spirit of the public review process as outlined by NEPA and the AMP Charter. Two weeks notice was given to submit comments for this Supplemental EA and to our knowledge no public meetings were scheduled or noticed.

The AMP is charged to fully involve the public in all its activities. Similar insufficient outreach occurred during the EA in 2002 and we voiced our dissatisfaction then, asking Reclamation to assert greater diligence in the future. Once again we are compelled to remind Reclamation that public participation must include ample time for citizens to learn about, and to become engaged in, all activities pertaining to the operations of Glen Canyon Dam and its associated impacts to Grand Canyon National Park.

8. Supplemental EIS needed

The proposed actions in this EA, either separately or in combination with other actions contemplated by Reclamation and the AMP, are not seriously addressing the precipitous decline of endangered Humpback Chub in Grand Canyon National Park. This decline, described by key investigators including Lew Coggins, Carl Walters and others, while not surprising considering the lack of management activities given on behalf of the Chub, was not anticipated when the Record of Decision was signed. Therefore, under National Environmental Policy Act (NEPA) regulations found at 40 CFR 1502.9(c)(1)(ii), these new data represent "significant new circumstances or information relevant to environmental concerns," triggering a requirement to prepare a Supplemental EIS (SEIS) to the 1996 Glen Canyon Dam EIS.

The Bureau of Reclamation, the National Park Service and other agencies are likely in violation of the Endangered Species Act and the Grand Canyon Protection Act for failing to ensure protection and recovery of the Humpback Chub population in Grand Canyon National Park. Reclamation, in conjunction with National Park Service and other

relevant agencies, should immediately begin work on such an EIS for the full recovery of the Humpback Chub populations in Grand Canyon National Park. Such an EIS must address all issues affecting the Humpback Chub. This would include water temperature, water quality, seasonal flow, a healthy food web, sediment and nutrient loads and impacts from non-native fish. Most importantly the EIS must evaluate the decommissioning of Glen Canyon Dam as one of the alternatives to meet Humpback Chub recovery objectives.

9. Conclusion

Living Rivers and Colorado Riverkeeper finds this EA and the experiment proposed to be a waste of public resources. The crisis facing the Humpback Chub in Grand Canyon is quite serious, but it has yet to be taken seriously by Reclamation and the AMP. We believe the AMP process favors power and water resources, which are replaceable, over endangered species, which are not replaceable. The proposed habitat-building experiment is unlikely to materialize any benefits due to general lack of sediment in the system. Even if such sediment were available, it would not be distributed in a timeframe to benefit the Humpback Chub. Regardless, such sediment would be insufficient to mitigate the loss of 95 percent of sediment and nutrients now trapped behind Glen Canyon Dam.

This EA further demonstrates Reclamation's and the AMP's unwillingness to follow the recommendations of FWS, and as a result, will lead to the further declines in the Humpback Chub populations in Grand Canyon National Park. Reclamation must abandon this EA and proposed experimentation and conduct a full EIS on new operating regimes for Glen Canyon Dam, including decommissioning, to fully recover endangered fish habitat in Grand Canyon National Park.

Thank you for the opportunity to submit these comments and recommendations.

Sincerely,

John Weisheit
Living Rivers, conservation director
Colorado Riverkeeper

[Biological Opinion: Glen Canyon Dam. US Fish and Wildlife Service](#)