

Response to Public Comments
on
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

November 23, 2004

Comments and responses in this document are arranged in the order of their frequency with the most common comments first.

1. Comment: Do not release additional water from Lake Powell during a period of sustained drought. The reservoir has experienced several years of drought and is now about 130 feet below its full pool elevation.

Response: By far the majority of comments objecting to the proposed action expressed this concern. Water released from Lake Powell through Glen Canyon Dam is necessary to supply agricultural, industrial, and municipal needs for millions of people in the lower basin states of Nevada, Arizona, and California. It also provides habitat for aquatic species in the Colorado River and lower reservoirs, including those species federally listed under the Endangered Species Act. The volume of water released from Lake Powell is determined by the Colorado River Compact between the seven Colorado River basin states. The amount of water to be released through Glen Canyon Dam in any given year is determined during consultations between the Department of the Interior, the seven basin states, and other stakeholders. For water year 2005, which began October 1, 2004, and ends September 30, 2005, the most probable release volume is 8.23 million acre feet which is considered the minimum objective release from Glen Canyon Dam under the Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs. This amount is anticipated to be released in water year 2005 whether or not the proposed action is implemented. There will be no additional water released through Glen Canyon Dam as a result of the proposed action analyzed by the supplemental environmental assessment.

2. Comment: Your proposed action will have a detrimental effect on the economy of the Page, Arizona area and this economy is already suffering dramatically from the lowering of Lake Powell by the drought.

Response: We understand the people of Page and the surrounding area have been negatively impacted during this period of sustained drought. Under no action, the lake is expected to drop to elevation 3,555' by April 2005. The proposed action will not change that prediction and will not exacerbate the potential economic consequences of the expected decline. The National Park Service (NPS) will continue to provide facilities on Lake Powell that were open prior to implementation of the proposed action and in the Lees Ferry reach of the Colorado River below Glen Canyon Dam. The only restriction

will be a 25 horsepower minimum on boats traveling upstream from Lees Ferry when flows exceed 35,000 cfs (expected from 7:00 a.m. November 21 through 1:00 a.m. November 25)

3. Comment: The Proposed Action will adversely impact Lake Powell launch ramps and visitor access to the lake.

Response: Several people commented about the impact to boat launch ramps and the cost to the NPS. The impact to launch ramps will be the same between no action and the proposed action (see comment 2 above).

4. Comment: Many questions were received about the design of the proposed experimental releases. Many people made specific recommendations to change one or another aspect of the proposed action.

Response: There were several comments and questions about details of the proposed releases. These ranged from questioning why the volume of releases doesn't equal in-flow, to recommending the peak flow be shortened by 12 hours so sediment could be built up. Many people recommended delaying the proposed spike flow until spring to more closely mimic a natural hydrograph. The agencies have decided against modifying the proposed action after carefully reviewing these suggestions and comments. The reason is that the design of the experiment and the specific elements of the proposed action, especially the release volumes and timing, were designed partly to provide replication of prior experiments and were modified slightly to adjust for lessons learned from these prior flows.

5. Comment: The previous attempt at a high experimental flow failed and this attempt will also.

Response: The 45,000 cfs experimental flow conducted in spring 1996 was looked upon as a banner success in the days and weeks that followed. As time went on, researchers realized that the inevitable effects of erosion were removing some of the new beach sediments and carrying them downriver. The process of erosion also will occur following this experiment; there is no way to maintain the fine sediments deposited on the beaches indefinitely. They will need to be replaced if the beaches are to be maintained. Scientists learned from the 1996 event that they could reduce the amount of water released, thus shortening the high flow from one week to two and one-half days. They also learned that the greatest reward from the release would come if it followed in relatively close succession the sediment inputs that made it possible. Therefore, the release is being moved from January up to mid-November. Since the time of the 1996 high flow, scientists have realized that controlling non-native fish can not be accomplished exclusively through modifying dam operations. For this reason, mechanical removal of these fish has been extended through the proposed action. Although it is too early yet to say for sure whether these modifications to previous experiments will result in desired resource improvements, we can say that better experiments with higher probabilities of success will be implemented as we learn more about the Colorado River ecosystem. This

learning and application of experimental results is the foundation for adaptive management, the process by which the Secretary of the Interior receives recommendations and makes decisions on operation of Glen Canyon Dam and other related actions to protect Glen Canyon National Recreation Area and Grand Canyon National Park.

6. Comments: The National Environmental Policy Act (NEPA) analysis should have been done at the level of a Supplemental Environmental Impact Statement rather than a Supplemental Environmental Assessment (SEA), including consideration for decommissioning of Glen Canyon Dam and other alternatives, and including new information gained through the Glen Canyon Dam Adaptive Management Program (GCDAMP).

Response: The proposed federal action is a minor modification of an action recommended by the Adaptive Management Work Group, a federal advisory committee, and agreed to by the Secretary of the Interior in late 2002. NEPA compliance on this original federal action was completed successfully at the level of an environmental assessment in December 2002. If the present proposed action, creates a significant impact on the human environment or is highly controversial, the result would be to abandon the proposed action or to force the NEPA analysis to the higher level suggested by these respondents. A third outcome of the assessment is to deliver a finding of no significant impact. Reclamation, NPS and the U.S. Geological Survey, Grand Canyon Monitoring and Research Center (GCMRC) have not identified in the comparison between the no action and proposed action alternatives either the level of impact or controversy that would cause them to decide that a supplemental environmental impact statement is necessary.

7. Comment: Public participation and comment was unsatisfactory in consideration of this proposed federal action.

Response: The proposed action was based on recommendations made by the Adaptive Management Work Group (AMWG) at public meetings that were noticed in the *Federal Register* and at which public comment was solicited. The public comment period for this proposed action resulted in nearly 200 e-mail, letter, and telephone responses. The federal action agencies believe that this combination of public participation is sufficient for them to identify issues and gauge public concern for the proposed action and its effects on the human environment.

8. Comment: Does the plan give business owners of the Lees Ferry area enough lead time to contact customers about a radical change in fishing conditions?

Response: The Lees Ferry fishing guides are active participants in the GCDAMP and were aware of this proposed action in advance. Press releases were distributed at the time the Secretary agreed to proceed with environmental compliance and once the decision was made to proceed. Also, the NPS notified all river trips that were proceeding

downstream so they would be prepared for high water if a decision was made to implement the proposed action.

9. Comment: The EAs lacks the data that of the 4750 fish killed through GCMRC's mechanical removal program, only 46 had fish in their stomachs.

Response: This level of detail was not considered necessary to include in the final EA; also we are unsure that this number is correct, we lack final reports on the results of the previous mechanical removal experiments.

10. Comment: The newly formed beaches will form small cliffs that will calve off.

Response: The design of the hydrograph for the high flow incorporated knowledge gained from previous high releases. It was specifically designed to enable the geomorphologists to study how sediment and sand might be deposited downstream of the dam and then how these deposits are altered over time.

11. Comment: What happened to the 10% water holdback that the Lower Basin States agreed to? Irrespective of the commitment to deliver 8.23 maf to the Lower Colorado River Basin States, it only makes common sense to evaluate whether that commitment may be changed with Lake Powell in its sixth year of drought and its 130 feet below full pool.

Response: We know of no such agreement by the Lower Colorado River Basin States. The federal action agencies do not have the authority to govern, regulate, or alter the total amount of water that is released through Glen Canyon Dam to the Lower Basin States. Citizens who are concerned with the amount released should contact their state and federal representatives to express their concern.

12. Comment: Many comments were received about the need for more data about one or another resource or for study of specific resources; e.g., more data are needed on aquatic foodbase, on the drought's impacts on the ecosystem, on the drought and long-term climatic change, how the proposed flow might flush fish (native and non-native) downstream, the benefits of bigger beaches, sand bars or eddies, how the flow will affect turbidity, why there isn't data on fishing below Lees Ferry, turbidity and its effects on foodbase, etc.

Response: The proposed action is an experiment to acquire much of the information identified by the respondents so that the effects of subsequent high flows can be better predicted in the future. Copies of all substantive public comments and concerns are being forwarded to GCMRC for incorporation into their core monitoring plan and for incorporation into the studies that are being conducted specifically for this proposed action.

13. Comment: Many value-laden comments were made about trade-offs; for example, downstream sediment is less important than water storage and use; fish are not more

important than human economics; Lake Powell recreation is more important than downstream river running, etc.

Response: With the input from the Adaptive Management Program the Secretary of the Interior (through the NPS) manages all the natural and cultural resources as well as recreation and visitor use within the two park units affected by the proposed action. As such, the NPS strives to balance these sometimes competing uses. If a choice must be made, however, resource protection and enhancement must be afforded first priority. Given this foundation, the trade-offs and choices for this action are relatively clear since it will cause relatively minor recreational or visitor use effects with a potential for the enhancement of various natural resource categories.

14. Comment: The SEA should be clear that the high flow is a field experiment to test hypotheses like those presented by Rubin et al.

Response: Page 5, paragraph 3 identifies that the proposed action “closely follows the first recommendation of Ruben et al. (2002) to conduct a high experimental flow as soon as possible following tributary sediment inputs in the July-October sediment input season.”

15. Comment: Page 3, item 3 does not accurately convey inclusion of the non-native fish suppression flows as opposed to the no action alternative.

Response: The items in paragraph 1, page 3 are actions common to both the proposed action and the no action alternatives.

16. Comment: The proposed action should have considered extending the non-native fish suppression flows through the month of April if sufficient water is available.

Response: The agreement to restrict non-native fish suppression flows to the first seven days of April was completed for two reasons. First, the projections for water availability suggest a seven day limit to the high fluctuations. Second, consultation with Fish and Wildlife Service evidenced a concern that high fluctuations continued further into April would result in additional take of young endangered humpback chub emerging from the Little Colorado River into the mainstream.

17. Comment: The resource responses to the experimental action should be addressed through a wide array of studies. Best science should be used.

Response: This comment, with suggestions for individual studies, was received from several individuals. Their suggestions are being forwarded to GCMRC for their consideration and potential inclusion into the adaptive management process.

18. Comment: Divergent comments were received on whether or not the experiment should be repeated. There were both pro and con sentiments expressed.

Response: Department of the Interior action agencies have completed environmental compliance for the experimental action in water years 2005 and 2006. If the Adaptive Management Work Group recommends a different action for water year 2006 and the Secretary of the Interior agrees, the action will be revised and environmental compliance will be completed to address the revised action.

19. Comment: Page 17 on hydropower impacts is inadequate; the financial impact of the experiment is a loss in Colorado River Storage Project hydropower revenues. Cash flow impacts on the Basin Fund are not estimated in the SEA, but should be.

Response: The analysis in the SEA used the best information available to the action agencies as provided by Western Area Power Administration, including experience gained from past adaptive management actions. Projections from this analysis are, as stated in the SEA, that the overall financial impact of the proposed action will be beneficial. Analysis of actual costs will be completed following the experimental action to determine whether projections were accurate.

20. Comment: The SEA does not provide estimated sand export increases for monthly water volumes of 700,000 and 800,000 acre-foot months proposed for January-March. Please provide these data and ensure they are tested.

Response: Estimates of sand export would have to be generated by models and may not be accurate, since past experimental dam operations have not occurred following a sediment-enriched high experimental flow. Actual data on sand export will be gathered during January-March and provided by GCMRC as part of their reports on effects of the experiment.

21. Comment: There are concerns that the large-scale removal of non-native fish may not benefit the endangered humpback chub.

Response: The indicator of the success of non-native control will be improvement in the recruitment of young humpback chub into the reproducing population. Recruitment in this species occurs at four years of age, therefore the effect will not be known until the end of this experimental action. GCMRC provides reports on the effects of non-native fish suppression through the GCDAMP.

22. Comment: We are concerned that releases above power plant capacity constitute a spill that is prohibited by the Law of the River.

Response: Spills above power plant capacity were agreed to in the 1996 Record of Decision for the Glen Canyon Dam Environmental Impact Statement. They were to occur when the probability of Glen Canyon Dam spilling was high. With the revelation by the 2001 Interim Surplus Criteria that future Lake Powell levels would be lower than anticipated, the Secretary of the Interior agreed to consider experimental spills at lower reservoir levels. The ongoing experiment is an outcome of that agreement; it does not constitute a future commitment, management action, or policy change.

23. Comment: On Page 1 of the SEA, the objective of fluctuating flows was not to reduce trout numbers as a benefit to chub, but to reduce the size of the Lees Ferry trout population to produce a better recreational fishery.

Response: The purpose of the non-native fish suppression flows is two-fold; first, to help control numbers of fish that are known to prey on the endangered humpback chub in the Colorado River below Glen Canyon Dam and, second, to help prevent overpopulation of the Lees Ferry trout fishery. Humpback chub are not found in the Lees Ferry reach; therefore the impact on predators of this fish is directed downstream of this reach.

24. Comment: Razorback sucker have not been collected in Grand Canyon since 1984. Why are they considered very rare and not absent or extirpated?

Response: Researchers in Grand Canyon have collected fish that have the appearance of razorback suckers sporadically well into the 1990s. Genetic evaluations of those fish indicate they most likely are hybrids between razorback suckers and flannelmouth suckers. Nevertheless, the presence of razorback sucker hybrids begs the question of whether a rare parental stock is present in this reach of the Colorado River. Razorback suckers also are known to exist in the upper end of Lake Mead and researchers have questioned whether they may originate from a population in lower Grand Canyon. It is on this basis that the razorback sucker is considered very rare.

25. Comment: Page 15 of the SEA indicates a stage change of one and one-half feet would occur with a dam release varying between 6,500 cfs and 9,000 cfs. What is the source of this estimate?

Response: The estimate is taken from the 2002 environmental assessment from which this SEA was tiered. Stage changes caused by a release varying from 6,500 cfs to 9,000 cfs range from 0.74 ft to 1.78 ft depending on the reach of river and the channel geometry.

26. Comment: Paragraph 2, page 17 of the SEA under Hydropower is incorrect in its treatment of financial impact.

Response: A change is being made in the final SEA to clarify the effect of bypassed water on hydropower revenues.

27. Comment: The SEA does not sufficiently analyze the impacts to other habitats with their associated species caused by experimental releases inconsistent with the river's natural hydrograph.

Response: The SEA attempted to include analysis of effects to all habitats and species within then action area.

28. Comment: The potential exists for water quality problems to materialize during the experiment and these were not addressed in the SEA and must be prior to experimentation.

Response: Not all studies that are being done were identified in the SEA, but we will refer your comment to GCMRC.

29. Comment: The SEA is very vague with reference to how the 41,000 cfs flow will benefit chub should bigger beaches, bigger sand bars and deeper eddies be formed.

Response: The proposed action is an experiment and a test of a variety of hypotheses about how flows will affect species and resources of concern. The answer to this comment will be forthcoming in the results of studies conducted by GCMRC and cooperating researchers.

30. Comment: The SEA does not mention other proposed trout reduction projects, in particular the NPS proposed actions to kill trout in several Colorado River tributaries in Grand Canyon.

Response: The NPS proposed action for exotic species control was mentioned in the original 2002 EA from which the SEA was tiered. The NPS brown trout removal program was specifically listed.