

5.c. – Colorado River Environmental Issues



**Governor's Representatives on Colorado River Operations
States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and
Wyoming**

March 18, 2011

Via E-Mail and U.S. Mail

Mr. Larry Walkoviak, Regional Director
Attn: Mr. Dennis Kubly
Bureau of Reclamation
Upper Colorado Regional Office
125 South State Street, Room 7218
Salt Lake City, Utah 84138

Re: Comments—Draft Environmental Assessment: Development and
Implementation of a Protocol for High-Flow Experimental Releases from Glen
Canyon Dam, Arizona, 2011 through 2020

Dear Messrs. Walkoviak and Kubly,

On behalf of the seven Colorado River Basin states ("States"), we submit these comments on the Draft Environmental Assessment ("DEA") prepared by the Department of the Interior's ("Interior's") Bureau of Reclamation ("Reclamation") for the Development and Implementation of a Protocol for High-Flow Experimental Releases from Glen Canyon Dam, Arizona, 2011 through 2020 ("Protocol"). The DEA, along with its accompanying General Monitoring and Research Plan (public review draft) and Biological Assessment, were released for public review and comment on January 14, 2011. The comment period ends on March 18, 2011. Please consider these comments in finalizing the NEPA process for the Protocol and include them in the administrative record for the DEA.

States' Interests

The States have a significant interest in Reclamation's coordinated management of the Colorado River reservoir system as the States depend upon the system for water supplies, power production, recreation and other purposes, including, but not limited to, conservation of wildlife resources and habitat in the system. Decisions by Reclamation to adjust management of the system can potentially affect water supplies to various states, change power production along the system, boost or reduce recreation, and harm or enhance wildlife and other important natural resources.

A delicate balance of these interests among the States and with the federal government is governed by the "Law of the River" and are currently implemented through Reclamation's 2007 Environmental Impact Statement on the Colorado River Interim Guidelines for Lower Basin Shortages and Coordinated Operations for Lakes Powell and Mead and the associated 2007 Record of Decision ("2007 Interim Guidelines"). To avoid jeopardizing this balance, the States encourage Reclamation to avoid and minimize impacts to the States' interests from the proposed Protocol. This would be best achieved through Reclamation's continued, unaffected implementation of the 2007 Interim Guidelines.

Overview of the Comments

To assure the DEA sets forth sufficient information and analysis to determine whether the Protocol could result in significant impacts, the States recommend that Reclamation prepare a revised DEA to address the following issues:

- Revise the purpose and need to more clearly state the goals of the high flow experimental releases ("HFEs") and explain how the Protocol would achieve those goals.
- Better describe how HFEs would be coordinated with management under the 2007 Interim Guidelines and provide explicit assurance that HFEs would not interfere with existing management.
- Explicitly describe the potential impacts to humpback chub and present mitigation measures to avoid or minimize such impacts.
- Clarify that the Protocol is experimental and not a management plan, which would require legislative changes.
- Clarify and further explain Interior's process for deciding whether to conduct HFEs and how to incorporate input from the States.
- Clarify Reclamation's commitment to and justification for exploring, assessing, and if appropriate, incorporating the Rapid Response Approach to conducting HFEs during the life of the Protocol.

Clarification of Purpose and Need

The purpose and need of the DEA should more adequately present the goals of the Protocol and discuss how those goals would be met by the Protocol. The DEA provides that the "purpose" of the Protocol is:

- (1) to develop and implement a protocol that determines when and under what conditions to conduct experimental high volume releases, and
- (2) to evaluate the parameters of high-flow releases

in conserving sediment to benefit downstream resources in Glen, Marble, and Grand Canyons.

DEA at 6. While, the “need” for the Protocol is:

to take advantage of future sediment-enriched conditions in the Colorado River with experimental high flow tests that will improve the understanding of the relationships between high dam releases of up to 45,000 cfs and sediment conservation. The information developed through this action will assist Interior in making future decisions on when and how to conduct multi-year, multi-event high flow experimental releases and how to evaluate benefits to downstream resources.

Id.

The purpose and need for the proposed Protocol presuppose that enhanced sediment deposition is necessary for the Colorado River downstream from Glen Canyon. The DEA, however, does not clearly explain why greater sediment deposition is important. To assure the credibility of the Protocol, therefore, the revised DEA should further explain the need for greater sediment deposition, including information on the current status of sediment deposits downstream from Glen Canyon and how those are insufficient or otherwise negatively affecting other resources.

In particular, the revised DEA should clearly state the goals the Protocol is trying to achieve. For example, is the Protocol trying to enlarge beaches for recreational uses, generate species habitat, or achieve some variation of these or other objectives? Once the goals of greater sediment deposition are defined, Reclamation should determine if they are reasonable. In doing so, the NEPA analysis would be strengthened by including an explanation of how Reclamation plans to balance the importance of various resources in the Colorado River system and how a choice to increase sediment deposition can be reconciled with the costs of doing so, both in terms of potential impacts on resources and with regard to monetary costs.

Next, the revised DEA should assess whether sediment deposition would likely achieve the reasonable goals determined by Reclamation. For example, if the goal of the Protocol is to increase the humpback chub population downstream from Glen Canyon, how would sediment deposition achieve that goal? To this end, the DEA should provide a more specific explanation of the Protocol’s goals and how those goals would be met through such action.

Lastly, the revised DEA would benefit from added discussion on why the Protocol is proposed for 10 years versus some other amount of time, such as 5 years. Reclamation's reasoning for choosing a 10-year timeframe for the Protocol needs to be explained and substantiated.

Consistency with 2007 Interim Guidelines

The DEA provides that "annual release volumes would follow" the 2007 Interim Guidelines. DEA at ix, 25. The States have significant interests in the correct and continued implementation of the 2007 Interim Guidelines. Thus, it is important that the DEA expressly recognize that the Protocol would not interfere with annual releases based on the Interim Guidelines, and instead be implemented subject to the Interim Guidelines.

To ensure that there would not be any interference with the 2007 Interim Guidelines from the Protocol, the revised DEA should clarify how the Protocol would be implemented to avoid interference. In particular, the DEA should explain and provide examples of how water year releases from Glen Canyon Dam will continue to comply with the Interim Guidelines both before and after a high-flow experimental release ("HFE") under the Protocol. Furthermore, the Protocol should provide assurance that, if an HFE is triggered, it will fit within the coordinated operations for that year, as determined by the Interim Guidelines.

Consistent with the Interim Guidelines, the revised DEA should also identify if and when there may be operations that would prevent an HFE in a particular year. For example, the DEA should indicate whether an HFE would be contemplated if operations were in the Lower Elevation Balancing Tier defined by the Interim Guidelines. If an HFE would be contemplated under the Protocol during such operations, the DEA should explain how that HFE would fit within the coordinated operations determined by the Interim Guidelines. If an HFE would not be contemplated then, the DEA must present that as a limitation to the Protocol.

Besides these concerns, the revised DEA would benefit from greater explanation of how operations are currently conducted under the Interim Guidelines so the public can better understand whether and how the Protocol may affect current operations. In that explanation, the DEA ought to specify whether reference to "annual releases" refers to releases made during the "water year" or the "calendar year." See, e.g., DEA at ix; 25 (referring to "annual releases").

Avoidance of Impact to Humpback Chub

The DEA indicates that HFEs may have impacts on the humpback chub, which is listed as an endangered species under the Endangered Species Act ("ESA"). The States are interested in achieving recovery of the humpback chub population in the Colorado River under the ESA, while maintaining existing operations at

Glen Canyon Dam according to the 2007 Interim Guidelines and consistent with other elements of the "Law of the River." To assist with recovery, and to demonstrate explicit compliance with NEPA, potential impacts to humpback chub should be clearly analyzed in the revised DEA, and mitigation measures to avoid or minimize such impacts ought to be discussed.

The DEA identifies the following potential impacts on the humpback chub:

- Reduction in foodbase in nearshore and backwater habitats for humpback chub. DEA at 64-66, 76, 89-90.
- Displacement of young humpback chub from nearshore nursery habitat. *Id.* at 76-81.
- Increased rainbow trout population resulting in predation on and competition with humpback chub. *Id.* at 76, 81-83.
- Reduction in foodbase for humpback chub, including reduced numbers of flood-susceptible invertebrates, from consecutive HFEs. *Id.* at 64-66, 76, 89-90.

Many of these potential impacts on the humpback chub could result in mortality of affected humpback chub.

Some of these potential impacts on humpback chub are not well understood. See e.g., *id.* at 68, 79, 80, 81, 83, and 84. Because of the uncertainty concerning potential impacts on humpback chub, Reclamation should provide more analysis to support its conclusion that such impacts would not significantly affect the humpback chub population.

Also, to the extent Reclamation relies on the implementation of mitigation measures to avoid or reduce to insignificant levels potential impacts to the humpback chub, these measures should be discussed in the DEA. Reclamation currently provides in the DEA that it intends to implement non-native fish control during 2011 through 2020 to provide mitigation for increased predation and competition on humpback chub by trout. DEA at 7, 83. However, direct discussion of these mitigation measures in the DEA is lacking as well as any analysis of their potential effectiveness. Instead, the DEA simply refers to another draft EA in progress (the "Non-native Fish Control EA") as the source for further explanation and analysis. *Id.* at 7. It is important for the measures intended to mitigate for impacts from the Protocol to be included in the DEA.

If Reclamation intends to tie the EA for the Protocol to the Non-native Fish Control EA, then that should be clarified in the DEA for the Protocol. Moreover,

the DEA for the Protocol should recognize that the Protocol is dependent upon the successful implementation of non-native fish control measures as described and analyzed in the Non-native Fish Control EA. If those measures are not implemented, then the Protocol must not be implemented either, as it draws from and is dependent upon those measures and the Non-native Fish Control EA.

To further avoid potential significant impacts to the humpback chub resulting from implementation of the Protocol, the States request that Reclamation delineate a population trigger for humpback chub, consistent with biological and operational input from the States, below which HFEs would be suspended until the cause of the population decline is better understood. Because of the uncertainties associated with accurately assessing the humpback chub population, especially numbers of young humpback chub, the States also request that Reclamation adopt a similar trigger for the trout population, again consistent with biological and operational input from the States, above which HFEs would be suspended until the increase in trout population and its associated impact on the humpback chub population are better understood. Specifically, a trout population trigger would serve as an "early warning system" for the protection and recovery of the humpback chub given that the best available information indicates trout populations could benefit from or increase with implementation of the Protocol and trout are known to prey on and compete for food and habitat with the endangered humpback chub.

In light of uncertainties associated with determining how many trout can exist in the Colorado River near the confluence with the Little Colorado River without impeding the survival and recovery of the humpback chub, the revised DEA should also include a commitment to perform a comprehensive science evaluation of trout population effects on the humpback chub as a result of the ongoing implementation of the HFE Protocol. Such evaluation should be conducted following Protocol implementation for an interim number of years, and be used to inform whether the Protocol should continue or be modified or suspended to insure that the unknown effects of increased trout populations as a result of HFEs do not cause jeopardy to or stunt the survival and recovery of the endangered humpback chub.

Besides these protection measures, Reclamation should also explore and discuss in the revised DEA additional ways to mitigate potential impacts of the Protocol on humpback chub.

Explanation of Experimental Nature of EA

The DEA considers implementing HFEs in excess of power plant capacity in the spring (March/April), fall (October/November), or both to "evaluate the parameters of high-flow releases in conserving sediment to benefit downstream resources in Glen, Marble and Grand Canyons." DEA at 6. Consistent with

HFEs that have occurred in the past, the States remain concerned that bypassing the power generating facilities is not supported by the Law of the River or the express language in the 1996 Record of Decision for Glen Canyon Dam. We are also concerned about the financial impact that such bypass actions could have on the Upper Colorado River Basin Fund as well as on customers to power from the facility.

The States have "not objected" in the past to one-time, experimental HFEs from Glen Canyon Dam in the interest of identifying answers to scientific questions and better understanding the environment downstream of Glen Canyon Dam. Should the Secretary of the Interior decide to proceed with the Protocol as described in the DEA, the Protocol's revised DEA should further clarify that accomplishing HFEs pursuant to the Protocol are dependent on the availability of funding, planning and resources necessary to test hypotheses, obtain the data and analyze the science that underlies the purpose and need for implementing the Protocol at this time. Furthermore, the States maintain that implementing HFEs in the future as a viable management practice (as opposed to an experimental action) will require amendment to relevant law of the river to account for a new purpose for dam operations and to allow for restitution to the Basin Fund and power customers.

Clarification of Decision-Making Process in EA

The decision and implementation component of the Protocol is described at DEA § 2.2.4.3, p. 36-37, and illustrated in Figure 5. In deciding whether or not to conduct an HFE during the spring or fall HFE "windows," Interior first obtains and analyzes output from model runs to determine if sediment and hydrology conditions are suitable for an HFE of a given magnitude and duration. DEA at 36. Because the model only considers water and sediment, Interior staff are next tasked with considering the potential effects of the HFE on other resources. *Id.* at 38. After considering "the status and trends of key resources," Interior staff would make a recommendation to Interior. *Id.* Interior would then consider the staff recommendation and resource status, and may also consider input from the Adaptive Management Work Group before making a decision to conduct or not conduct an HFE. *Id.*

Besides indicating that Interior and its staff would be considering the potential effects of the HFE on other resources, the DEA fails to discuss *how* potential effects of the HFE on other resources would be considered in deciding whether or not to conduct an HFE. *See id.* For this reason, the revised DEA should explain what resources would be considered by Interior, how potential effects on those resources would be determined and finally, how those potential effects would be weighed in Interior's decision-making process.

As part of Interior's clarification on how potential effects to resources would be considered, Interior should further specify where the decision to conduct an HFE pursuant to the Protocol will be made and reported. This is unclear in the current DEA. *Id. at 38.* Given the fact that the Annual Operating Plan for Colorado River Operations is a reporting and not decision-making document, the revised DEA should make clear that decisions regarding whether or not to implement an HFE will be made outside the AOP reporting process.

Further, Interior should clarify in the revised DEA how it plans to include the States and other stakeholders as part of the decision-making process. Because potential effects to resources may be evaluated and weighed differently by Interior, the States, and other stakeholders, it will be important to obtain input from these parties prior to making a decision whether to proceed with an HFE. As a result, Interior should develop a framework for consultation to solicit input from the States and other stakeholders as part of its decision-making process.

Clarification of the Rapid Response Approach in the Proposed Action

The States support Reclamation's inclusion of the Rapid Response Approach ("RRA") as part of the Proposed Action for the Protocol. See DEA at 26-27. As currently described, however, the DEA confuses how the RRA will actually be analyzed and implemented if deemed appropriate during the life of the Protocol. The DEA recognizes potential merit in certain elements of the RRA, and includes a description of the RRA in the Proposed Action Section. *DEA at 27.* Such description, however, is described as being provided by unidentified "authors." *Id.* Furthermore, the DEA appears to ultimately reject further consideration of the RRA as part of this NEPA process due to "several issues, concerns and information needs that must be addressed prior to testing." *Id.* Although the DEA references a process for addressing issues and concerns with the RRA during the initial stages of implementing the Protocol, it expressly notes that "conducting [the storage and release and rapid release approaches] in the same time frame could produce confounding results and compromise the experiment." It further implies that additional environmental compliance will be needed before the RRA can be implemented. DEA at 28. As such, the DEA does not make clear how the meritorious elements of the RRA will be incorporated into the HFE Protocol in a manner consistent with the statements made in the environmental compliance documentation. Accordingly, Reclamation's commitment to and justification for exploring, assessing and, if appropriate, incorporating the RRA during the life of the Protocol should be clearly stated in the revised DEA.

Conclusion

The Basin States thank you for the opportunity to provide these comments on the DEA for the proposed HFE Protocol. As the States that would be affected by Reclamation's proposal, we have a particular interest in avoiding potential impacts from the Protocol and ensuring its success. In this effort, we ask that

March 18, 2011
Page 9 of 10

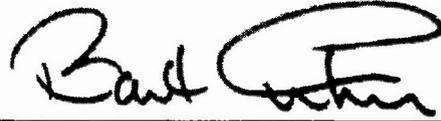
Reclamation please consider the above comments and revise the DEA to address them. We further ask that Reclamation circulate the revised DEA after addressing these and other comments to allow us and the public the opportunity to review the DEA before it becomes final, and, thereby, help insure that NEPA's twin goals of informed decision-making and informed public participation continue to be met.

Sincerely,

[Signatures on next page]



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Desert Landscape Conservation Cooperative

Your Invitation...

Land managers are faced with increasing management challenges such as land use conversion, sensitive species protection and recovery, invasive species, water scarcity, and a range of other complex issues—all of which are amplified by climate change. In response, the Bureau of Reclamation (Reclamation) and the U.S. Fish and Wildlife Service (Service) are partnering to develop the Desert Landscape Conservation Cooperative (LCC). This effort represents a broad vision of conservation that includes working with partners across landscapes to ensure that the necessary science capacity is in place to successfully address these 21st-century conservation challenges. We are in the process of reaching out to resource managers and others within the Desert LCC, and invite you to contact us (contacts provided below) if you are interested in participating or would like more information.

What is a Landscape Conservation Cooperative?

In 2010, the Department of the Interior developed a plan for a coordinated, science-based response to climate change impacts on land, water, and wildlife resources. Landscape Conservation Cooperatives (LCCs) are the applied science branch of this strategy. Each LCC will function in a specific geographic area, and will form a national – and ultimately international – network. The Desert LCC will be a self-directed partnership managed by a steering committee comprised of Federal agencies, States, Indian tribes, non-governmental organizations, universities, and Mexican government agencies.

How will the LCC Help?

Through the steering committee and associated working groups and sub-committees, the LCC will facilitate the delivery of applied science to inform resource management decisions that address climate change and other regional scale stressors. The LCC will facilitate an on-going dialog between scientists and land managers to create a mechanism for informed conservation planning, effective conservation delivery, applied research and monitoring, and adaptive management. The LCC partnership



Sonoran Desert in Arizona. Photograph by Mima Falk, USFWS

will build upon existing collaboration, complementing these efforts to support science delivery.

Geography of the Desert LCC

The Desert LCC encompasses portions of five states in the U.S. (Arizona, California, Nevada, New Mexico, and Texas) and ten states in Northern Mexico (Baja California, Sonora, Chihuahua, Sinaloa, Durango, Coahuila, Nuevo Leon, Zacatecas, Nayarit, San Luis Potosí, and Aguascalientes). The area is topographically complex, including three major deserts (Mojave, Sonoran, and Chihuahuan), grasslands and valley bottoms, and isolated mountain ranges. Elevations range from near sea level to over 10,000 ft. The richness of the topography supports equally diverse species composition and habitat for native plants, fish and wildlife, including many endemic species that are extremely susceptible to climate change impacts.

The Desert LCC contains several large river systems, including the lower Colorado, Gila, Rio Grande, San Pedro, Sonora, Yaqui, and Conchos Rivers. The Colorado River Basin is one of the most critical sources of water in the West. The Colorado River and its tributaries supply

water for 30 million people, irrigation of nearly 4 million acres of land, and hydropower facilities that generate more than 4,200 megawatts, helping to meet the power needs of the West. The Colorado River is also the lifeblood for at least 15 Native American tribes, seven National Wildlife Refuges, four National Recreation Areas, and five National Parks.

Resource Management Issues

The Desert LCC will develop science capacity to help resolve resource management issues identified by the steering committee. Examples of resource management issues include:

- The effect of long-term drought on the composition, abundance, and distribution of species.
- The effect of reduced water availability on vegetation, wildlife and human populations.
- Changes in ecosystem productivity, structure, and composition resulting in changes in the rate of carbon sequestration and amount of carbon stored as biomass.

U.S. Fish & Wildlife Service and Bureau of Reclamation

- Change in fire frequencies and intensities, and the relationship to invasion of non-native grasses.
- Effects of warming on insect outbreaks and tree mortality.

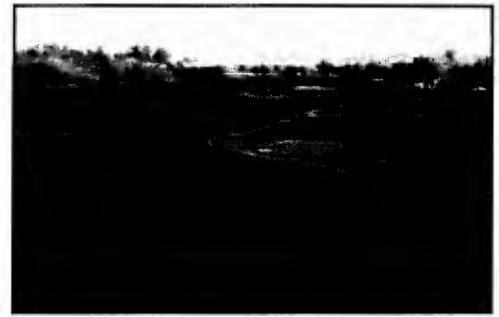
Benefits of participating in the Desert LCC

Participants in the Desert LCC will be able to leverage the contributions of each of the partners to ensure a flow of science information and resources across the management interests within the Desert LCC region. The Desert LCC Steering Committee will determine how to allocate resources made available by partners (funding and/or staff support)

for science development, and will identify funding opportunities that address the highest priority science needs shared by the partners. Additionally, the LCC will disseminate science information generated by independent partner efforts in pursuit of their resource management objectives. In this way, LCCs will aggregate capacity, create synergies, and reduce duplication of efforts.

Next steps for the Desert LCC

Over the past year, Reclamation and the Service reached out to other Federal land managers, States, Indian tribes, non-governmental organizations, universities, and Mexican government agencies to



Lower Colorado River Habitat.
Photograph Courtesy of Bureau of Reclamation

begin the initial steps of establishing the Desert LCC. These steps included:

- A series of outreach meetings in Arizona, California, Nevada, New Mexico, and Texas.
- Formation of a scoping team for developing ideas for LCC governance.
- A rapid assessment of science needs, gleaned from existing documents and input from the outreach meetings.

Your invitation to join the Desert LCC partnership

The Desert LCC Steering Committee will be formed in the spring of 2011, and this governing body will then establish permanent working groups and sub-committees, based on input from partners. If you are interested in participating in the Desert LCC, please join us!

For Further Information, Contact

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