

From: <Tapeats@aol.com>
To: <GCDExpPlan@uc.usbr.gov>
Date: Wed, Feb 28, 2007 4:35 PM
Subject: Scoping comments -- LTEP EIS

Attached are my comments on the proposed development of the Long-Term Experimental Plan for the Operation of Glen Canyon Dam and Other Associated Management Activities.

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Scoping Comments on the Long-Term Experimental Plan Environmental Impact Statement

I appreciate this opportunity, as a member of the public, to comment on the scope of an Environmental Impact Statement on the adoption of a Long-Term Experimental Plan for the operation of Glen Canyon Dam and other associated management activities. I have participated in the Glen Canyon Dam Adaptive Management Work Group and Technical Work Group in the past as a representative of environmental interests, and have an extensive knowledge of and keen interest in this “science-policy experiment of local, regional, national and international importance.” (NRC 1999, p. 6) I view many of the “policy experiment” aspects of the GCDAMP (as the National Research Council termed them) to be either failures or completely absent -- in particular, as it is relevant to this action, the ability of a range of stakeholder groups to adequately represent the range of public opinions and interests in informing and advising the Secretary of the Interior. I therefore commend the Secretary in acting to return the process of developing a Long-Term Experimental Plan for operation of Glen Canyon Dam (LTEP) to a public process – development of an Environmental Impact Statement – and encourage him to consider carefully the public input provided.

In my comments on the scope of the EIS, I will touch on the following topics and concerns: (1) development of a full and adequate range of alternatives as required by NEPA, (2) development of alternatives that are both legally and scientifically defensible, (3) the need for closer adherence to the principles of adaptive management than has been evidenced in the past in the AMP, (4) the need to address neglected aspects of the “policy experiment” concurrently with the “scientific experiment” to be addressed in this EIS, (5) designation of the National Park Service as co-lead on the EIS, and (6) adequate funding for this EIS, the LTEP, and the AMP in general.

Development of a Full and Adequate Range of Alternatives

Development of alternatives is the heart of the EIS. 40 C.F.R. §1502.14. CEQ regulations call on Reclamation to “[r]igorously explore and objectively evaluate **all reasonable** alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.” *Id.* § 1502.14 (emphasis added). The alternatives developed and analyzed should go to the purpose and need for the action, which in this case has been identified as “to increase understanding of the ecosystem downstream from Glen Canyon Dam and to improve and protect important downstream resources.” (Federal Register Notice, December 12, 2006) The broad purpose and need identified – increased ecosystem understanding and resource improvement/protection – requires a set of alternatives that spring from the scientific underpinnings, ecosystem management approach, and statutory directive (in the form of the Grand Canyon Protection Act) that are at the heart of the AMP and the Secretary’s operations of Glen Canyon Dam.

The five options forwarded to the Secretary by the AMWG following its December 5-6, 2006 meeting for consideration as examples of possible mixtures of alternatives that would satisfy the scope of this EIS (contained in GCMRC, 2006, Assessment of Estimated Effects of

Four Experimental Options on Resources below Glen Canyon Dam, table E.1, page 3. USGS, Flagstaff) do NOT serve as a proper example of a full and adequate range of alternatives. They do not serve to fully set out options for increasing the understanding of the ecosystem, nor do they provide the range of possible actions that collectively will improve and protect downstream resources. I recommend that the EIS present and analyze a set of alternatives that derive from the purpose and need expressed, using basic principles of adaptive management and accepted scientific techniques, rather than adopt the inadequate set of alternatives forwarded by the AMWG for consideration.¹

Development of Legally and Scientifically Defensible Alternatives

The EIS should include alternatives that meet both legal and scientific scrutiny. In terms of legal adequacy, they must respond to the statutory mandates of the Grand Canyon Protection Act, the Endangered Species Act, and other applicable federal legislation. These statutory mandates should be interpreted broadly, and past interpretations – which have been challenged in federal court through litigation targeting the AMP² – should be re-examined and not merely accepted as “adequate.” In particular, the mandate of the Grand Canyon Protection Act to “...protect, mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreation Area were established...”³ should be considered in the light of the documented failure of the AMP to meet those mandates during the first ten years of the program.⁴ Similarly, the requirements of the 1994 Final Biological Opinion on Operation of Glen Canyon Dam should be considered, and any unfulfilled requirements considered in the development of alternatives.

Scientific adequacy will require that the alternatives have clearly defined hypotheses regarding expected outcomes across resource areas and the ecosystem, are bold enough to detect a response in the ecosystem, operate on a variety of temporal scales (including decadal scales not previously used in the AMP), and incorporate contingency planning and other responses to field variability and uncertainty. The alternatives should include the continuation and refinement of ecosystem modeling that has been used on a limited basis previously in the program, along with modeling on the resource-specific level, as well as include field and lab experiments.

Closer Adherence to the Principles of Adaptive Management

The successful development of a Long-Term Experimental Plan for operations of the dam will require a closer adherence to the principles of adaptive management than has been

¹ I must clarify here that I do not believe that each of the alternatives contained in the “set” forwarded by the AMWG are, per se, individually flawed. However, the process used to develop them was highly political, and scientifically suspect. A more scientifically defensible approach to developing alternatives for the LTEP may independently arrive at the same or similar alternatives as one or more of those contained in the “set”, thereby validating their consideration in the EIS.

² Center for Biological Diversity v. U.S. Bureau of Reclamation (settled in 2006)

³ Pub. L. No. 102-575, 106 Stat. 4602, 4669-4673.

⁴ See generally, Gloss, S. P., et al. (eds.). 2005. The state of the Colorado River ecosystem in Grand Canyon. USGS Circular 1282.

evidenced in the past in the AMP. I urge the Secretary to return to those principles in the development of alternatives for the LTEP and throughout the EIS and subsequent implementation of a LTEP.

The National Research Council, in its 1999 report “Downstream: Adaptive Management of Glen Canyon Dam and the Colorado River Ecosystem,” pointed out several ways in which the AMP – only three years old at the time – was not adhering to the principles of adaptive management. Most of those departures have not truly been remedied in the seven years since the NRC’s report.

The NRC distilled eight key components of adaptive management from the working contemporary definitions. The components “include: (1) commitment to ongoing management adjustments based, in part, upon scientific experimentation, (2) shift from “trial and error” to formal experimentation with management actions and alternatives, (3) shift from fragmented scientific investigations to integrated ecosystem science, (4) explicit attention to scientific uncertainties in ecosystem processes and effects of management alternatives, (5) formal experimental design and hypothesis-testing to reduce those uncertainties and help guide management adjustments, (6) careful monitoring of ecological and social effects and of responses to management operations, (7) analysis of experimental options in ways that guide future management decisions, and (8) close collaboration among stakeholders, managers, and scientists in all phases of these processes.” (NRC 1999, p. 53) Specifically as it relates to Glen Canyon Dam and the Colorado River Ecosystem, the NRC stated that “[a]daptive management encompasses dam-operation experiments (such as controlled floods and daily flow regimes) hypothesized to achieve downstream ecosystem benefits; monitoring the effects of those experiments; research to explain those effects; design of new experiments to more fully achieve ecosystem benefits; and stakeholder-guided management experiments to weigh monitoring and research results when recommending dam-operation experiments and adjustments to the Secretary of the Interior. (NRC 1999, p. 55)

The NRC, in evaluating the program, identified certain adaptive management failings that continue today and must not continue with the development and implementation of the LTEP. I would like to focus primarily on two. First, it recognized that the hypotheses in AMP experiments have not always been clearly defined and formally tested. (NRC 1999, p. 55) *This includes the most basic “experiment” – the current operations, known as Modified Low Fluctuating Flows, or MLFF.*⁵ The AMP has never properly applied adaptive management principles to the testing and evaluation of current operations, which may be the reason why it has taken ten years to “evaluate” them and recognize that they have failed to achieve their goals. The LTEP must test and evaluate alternative operations, not merely current ROD operations and “adjustments” to those operations, and the alternatives in the EIS must clearly define the hypotheses to be tested as part of the LTEP.

Second, the NRC recognized in 1999 that the AMP was not addressing the inherent and difficult trade-offs among competing objectives in the program, and had not articulated a set of scientific criteria to guide choices among competing objectives that protect/improve the values

⁵ “Within the strategic plans and Program documents, this committee found no clear statement of the current adaptive management experiment.” (NRC 1999, p. 72)

identified in the GCPA. (NRC 1999, p. 73) This remains the case today in the AMP. Correcting this failing will be crucial to the success of the LTEP, and scientific decision support systems must be developed to address this task. Ideally, this action would precede the development of alternatives for the LTEP, but given the magnitude of this effort, and current timeframe constraints, such an outcome is virtually impossible. It will be up to the Secretary to ensure that trade-offs among competing objectives for downstream resources are adequately addressed in the development and analysis of alternatives for the LTEP, and do not merely continue to be ignored.

Concurrently Addressing the “Policy Experiment”

The development and implementation of the LTEP will address the “science experiment” side of the “science-policy experiment” that is the AMP. It cannot, and will not, operate in a vacuum, however, and the deficiencies of the “policy experiment” side of the program must be addressed concurrently so that they do not derail the development and implementation of a legally and scientifically defensible LTEP.

In particular, I recommend that entire stakeholder element of the AMP be evaluated and revised at the most fundamental level. Despite repeated attempts, the stakeholders have failed to reach a common understanding of adaptive management as it relates to this program, and arguably they have also failed to reach a common vision for a desired outcome (despite an articulated “vision” statement in the AMP Strategic Plan, which has been largely ignored). These are fairly fundamental requirements of this type of program, and have profound implications for the “science experiment” side of the program. I suggest that the Secretary investigate the causes for this lack of ability to reach such common understandings and vision, and attempt to determine whether such things as the development of decision support systems can remedy the problem, or whether a more fundamental shift in the “policy experiment” is required. Perhaps new options for the configuration and/or operation of the stakeholder element of the program need to be identified and tested, just as new options for dam operations need to be identified and tested. This element of the program should be undertaken without delay, and to the extent possible be out ahead of the development and implementation of LTEP. By no means should it be considered less important and less urgent than the scientific experimentation.

NPS as Co-Lead

It is clear that the National Park Service should be a co-lead on this EIS. Although the Bureau of Reclamation operates Glen Canyon Dam, the AMP and in particular the LTEP address downstream resources in Grand Canyon National Park and Glen Canyon National Recreation Area. In fact, several potential non-flow actions that could be part of LTEP alternatives would be undertaken or require concurrence by NPS. NPS has the expertise in evaluating whether the LTEP or actions as part of the LTEP would degrade park resources and values, and will need to do an impairment determination, making the National Park Service essential in the development of the EIS and LTEP. Furthermore, the courts and CEQ have expressly sanctioned joint leads in situations such as this where more than one agency is integrally involved in an action.

Adequate Funding

Lack of funding has been both a reason and an excuse for many of the deficiencies and failures of the AMP to date. I strongly urge the Secretary not to allow inadequate funding to continue to hamstring the proper functioning of the AMP, and particularly not to allow it to improperly constrain the LTEP or its development through this EIS process. This LTEP is a crucial and complex element of improving the scientific credibility and functionality of the AMP, and cannot be developed and implemented based on financial constraints rather than scientific need. Although budgetary accountability is important, and something that I required as a stakeholder when I served on the AMWG, the "science-policy experiment of local, regional, national and international importance" should not be cutting corners and compromising its scientific integrity due to false funding constraints. The LTEP EIS cannot be developed on a shoestring; its focus is a complex, ecosystem-based, multi-decadal scientific program of experimentation designed to improve understanding of the ecosystem and protect its resources in ways that over twenty years of studies, actions and experiments have not been able to accomplish yet. Proper resources must be allocated to preparing and producing the document in order to provide the Secretary with the best possible information. The future of Colorado River ecosystem in the Grand Canyon, and the future of the AMP, are closely tied to quality of the EIS and the successful development and implementation of the LTEP. They should be properly funded.

These written comments are intended to supplement my verbal comments provided during a public meeting (AMWG meeting) on December 6, 2006 in Phoenix, AZ. Thank you for the opportunity to comment.

Sincerely,



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Literature cited

Gloss, S. P., et al. (eds.). 2005. The state of the Colorado River ecosystem in Grand Canyon. USGS Circular 1282.

Grand Canyon Protection Act, Pub. L. No. 102-575, 106 Stat. 4602, 4669-4673.

National Research Council. 1999. Downstream: Adaptive Management of Glen Canyon Dam and the Colorado River Ecosystem. National Academy Press.

RECLAMATION

Managing Water in the West

U.S. Department of the Interior
Bureau of Reclamation

— Comment Card —

COMMENTS DUE BY WEDNESDAY, FEBRUARY 28, 2007

PLEASE PRINT

Date: Feb. 5, 2007

Name: PATRICK FLYNN Title (if applicable): Citizen

Telephone: 970-361-5256 Fax: _____

Organization/Business (if applicable): _____ E-Mail: OFlynn68@hotmail.com

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Yes, I would like to be added to your mailing list: E-Mail US Mail

The Bureau of Reclamation is seeking public comment on the adoption of a Long-Term Experimental Plan for the future operation of Glen Canyon Dam and other associated management activities. Your input on the scope of the project and the issues and alternatives that should be analyzed is greatly appreciated. Please write legibly.

~~After~~ I believe the only longterm alternative to saving and restoring the ecosystems of Grand Canyon National Park and Glen Canyon National Recreation Area is the decommissioning of Glen Canyon Dam. A short term alternative for restoring these places I suggest a periodic draw down of lake Powell on a 5-10 year basis, be used to flush sediment down past the dam into Grand Canyon for beach and critical habitat restoration for endangered species. This would open up Glen Canyon as well, allowing research and recreation. I believe it is imperative that the proper action be taken to protect and restore these great places and is vital to their long term sustainability.
Thank You Patrick Flynn

Please submit your comments in the space provided, fold the card in half, tape the edges, and mail the completed card back to:
Regional Director, Bureau of Reclamation, Upper Colorado Region, Attention: UC-402, 125 South State Street, Salt Lake City, Utah 84138-1147.
Comments must be received by February 28, 2007.

From: <pburks@earthlight.org>
To: <GCDExpPlan@uc.usbr.gov>
Date: Tue, Jan 30, 2007 12:42 AM
Subject: LTEP EIS Scoping Comments

Dear Mr. Gold,

Thank you for the opportunity to submit the following scoping comments for the Environmental Impact Statement on the Long-term Operations for the future operations of Glen Canyon Dam. The river ecosystem in Grand Canyon National Park has suffered immensely over the past forty years due to the operations of Glen Canyon Dam, and it's vital that a fresh look at the problem be undertaken. I have concerns, however, that the EIS as envisioned is destined to fail in this regard unless a number of critical issues are addressed.

First, I would like to express my tremendous dismay with the Department of Interior's mishandling of the recovery efforts in Grand Canyon National Park over the past 40 years, and that the information presented so far by the Bureau of Reclamation indicates that this EIS promises more of the same.

While new plans for ongoing investigation and experimentation can be beneficial, they are useless amidst a backdrop where the commitment to implement those plans is virtually non-existent. We've already experienced this with the completion of the first EIS twelve years ago, and there's nothing outlined in the purpose and need for this EIS process to indicate things will be any different once this process concludes. For this exercise to yield any meaningful outcome, the EIS process must be reconceived incorporating the following:

1. Restructuring the focus of the EIS on the recovery.

The principal objective should not be the long-term operation of Glen Canyon Dam, but the ingredients necessary to bring about the recovery and preservation of endangered species within the Colorado River corridor of Grand Canyon National Park. While such objectives may not be mutually exclusive, this has yet to be proven, and as such, one should precede the other. The focus must first address the ingredients necessary to restore the natural process to Grand Canyon's river ecosystem, and secondly how, and at what costs, can the Glen Canyon Dam/Lake Powell reservoir system be operated in order to achieve this. The restoration ingredients must include:

The return of river flows consistent with the Colorado River's natural discharge into Grand Canyon.

The re-establishment of a water temperature regime consistent with seasonal temperature variations of the Colorado River in Grand Canyon.

The re-establishment of sediment inputs into Grand Canyon consistent with the amount that would be received in a dam-free environment.

The elimination of non-native species, which have taken hold in the artificial riverine environment created by Glen Canyon Dam operations.

2. Evaluate the Decommissioning of Glen Canyon Dam

The no-dam alternative must be evaluated as one means of achieving the restoration of the natural process necessary for the recovery and preservation of endangered species in Grand Canyon's river corridor. The no-dam alternative provides a valuable base line from which to evaluate other operational alternatives. Additionally, in light of the climate and human induced changes affecting flows into Lake Powell, and thus the viability of the dam to meet perceived water supply and hydroelectric benefits, BoR has additional incentive to examine a decommissioning or no-dam alternative consistent with the Council on Environmental Quality guidelines.

3. Replace the Working Groups of the Adaptive Management Program.

Despite being given specific instructions twelve years ago as outlined in the 1995 EIS on Glen Canyon Dam operations, the Glen Canyon Dam Adaptive Management Program (AMP) has failed to deliver in almost every aspect, causing Grand Canyon's river ecosystem to endure further damage. Many of AMP's failings were spelled out in the United State's Geological Survey's SCORE Report of October 2005. It was precisely these failings that have compelled BoR to undertake this new EIS process as part of its settlement agreement with environmental groups last year. Absent any structural changes to the AMP, any recommendations coming out of this EIS process will be of little value, as there are no mechanisms to ensure they won't be ignored as were those from the EIS twelve years ago.

Dominated by water supply and hydroelectric power interests, it's not surprising that the AMP has been intransigent toward addressing the true needs for endangered species recovery in Grand Canyon. Scientific, not political and commercial interests, should be the sole advisors to the Secretary of Interior on how Grand Canyon's river ecosystem should be studied, monitored and managed consistent with the recovery objectives.

Therefore, the AMP should be replaced by an open source and independent body of research and advisory scientists, where the monitoring and research data are consistently and thoroughly peer-reviewed prior to formulating any recommendations to the Secretary of Interior.

We're closing in on 50 years of ecological destruction in Grand Canyon National Park due to the operations of Glen Canyon Dam. For much of this time the public has been asking that this be remedied. We continue to lose valuable time and species as the BoR procrastinates and resists the public's mandate to put the resource first. While there are plenty of substitutes to achieve the benefits Glen Canyon Dam may provide, there will never be another Grand Canyon. It's time for the BoR to stop thwarting the public's interest to protect it.

Sincerely,

Paul Burks
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Santa Rosa, CA 95409-3056

CC: <pburks@earthlight.org>, <ltepcments@livingrivers.org>

February 28, 2007

Regional Director
Bureau of Reclamation
Upper Colorado Region,
Attention UC-402,
125 South State Street,
Salt Lake city, UT 84318-1147

Dear Sir:

I write to comment on the development of the Long-Term Experimental Plan for Glen Canyon dam. I've been doing river trips in Grand Canyon for 25 years (19 since 1984). I've taken both undergraduate and graduate students in environmental studies from The Evergreen State College in Olympia, WA on 13 of these trips. I have a PhD in geology from the University of California, Davis. In this letter I speak in no official capacity, only as a concerned citizen. It is my firm belief that decommissioning of Glen Canyon dam needs to be given fair consideration. Here is why:

1. Dam operation has serious impacts on the National Park downstream. The integrity of the Colorado River riparian corridor cannot be maintained by simply fiddling with the outflow dials. Initially, this "fiddling" focused on protection of the beaches, primarily to maintain the river-runners' experience. Attempts have been made to mobilize sediment stored in the river channel, and move it along the shoreline during high flows. But the fluctuating flows often lead to immediate beach erosion. Reservoirs trap sediment, and for a river like the Colorado, there is no economically feasible way to get sediment around the dam.
2. In addition to ecological function, one also needs to consider basic fluvial geomorphology. A river channel adjusts its shape/size to carry the water and sediment that is delivered to it from upstream. If you change those factors, the river will adjust to the new conditions. Certainly the bank material is important (bedrock or alluvial material). There is a large literature that addresses the downstream effects of dams on rivers. The effects can be considerable. The dam releases tend to chop the peak flows and fill in the troughs (low flows). When you look at the mean annual flow, the pre-and post-dam discharges are very similar, but the flood peaks have changed dramatically. In a way, it's a bit ironic that the recent test floods, which have been on the order of 35-45,000 cfs, would barely qualify as a pre-dam flood.
3. In addition to the changes in the hydrograph, and thus the adjustment of the channel to these new conditions, water coming out of the dam is withdrawn from deep in the reservoir (thus changing temperature). Therefore, it's not surprising that changes are occurring in the ecosystem. Much of the current discussion revolves around native fishes. It's conceivable that a temperature control retrofit on the dam could address some of the problems associated with protecting these native fish, but it will be expensive, perhaps \$15 million (or more) by your estimate (<http://www.usbr.gov/uc/rm/amp/tcd/>).
4. Glen Canyon is not a water-supply reservoir. Only minor withdrawals are made for the city of Page, and for the Navaho Electric Generating Station. There is certainly potential for controversy here, as the Navaho are in court trying to obtain additional water.

5. Significant losses occur each year from seepage and evaporation from Lake Powell. The amounts are debatable, but 1 million acre-feet is a reasonable estimate of the average yearly loss. As the demand for water in the Southwest steadily grows, the utility of a reservoir that wastes nearly 1 MAF every year is suspect. Water prices in San Diego, based upon the price used in the ongoing negotiations for the sale of Colorado River water by the Imperial Irrigation District to San Diego, make the water lost at Lake Powell each year worth approximately \$225 million dollars. The fair market value of the water wasted by Glen Canyon Dam may be greater than the net income from the sale of electricity produced by the dam; essentially, the "fuel" costs more than the product being produced. Since 1963, more than 34 MAF of water has been lost from Lake Powell; worth about 9 billion dollars.
6. It is my understanding that currently the dam now generates between 500 and 900 MW in average during a year (depending on the snow pack upstream). So let's go with the maximum, 900 MW. This amount of power equals approximately 8 billion kWh per year. I checked the web for wholesale prices and found them to be less than 3 cents per kWh (<http://www.epsa.org/Competition/benefits.cfm>). At 2.8 cents per kWh, the power is worth about \$225 million. I recognize that hydroelectric generating capacity has peaking power capabilities that aren't as easily available from other forms. It's likely that we need some capacity in this category, but we could likely do with less than we have, especially if we revamp pricing structures to reward users for off-peak use that smooths out the demand.
7. One also needs to evaluate the flow-regulation function of the dam and reservoir. The free run of the river would deliver the required 82.3 maf in each 10-year period. I looked at the data for 1922 through 1962, and there was no 10-year period, starting in 1932, where the 10-year moving average was less than 10 maf. One also needs to consider various global climate change scenarios. Despite a great deal of uncertainty, having Lake Powell turn into a "dead" pool is not outside the realm of possibility.
9. The last point has to do with the sediment protection function of Glen Canyon dam. No question, this dam provides some measure of "protection" for Lake Mead, in terms of extending its life expectancy. Even with the amount of sediment that is trapped in Lake Powell, Lake Mead receives quite a bit of sediment from both the Paria River (1,410 square miles) and the Little Colorado River (25,000 square miles). The changes that have occurred in the vicinity of the Grand Wash Cliffs, including the loss of Pierce Ferry as a take-out strongly suggest that sedimentation of Lake Mead is inevitable.

So maybe it's time to accept the fact that we can't maintain the ecological health of the Colorado River through Grand Canyon as long as Glen Canyon dam exists. The dam will eventually need to be decommissioned -- why not get started by planning for it now, rather than wait for a catastrophe to occur?

Respectfully submitted,

Paul Butler
7710 Brown Road SW
Olympia, WA 98512



February 27, 2007

Att: Mr. Rick Gold, Regional Director, Bureau of Reclamation, Upper Colorado Region
Att: UC-402.125 South State Street, Salt Lake City, Utah 84138-1147

Re: Comments for the EIS for a Long Term Experiment Plan for Glen Canyon Dam.

Thank you for the opportunity to comment on the adoption of a structured, long-term program of experimentation for Glen Canyon Dam operations and various non-flow actions designed to mitigate adverse effects on downstream resources.

Glen Canyon Dam is an integral component of the Colorado River water storage and delivery system and provides economic benefits to millions of Americans.

Adaptive management for Glen Canyon Dam in regards to the Grand Canyon and its downstream resources was envisioned as a new paradigm for addressing complex environmental problems. A properly designed long-term experimental plan can assist this process by allowing resource managers and policy makers to carefully plan and better understand certain management options, the environmental tradeoffs and the economic consequences.

Key Points

Calls to include the decommissioning of Glen Canyon as a proposed alternative operation should be discarded. Neither the Glen Canyon Dam EIS nor the Grand Canyon Protection Act call for the removal of Glen Canyon Dam.

The adaptive management process has proven to be a slow, deliberate, and expensive process.

- We urge that the economic cost of experimentation be a considered factor when developing the new long term experimentation program and the cost reported in the same documents that describe possible observed benefits so that one can quantify the efficiency of the experiment.
- The Adaptive Management experimentation over the past 10 years has had an extreme impact on hydroelectric revenues from Glen Canyon Dam. Since 1996, about a third of the capacity of the resource has not been usable due to the environmental restrictions. The true costs of lost power revenues and the true research costs of experimentation has

been largely hidden from the public and the reported gains in downstream resources are not commonly reported in terms of their economic efficiency (e.g. dollars per observed benefit).

- The economic implications of various flow regimes, in terms of energy generation capacity and power replacement costs, are important variables to consider when selecting future flow regimes. Independent, peer-reviewed data and analyses on costs and revenues associated with various dam operations have not been readily available for factoring into the recommendations given to the Department of the Interior.

Future experiments should be considered in the context of new proposed operating criteria being considered for Lake Powell and Lake Mead. These new operating release criteria and decadal changes in Colorado River hydrology may provide certain new experimental opportunities and impose limits on other experiments now being planned.

For example, lower lake levels in Lake Powell may provide opportunities to naturally warm the river system without the need for costly control modifications to the penstocks at the Glen Canyon Dam. (We note that warmer in Grand Canyon could pose a significant threat to native fish species as exotics currently in the river system expand their range toward the Little Colorado River native fish refuge.)

Please consider that changing hydrologic regimes and the decadal rise and fall in Lake Powell may lend itself to one set of experimental options with the goal of conserving sediment when the climate is drier and another set of options when water deliveries to Lake Mead are increasing.

Experiments should be designed that increase food productivity of the river. Removing predatory non-native fish near the Little Colorado River should also remain a priority.

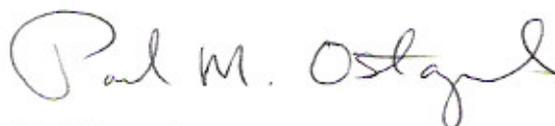
We note that another new important factor for consideration is the possible introduction of quagga mussels into the Grand Canyon system. The threat of future mussel infestations may impact decisions especially those related to seasonally-adjusted stable flows which could provide a flow velocity regime more conducive to their colonization.

We have several concerns about past beach/habitat-building flows.

- They have demonstrated a negative impact on primary food production in the Lees Ferry reach, especially in the late fall and winter months when sunlight is a limiting factor. Floods in the spring, prior to tamarisk seed dispersal, seem to make better ecological sense and could provide desired seasonal flow cues to native organisms.
- The high economic cost of beach/habit-building flows could be mitigated by limiting the release of water above power plant capacity and making more use of the flow regime between 34,000 and 25,000 cfs. Sediment deposited in this flow range could be gradually tapered to provide a more natural shaped sand bar and one potentially more resistant to erosion.

- Beach/habitat-building flows can also have a negative impact on Lake Powell water level and recreation access, unless the water release budget prior to the release event has been appropriately adjusted.
- The possible negative impact on native fish flushed down to Lake Mead during beach/habitat-building flows in the fall and winter seasons has received little attention.
- The use of beach/habit-building flows should be re-considered during decadal dry periods when minimal releases from Lake Powell are occurring and when annual tributary sediment inputs are climatologically challenged.

Thank you for the opportunity to provide public input.



Paul Ostanuk
Senior Board Member

From: <paulv@panix.com>
To: <GCDExpPlan@uc.usbr.gov>
Date: Thu, Jan 25, 2007 9:07 PM
Subject: LTEP EIS Scoping Comments

Dear Mr. Gold,

Thank you for the opportunity to submit the following scoping comments for the Environmental Impact Statement on the Long-term Operations for the future operations of Glen Canyon Dam. The river ecosystem in Grand Canyon National Park has suffered immensely over the past forty years due to the operations of Glen Canyon Dam, and it's vital that a fresh look at the problem be undertaken. I have concerns, however, that the EIS as envisioned is destined to fail in this regard unless a number of critical issues are addressed.

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The re-establishment of sediment inputs into Grand Canyon consistent with the amount that would be received in a dam-free environment.

The elimination of non-native species, which have taken hold in the artificial riverine environment created by Glen Canyon Dam operations.

2. Evaluate the Decommissioning of Glen Canyon Dam.

The no-dam alternative must be evaluated as one means of achieving the restoration of the natural process necessary for the recovery and preservation of endangered species in Grand Canyon's river corridor. The no-dam alternative provides a valuable base line from which to evaluate other operational alternatives. Additionally, in light of the climate and human induced changes affecting flows into Lake Powell, and thus the viability of the dam to meet perceived water supply and hydroelectric benefits, BoR has additional incentive to examine a decommissioning or no-dam alternative consistent with the Council on Environmental Quality guidelines.

3. Replace the Working Groups of the Adaptive Management Program

Despite being given specific instructions twelve years ago as outlined in the 1995 EIS on Glen Canyon Dam operations, the Glen Canyon Dam Adaptive Management Program (AMP) has failed to deliver in almost every aspect, causing Grand Canyon's river ecosystem to endure further damage. Many of AMP's failings were spelled out in the United State's Geological Survey's SCORE Report of October 2005. It was precisely these failings that have compelled BoR to undertake this new EIS process as part of its settlement agreement with environmental groups last year. Absent any structural changes to the AMP, any recommendations coming out of this EIS process will be of little value, as there are no mechanisms to ensure they won't be ignored as were those from the EIS twelve years ago.

Dominated by water supply and hydroelectric power interests, it's not surprising that the AMP has been intransigent toward addressing the true needs for endangered species recovery in Grand Canyon. Scientific, not political and commercial interests, should be the sole advisors to the Secretary of Interior on how Grand Canyon's river ecosystem should be studied, monitored and managed consistent with the recovery objectives.

Therefore, the AMP should be replaced by an open source and independent body of research and advisory scientists, where the monitoring and research data are consistently and thoroughly peer-reviewed prior to formulating any recommendations to the Secretary of Interior.

We're closing in on 50 years of ecological destruction in Grand Canyon National Park due to the operations of Glen Canyon Dam. For much of this time the public has been asking that this be remedied. We continue to lose valuable time and species as the BoR procrastinates and resists the public's mandate to put the resource first. While there are plenty of substitutes to achieve the benefits Glen Canyon Dam may provide, there will never be another Grand Canyon. It's time for the BoR to stop thwarting the public's interest to protect it.

Sincerely,

Paul Vlachos
100 Bank St. #2E

New York, NY 10014

CC: <paulv@panix.com>, <ltepcments@livingrivers.org>

February 22, 2007

Mr. Rick Gold
Regional Director
Bureau of Reclamation
Upper Colorado Region
Attn: UC-402
125 South State Street
Salt Lake City, UT 84138-1147

Subject: Comments on Glen Canyon Dam EIS

Dear Mr. Gold:

Thank you for allowing us the opportunity to submit comments for the Environmental Impact Statement on the Long-term Operations for the Future Operation's of Glen Canyon Dam. Studies completed in 1996 by the Bureau of Reclamation and other Federal, State, Tribal and academic entities documented that the river ecosystem has been significantly impacted since 1956 due to the operations of Glen Canyon Dam. The 1996 Record of Decision and the Grand Canyon Protection Act promised that the river environment of the Grand Canyon would improve. Unfortunately we continue to see a decline in the ecological integrity of the river system.

It is unclear from the information presented in the scoping meetings how the implementation of the Long-term operations plan will remedy or rectify the situation that exists today. The new plans for ongoing investigation and experimentation may be beneficial for gathering new data however it is unclear how this information will be integrated and implemented into changes in the Glen Canyon Dam operations that will allow for listed fish species to recover.

The following comments should be implemented in order to allow for a future in the Grand Canyon that meets the requirements of the Grand Canyon Protection Act.

1. Restructure the Focus of the EIS on Native Fish Recovery.

Of the four endangered fish species that historically existed in the Grand Canyon, only the humpback chub remains. Three of the native listed fish species have been extirpated from the Grand Canyon and the humpback chub remains however population numbers have dropped to perilously low levels. When evaluating the long-term experimental plan for the future operations at Glen Canyon Dam it is important that the information learned be applied to protecting and restoring the species and habitats in the Grand Canyon. It is clear from data collected by the Grand Canyon Monitoring and Research Center that continuing operation business as usual will continue to lead to negative impacts in the Grand Canyon. Therefore it is recommended that a new suite of operation options be included in the review in the EIS:

- An evaluation of a natural flow regime operation scenario.
- The implementation and re-establishment of a water temperature regime consistent with seasonal temperature variation for the Colorado River in Grand Canyon.
- The implementation and re-establishment of seasonal sediment inputs into Grand Canyon at a level that would provide cover for native fish and provide for the build up of sands and silts necessary for building beaches and backwater habitats.
- Aggressive non-native species control including plants, birds, and fish.

2. Impacts on Lake Powell and Glen Canyon

The anticipated management of the Colorado River includes a large probability that flow regimes will be reduced due to reduced snowpack and lowered runoff volume. This probability should be acknowledged in the EIS and addressed through alternative scenarios for evaluation of the impacts to the Grand Canyon environment. Changes in the operations of Glen Canyon Dam will have a direct and immediate impact on flow patterns. The long-term monitoring plan should address how this potential will be addressed. Specific recommendations include:

- Identify potential flow regimes that may occur as a result of changing drought operation patterns at Glen Canyon Dam.
- Identify potential changes in the elevation levels of Lake Powell and how this will potentially impact the limnological conditions in the reservoir and the resulting quantity and quality of releases to the Grand Canyon.

3. Long-Term Experimental Plan

The long term should provide the basis for each scientific study that is to be conducted in the Grand Canyon and in Lake Powell. Special interest science can be as bad as special interest decisions in that critical research and data collection is not collected, often at the loss of more important information. Specific actions that should be included in the EIS include:

- Is the USGS the appropriate entity to run the science program in the Grand Canyon?
- Identification and priority of research. It should be inherently clear and transparent as to how specific science programs are agreed to and the process to get timely data to decision-makers.
- Adequacy of support to Native American tribes in protecting their resources in the Grand Canyon.

4. Adaptive Management Program

The Glen Canyon Dam Adaptive Management Program was administratively initiated when the Record of Decision was signed by Secretary of Interior Babbitt in the fall of 1996. The intent of the program was to build on the success of the Glen Canyon Environmental Studies and to more fully integrate operational decisions at the dam with

the increasing scientific information. In October 2005 the U.S. Geological Survey's SCORE report on the success of the Adaptive Management Program was reviewed. The SCORE review did not reflect favorably on the Adaptive Management Program IF the intent was to meet the requirements of the Grand Canyon Protection Act and the intent of the EIS.

Of concern with the Adoption of a Long-Term Experimental Plan for the Future Operations of Glen Canyon Dam is that it appears that the SCORE report has not been taken into consideration or actions to resolve some of the primary scientific issues identified. The current set up of the Science Program and identified review process does not take into consideration that we cannot continue business as usual if we are to meet the requirements of the Grand Canyon Protection Act and the recovery of species and their habitats in the Grand Canyon.

The EIS scope should include the following:

- An independent review of the existing Adaptive Management Program with recommendations of actions necessary to make it more effective.
- A review of the current peer-review process and Scientific Advisory Program. The concept of "conflict of interest" should be addressed to the program head and the group involved in the review.
- A revision of the membership organization for the Adaptive Management Program to provide balance between development and management interests and conservation interests. The current organization is unfairly tipped in the favor of water and power special interest groups.

The Grand Canyon Protection Act (1992) and the initial EIS on Glen Canyon Dam in 1996 provided a great opportunity for Reclamation to step forward and be a leader in the management of the Colorado River. The past ten years have not provided the information or the process that was envisioned in 1996 and needs to be reviewed and revised in the current EIS process.

Thank you for consideration of these comments.

Sincerely,



Richard A. Harm
454 Purrington Road
Petaluma, CA 94952

ORIGINAL

CU#21307-18

3018 Old City Park Road
Moab, Utah 84532
February 10, 2007

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FEB 13 '07

Mr. Rick Gold
Regional Director, Bureau of Reclamation
Upper Colorado Region
Attn: UC-402
125 South State Street
Salt Lake City, Utah 84138-1147

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Dear Mr. Gold:

I am writing to comment on the scope and method of the Environmental Impact Statement on Grand Canyon ecosystems as affected by the operation of the Glen Canyon Dam.

I am writing from the perspective of a member of the Society for Conservation Biology and 20-year veteran of working for a non-governmental non-profit corporation which pursues ecological conservation and restoration projects in the intermountain West.

As I understand it, you are approaching the EIS from the point of view of identifying the ecological impacts of alternative schemes for the operation of Glen Canyon Dam - water release regimes in particular.

In my decades of experience, I find seemingly intractable problems are more fruitfully attacked when you use the rubric of "Science first, politics later." In the case of Grand Canyon, "science first" would be served by identifying what needs to happen to restore endangered species habitat, stop beach erosion, et cetera: what flow behavior in the Colorado River will best act to restore ecological integrity to its riparian habitats in the Grand Canyon ecosystem? When you know what flow behavior would best produce restoration of ecological integrity, then you can examine the questions of (1) whether any operating regime of the Glen Canyon Dam can produce that restorative river flow regime, and if not, (2) what operating regime of the Glen Canyon Dam comes closest to producing a restorative river flow regime, and how much short of the ideal is it? With this information, an accurate EIS can be prepared which evaluates the ecological effects of alternative Glen Canyon Dam operating regimes in terms of how far short of restoration of ecological integrity they fall. This is the information that an EIS should produce so that informed decisions can be made and various interests can evaluate what the costs and benefits of alternatives identified in the EIS are as viewed from their values perspective.

Sincerely yours,



Richard Lance Christie

From: "Richard M. Herron" <rmherron@cox.net>
To: <GCDExpPlan@uc.usbr.gov>
Date: Sun, Feb 25, 2007 7:12 PM
Subject: Comments for the EIS for a Long Term Experiment Plan (LTEP) for Glen Canyon Dam.

From Richard Herron, President/CEO Mystic Dancer, Inc. (Lake Powell - Wahweap Houseboat)
Att: Mr. Rick Gold, Regional Director, Bureau of Reclamation, Upper Colorado Region

Dear Mr. Gold,

In an attempt to comply with a settlement agreement reached last September between environmental groups and the Department of Interior, the Bureau of Reclamation has begun the scoping process for an Environmental Impact Statement on the operations of Glen Canyon Dam called the Long-Term Experimental Plan.

As presently conceived, this EIS will deliver nothing more than a continuation of studying the Grand Canyon to death.

Your voice is needed to expose this fallacy and redirect the EIS away from experimentation aimed at preserving endangered species in the Grand Canyon, which are present elsewhere in the Colorado River, and toward action in containing and for study the eradication of Quagga Mussels recently detected in Lake Mead and Havasau-and protect the Colorado River's ecosystem and water supplies for the south-west region of the USA.

Sincerely,

Richard Herron

San Diego, CA

From: "Robert Rutkowski" <r_e_rutkowski@hotmail.com>
To: <GCDExpPlan@uc.usbr.gov>
Date: Fri, Jan 26, 2007 12:20 PM
Subject: Scoping comments

Mr. Rick Gold
Regional Director, Bureau of Reclamation
Upper Colorado Region
Attn: UC-402
125 South State Street
Salt Lake City, Utah 84138-1147
fax: (801) 524-3858
GCDExpPlan@uc.usbr.gov

Re: Scoping comments for Bureau of Reclamation's EIS on the Long Term Experimental Plan for the Future Operations of Glen Canyon Dam

Dear Mr. Gold,

Thank you for the opportunity to submit the following scoping comments for the Environmental Impact Statement on the Long-term Operations for the Future Operation's of Glen Canyon Dam. The river ecosystem in Grand Canyon National Park has suffered immensely over the past forty years due to the operations of Glen Canyon Dam, and it's vital that a fresh look at the problem be undertaken. I have concerns, however, that the EIS as envisioned is destined to fail in this regard unless a number of critical issues are addressed.

First, I would like to express my tremendous dismay with the Department of Interior's mishandling of the recovery efforts in Grand Canyon National Park over the past 40 years, and that the information presented so far by the Bureau of Reclamation indicates that this EIS promises more of the same.

While new plans for ongoing investigation and experimentation can be beneficial, they are useless amidst a backdrop where the commitment to implement those plans is virtually non-existent. We've already experienced this with the completion of the first EIS twelve years ago, and there's nothing outlined in the purpose and need for this EIS process to indicate things will be any different once this process concludes. For this exercise to yield any meaningful outcome, the EIS process must be reconceived incorporating the following:

1. Restructuring the focus of the EIS on the recovery.

The principal objective should not be the long-term operation of Glen Canyon Dam, but the ingredients necessary to bring about the recovery and preservation of endangered species within the Colorado River corridor of Grand Canyon National Park. While such objectives may not be mutually exclusive, this has yet to be proven, and as such, one should precede the other. The focus must first address the ingredients necessary to restore the natural process to Grand Canyon's river ecosystem, and secondly how, and at what costs, can the Glen Canyon Dam/Lake Powell reservoir system be operated in order to achieve this. The restoration ingredients must include:

The return of river flows consistent with the Colorado River's natural discharge into Grand Canyon.

The re-establishment of a water temperature regime consistent with seasonal temperature variations of the Colorado River in Grand Canyon.

The re-establishment of sediment inputs into Grand Canyon consistent with the amount that would be received in a dam-free environment.

The elimination of non-native species, which have taken hold in the artificial riverine environment created by Glen Canyon Dam operations.

2. Evaluate the Decommissioning of Glen Canyon Dam.

The no-dam alternative must be evaluated as one means of achieving the restoration of the natural process necessary for the recovery and preservation of endangered species in Grand Canyon's river corridor. The no-dam alternative provides a valuable base line from which to evaluate other operational alternatives. Additionally, in light of the climate and human induced changes affecting flows into Lake Powell, and thus the viability of the dam to meet perceived water supply and hydroelectric benefits, BoR has additional incentive to examine a decommissioning or no-dam alternative consistent with the Council on Environmental Quality guidelines.

3. Replace the Working Groups of the Adaptive Management Program

Despite being given specific instructions twelve years ago as outlined in the 1995 EIS on Glen Canyon Dam operations, the Glen Canyon Dam Adaptive Management Program (AMP) has failed to deliver in almost every aspect, causing Grand Canyon's river ecosystem to endure further damage. Many of AMP's failings were spelled out in the United State's Geological Survey's SCORE Report of October 2005. It was precisely these failings that have compelled BoR to undertake this new EIS process as part of its settlement agreement with environmental groups last year. Absent any structural changes to the AMP, any recommendations coming out of this EIS process will be of little value, as there are no mechanisms to ensure they won't be ignored as were those from the EIS twelve years ago.

Dominated by water supply and hydroelectric power interests, it's not surprising that the AMP has been intransigent toward addressing the true needs for endangered species recovery in Grand Canyon. Scientific, not political and commercial interests, should be the sole advisors to the Secretary of Interior on how Grand Canyon's river ecosystem should be studied, monitored and managed consistent with the recovery objectives.

Therefore, the AMP should be replaced by an open source and independent body of research and advisory scientists, where the monitoring and research data are consistently and thoroughly peer-reviewed prior to formulating any recommendations to the Secretary of Interior.

We're closing in on 50 years of ecological destruction in Grand Canyon National Park due to the operations of Glen Canyon Dam. For much of this time the public has been asking that this be remedied. We continue to lose valuable time and species as the BoR procrastinates and resists the public's mandate to put the resource first. While there are plenty of substitutes to achieve the benefits Glen Canyon Dam may provide, there will never be another Grand Canyon. It's time for the BoR to stop thwarting the public's interest to protect it.

Thank you for the opportunity to bring these remarks to your attention.

Mindful of the enormous responsibilities which stand before you, I am,

Yours sincerely,
Robert E. Rutkowski

cc:
House Democratic Leadership
President George W. Bush

2527 Faxon Court
Topeka, Kansas 66605-2086
P/F: 1 785 379-9671
E-mail: r_e_rutkowski@myrealbox.com

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AG

CC: <comments@whitehouse.gov>, <HouseDemocrats@mail.house.gov>

IRRIGATION & ELECTRICAL DISTRICTS ASSOCIATION OF ARIZONA

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CHARLES W. SLOCUM
SECRETARY-TREASURER

ROBERT S. LYNCH
ASSISTANT SECRETARY-TREASURER

E-MAILED ONLY

February 28, 2007

Mr. Rick Gold, Regional Director
Bureau of Reclamation
Upper Colorado River Region
125 South State Street, Room 6107
Salt Lake City, Utah 84138-1147

Re: Environmental Impact Statement (EIS) for the Adoption of a Long-Term Experimental Plan for the Future Operation of Glen Canyon Dam and Other Associated Management Activities

Dear Mr. Gold:

The Irrigation & Electrical Districts Association of Arizona (IEDA) is pleased to have the opportunity to comment on the scoping of this important EIS. IEDA's 24 Members and Associate Members include contractors for CRSP power, contractors for other federal hydropower resources on the Colorado River and water contractors for water supplies from the Colorado River. As such, we are vitally affected by any decisions that will ultimately be made and experiments under this program that will preclude those decisions concerning power and water operations at Glen Canyon Dam. IEDA is also a member of the Colorado River Energy Distributors Association (CREDA). We have reviewed the comments that CREDA has submitted on this EIS scoping effort and we wholeheartedly support them.

We are providing these additional comments because we hope that this program will provide an opportunity for refocusing efforts to collect data on impacts downstream of Glen Canyon Dam in a fashion that follows the mandate Congress gave Reclamation and the Secretary in the 1992 Grand Canyon Protection Act (GCPA). We have been involved in the studies Reclamation initiated some ten (10) years before that Act virtually since their inception and we are concerned that the mission that Reclamation undertook in 1982, which Congress confirmed in 1992, has not met its objectives.

Specifically, we believe that the scientific program has collected a great deal of data, much of it in an unfocused search for information, instead of compiling data that would be presented to the Secretary with recommendations to continue or modify the power operating criteria decisions made in the original Record of Decision (ROD) after the Glen Canyon Dam EIS. The five criteria established in that decision for daily power operations at Glen Canyon Dam should have been the focus of scientific efforts because they were the focus of the decision-making and the instruction in Section 2 of the GCPA from Congress concerning that decision-making.

Reclamation now has the opportunity to refocus its efforts and to enlist the support of interested parties in establishing a program that will have, as its end product, the collection of data that must be added to the existing base so that the Secretary can intelligently consider changes to the operating criteria for power operations at Glen Canyon Dam. We hope these comments will be helpful to you in this exercise.

THE STATUTORY FRAMEWORK

In designing this experimental program, Reclamation must be guided by the framework Congress established for the Colorado River Storage Project (CRSP) and, specifically, the power operations mandated at Glen Canyon Dam. Thus, Section 5 of the CRSP Act provides a continuing mandate to maximize power production while Section 2 of the Grand Canyon Protection Act (GCPA) authorizes operational changes to power production where other mitigation actions cannot suffice. The monitoring and research imperative in the GCPA directs the Secretary and Reclamation to assemble data for reexamining Section 2 decisions and it is that imperative that this experimental program must implement. *Inter alia*, the suit settlement mentioned in the Federal Register Notice confirms this requirement.

DAM EXISTENCE V. DAM OPERATION

Reclamation began studying the downstream effects of Glen Canyon Dam in 1982. That study did not effectively differentiate between effects of the dam's existence and effects of the dam's power operations. In 1992, Congress refocused that effort, leading to the ROD, which established five daily power operating criteria for the dam. Congress also ordered the Secretary to monitor the effects of that ROD and to do research aimed at revisiting that decision.

To date, the scientific program has not focused sufficiently on that Congressional directive. The challenge Reclamation faces is devising an experimental program that provides for the collection of data about these five criteria and possible changes to each of them serially or in combination. The proposals of the Adaptive Management Work Group, the federal advisory committee established pursuant to the ROD, are part of this examination, but only part. Reclamation's NEPA requirements include examining all reasonable alternatives, a standard that requires an independent analysis and exercise of judgment.

At the same time, Reclamation must further assess the effects of the dam's existence itself, most notably the changes in river temperature. But what studies have been done on the effects of temperature on the specific fish species that frequent the river around the mouth of the LCR? Shouldn't some laboratory work be done before constructing a temperature control device (TCD), which Reclamation admits to Congress in its budget documents is an experiment itself that may not work?

The other major effect of the dam's existence, reduction in sediment transport, has been studied extensively within the Glen Canyon National Recreation Area and the Grand Canyon National Park. But what of the effects on Lake Mead? On water supply? Must not Reclamation assess cumulative impacts on these resources if it is assessing sediment augmentation?

Salt cedar has increased its invasion of the Colorado River below Glen Canyon Dam, and many say it has been aided by the artificial flood experiments previously conducted. If artificial floods (beach habitat building flows and beach habitat maintenance flows) are to be part of the river's future, will they cause salt cedar to completely take over the riparian environment? Should that not be one of the study's concerns?

HUMPBAC CHUB

And what of the humpback chub. The fish evolved in a regime of fluctuating water availability and flows from extreme highs in the area of 300,000 cfs to annual lows of barely a trickle around 1,000 cfs at Lees Ferry. Indeed, the establishment of Lees Ferry is historic testimony to the fact that flows at that location for a considerable period of time each year were low enough to allow ferrying of wagons, goods and people. History also teaches us that flows were low enough to allow portage of the river as well. Logic then dictates that daily fluctuations change the pattern of these variable water flows but not the existence of this variability itself, except to moderate it. Whatever impacts the humpback chub incurred from the construction and initial operation of the dam for power generation, humpback chub numbers have dwindled since the Record of Decision put further limits on that power generation. Logic further dictates that these additional restrictions on daily fluctuations have created an increasingly hostile environment for the humpback chub. Why? Which of the five criteria has done this? Which combination? Is the limited daily change of flows alone responsible? Is the effect not harm to the humpback chub but help to its nonnative predators/competitors? Will wider ranges of daily change disadvantage these predator/competitor fish to the benefit of the humpback chub? Isn't this inquiry central to an effective experimental program?

SEDIMENT

Because water flows and the wind blows, sand deposited on Marble Canyon beaches erodes. It was so before Glen Canyon Dam. It is so now. Quixotically, sand deposits in Marble Canyon are often made in the places most vulnerable to these natural effects. Might not man provide a better answer? Reclamation routinely dredges sand below Parker Dam to enhance the river's effects on the Havasu National Wildlife Refuge, a program that benefits both water delivery and the environment. Might not the same program be able to select locations and elevations in Marble Canyon to place beach deposits more protected from nature's erosive effects? Might not the same program provide backwaters of appropriate sizes and at times and locations theoretically most helpful to juvenile humpback chub? The Adaptive Management Program has already tested mechanical means of interdicting natural processes by implementing mechanical harvesting of nonnative fish at and around the mouth of the Little Colorado River where it flows into the mainstem of the Colorado. If one such mechanical intervention is worth testing, should not another dealing with sediment and beach building be useful, perhaps essential, to test?

RESEARCH FOCUS

Section 5 of the CRSP Act continues to direct Reclamation and the Secretary in this effort. Section 2 of the GCPA authorizes modification of the power production capability of Glen

Canyon Dam where proven essential to downstream resources, especially the humpback chub. Nevertheless, the task Congress has assigned you is to find a way to maximize power production while dealing with downstream environmental issues in any productive way you can. If intervention for the humpback chub is warranted, such as mechanical harvesting of nonnative fish, it is authorized. If intervention related to sediment is warranted, such as dredging, it is authorized. Actions that diminish power production without providing an essential downstream effect that cannot otherwise be provided are not authorized. Building beaches in Marble Canyon for the benefit of commercial river running companies to the detriment of power production, by itself, is not authorized. It is especially not authorized if there is an alternative means to support that resource that does not require diminishing power production at Glen Canyon Dam.

CONCLUSION

This experimental program must answer two sets of questions:

First, what are the impacts of the five existing daily power operation criteria, severally and in combination, and how might they be changed to enhance power production without significantly causing increased adverse impacts to the humpback chub or some other downstream environmental asset?

Second, what measures other than changes in these criteria can be taken to offset impacts of the current and any future increases in Glen Canyon Dam power production?

These questions embody your statutory mandates and must shape your future environmental testing. In turn, the range of "reasonable" alternatives you must select for detailed analysis in the EIS as part of this environmental testing must be ones that are intended to provide answers to these questions.

Thank you for the opportunity to comment on this important scoping effort. We look forward to working with you in the development of this EIS and its record of decision.

Sincerely,

/s/

Robert S. Lynch
Counsel and Assistant
Secretary/Treasurer

RSL:psr

From: "R/C Southwick" <rsouthwick@Shamanproducts.com>
To: <GCDExpPlan@uc.usbr.gov>
Date: Mon, Feb 12, 2007 10:45 AM
Subject: Glen Canyon Dam

Dear Mr. Gold,

It is my feeling that the Colorado River below Glen Canyon Dam had been studied to death. Dam operations need to follow the guide lines put forth from these studies. This has not happened. It doesn't take a rocket scientist to know that clear water going in at the top of Marble Canyon and brown water entering Lake Mead means there is a net lost of sediment, that cold water temperatures some how affects warm water fish like the Humpbacked Chub, that trout are going to migrate up and down the cold river and that daily fluctuations destroy the beaches.

I have seen tremendous changes in the river and surrounding riparian vegetation is the short time that I have rafted the river since 1994.

The dam has been operated for economic reasons and doing other than this is simply inconvenient and therefore not done. It is high time the Bureau steps up to the plate and does the right thing and follows the recommendations of these scientific studies.

Don't become the Bureau of Wreck the Nation.

The simplest solution might be to decommission the dam that not happening there are several things that can be done now by stopping the daily fluctuations, making flows mimic the natural flows, warming the water being discharged and adding sediment to the river.

Sincerely,

Robert Southwick

From: <mtbiker62@hotmail.com>
To: <GCDExpPlan@uc.usbr.gov>
Date: Thu, Jan 25, 2007 5:39 PM
Subject: LTEP EIS Scoping Comments

Dear Mr. Gold,

Thank you for the opportunity to submit the following scoping comments for the Environmental Impact Statement on the Long-term Operations for the future operations of Glen Canyon Dam. The river ecosystem in Grand Canyon National Park has suffered immensely over the past forty years due to the operations of Glen Canyon Dam, and it's vital that a fresh look at the problem be undertaken. I have concerns, however, that the EIS as envisioned is destined to fail in this regard unless a number of critical issues are addressed.

First, I would like to express my tremendous dismay with the Department of Interior's mishandling of the recovery efforts in Grand Canyon National Park over the past 40 years, and that the information presented so far by the Bureau of Reclamation indicates that this EIS promises more of the same.

While new plans for ongoing investigation and experimentation can be beneficial, they are useless amidst a backdrop where the commitment to implement those plans is virtually non-existent. We've already experienced this with the completion of the first EIS twelve years ago, and there's nothing outlined in the purpose and need for this EIS process to indicate things will be any different once this process concludes. For this exercise to yield any meaningful outcome, the EIS process must be reconceived incorporating the following:

1. Restructuring the focus of the EIS on the recovery.

The principal objective should not be the long-term operation of Glen Canyon Dam, but the ingredients necessary to bring about the recovery and preservation of endangered species within the Colorado River corridor of Grand Canyon National Park. While such objectives may not be mutually exclusive, this has yet to be proven, and as such, one should precede the other. The focus must first address the ingredients necessary to restore the natural process to Grand Canyon's river ecosystem, and secondly how, and at what costs, can the Glen Canyon Dam/Lake Powell reservoir system be operated in order to achieve this. The restoration ingredients must include:

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The re-establishment of sediment inputs into Grand Canyon consistent with the amount that would be received in a dam-free environment.

The elimination of non-native species, which have taken hold in the artificial riverine environment created by Glen Canyon Dam operations.

2. Evaluate the Decommissioning of Glen Canyon Dam

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Therefore, the AMP should be replaced by an open source and independent body of research and advisory scientists, where the monitoring and research data are consistently and thoroughly peer-reviewed prior to formulating any recommendations to the Secretary of Interior.

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Sincerely,

Robert T. Stevens
225 6th Avenue #2
Salt Lake City, UT 84103

CC: <mtbiker62@hotmail.com>, <ltepcments@livingrivers.org>

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Maricopa Audubon Society

4619 EAST ARCADIA LANE • PHOENIX.

Jan. 27, 2007

Mr. Rick Gold
Regional Director, Bureau of Reclamation
Upper Colorado Region
Attn: UC-402
125 South State Street
Salt Lake City, Utah 84138-1147

Dear Mr. Gold,

Maricopa Audubon Society members have enjoyed the ecosystem of the Grand Canyon and nature study and bird observation there for decades. We value the few fragments of native vegetation that survive on the very limited, largely destroyed by dam impoundment release flows and the resulting temperature changes. The sand bars and entire riparian ecology of the river has been severely impacted and degraded. Our members have witnessed over time, since the formation of our chapter in 1953, the destruction of this unique riparian habitat. We look forward to the return of the natural, historic stream-flows. They are essential for both the native birds and the endangered native fish which have been severely harmed by BOR's dam operations and their water release flow patterns of those dams.

The Maricopa Audubon Society is pleased to have the opportunity to submit the following scoping comments for the Environmental Impact Statement on the Long-term Operations for the Future Operation's of Glen Canyon Dam. On behalf of our 2300 members here in central Arizona, we would like to state that the river ecosystem in Grand Canyon National Park has suffered immensely over the past forty years due to the operations of Glen Canyon Dam, and it is vital that another look at the problem be undertaken. We have concerns, however, that the EIS as envisioned is destined to fail in this regard unless a number of critical issues are addressed.

First, we would like to express our tremendous dismay with the Department of Interior's mishandling of the recovery efforts in Grand Canyon National Park over the past 40 years, and that the information presented so far by the Bureau of Reclamation indicates that this EIS promises more of the same.

While new plans for ongoing investigation and experimentation can be beneficial, they are useless amidst a backdrop where the commitment to implement those plans is virtually non-existent. We've already experienced this with the completion of the first EIS twelve years ago, and there's nothing outlined in the purpose and need for this EIS process to indicate things will be any different once this process concludes. For this exercise to yield any meaningful outcome, the EIS process must be reconceived incorporating the following:

1. Restructuring the focus of the EIS on the recovery.

The principal objective should not be the long-term operation of Glen Canyon Dam, but the ingredients necessary to bring about the recovery and preservation of endangered species within the Colorado River corridor of Grand Canyon National Park. While such objectives may not be mutually exclusive, this has yet to be proven, and as such, one should precede the other. The focus must first address the ingredients necessary to restore the natural process to Grand Canyon's river ecosystem, and secondly how, and at what costs, can

the Glen Canyon Dam/Lake Powell reservoir system be operated in order to achieve this. The restoration ingredients must include:

- The return of river flows consistent with the Colorado River's natural discharge into Grand Canyon.
- The re-establishment of a water temperature regime consistent with seasonal temperature variations of the Colorado River in Grand Canyon.
- The re-establishment of sediment inputs into Grand Canyon consistent with the amount that would be received in a dam-free environment.
- The elimination of non-native species, which have taken hold in the artificial riverine environment created by Glen Canyon Dam operations.

2. Evaluate the Decommissioning of Glen Canyon Dam.

The no-dam alternative must be evaluated as one means of achieving the restoration of the natural process necessary for the recovery and preservation of endangered species in Grand Canyon's river corridor. The no-dam alternative provides a valuable base line from which to evaluate other operational alternatives. Additionally, in light of the climate and human induced changes affecting flows into Lake Powell, and thus the viability of the dam to meet perceived water supply and hydroelectric benefits, BoR has additional incentive to examine a decommissioning or no-dam alternative consistent with the Council on Environmental Quality guidelines.

3. Replace the Working Groups of the Adaptive Management Program.

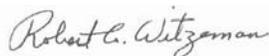
Despite being given specific instructions twelve years ago as outlined in the 1995 EIS on Glen Canyon Dam operations, the Glen Canyon Dam Adaptive Management Program (AMP) has failed to deliver in almost every aspect, causing Grand Canyon's river ecosystem to endure further damage. Many of AMP's failings were spelled out in the United State's Geological Survey's SCORE Report of October 2005. It was precisely these failings that have compelled BOR to undertake this new EIS process as part of its settlement agreement with environmental groups last year. Absent any structural changes to the AMP, any recommendations coming out of this EIS process will be of little value, as there are no mechanisms to ensure they won't be ignored as were those from the EIS twelve years ago.

Dominated by water supply and hydroelectric power interests, it's not surprising that the AMP has been intransigent toward addressing the true needs for endangered species recovery in Grand Canyon. Scientific, not political and commercial interests, should be the sole advisors to the Secretary of Interior on how Grand Canyon's river ecosystem should be studied, monitored and managed consistent with the recovery objectives.

Therefore, the AMP should be replaced by an open source and independent body of research and advisory scientists, where the monitoring and research data are consistently and thoroughly peer-reviewed prior to formulating any recommendations to the Secretary of Interior.

We're closing in on 50 years of ecological destruction in Grand Canyon National Park due to the operations of Glen Canyon Dam. For much of this time the public has been asking that this be remedied. We continue to lose valuable time and species as the BOR procrastinates and resists the public's mandate to put the resource first. While there are plenty of substitutes to achieve the benefits Glen Canyon Dam may provide, there will never be another Grand Canyon. It's time for the BOR to stop thwarting the public's interest to protect it.

Sincerely,



Robert Witzeman, M.D., Conservation Chair, Maricopa Audubon Society, 602 840-0052, witzeman@cox.net

RECLAMATION

Managing Water in the West

U.S. Department of the Interior
Bureau of Reclamation

— Comment Card —

COMMENTS DUE BY WEDNESDAY, FEBRUARY 28, 2007

PLEASE PRINT

Date: Dec 15 06

Name: Bob Witzeman Title (if applicable): _____

Telephone: 602 840 0052 Fax: ~~602~~ 602 840 3001

Organization/Business (if applicable): Maricopa Audubon Soc E-Mail: Witzeman@cox.net

Address: 4619 E. Arcadia Ln

City: Phoenix State: AZ Zip: 850

Yes, I would like to be added to your mailing list: E-Mail US Mail

The Bureau of Reclamation is seeking public comment on the adoption of a Long-Term Experimental Plan for the future operation of Glen Canyon Dam and other associated management activities. Your input on the scope of the project and the issues and alternatives that should be analyzed is greatly appreciated. Please write legibly.

1. Return of only native fish
2. Return of flood flows + sediment creation
3. Return of native riparian vegetation
4. Attention to native fish at Little Colorado Nexus with Colorado River
5. Using power + water "benefits" of Glen Canyon Dam to not grow surplus, federally subsidized cotton, (alfalfa) and feed grains

Please mail me hard copy EIS + other documents
NOT E-MAIL OR DISC CD

*Subsidized by BuRec below cost power to be used for groundwater pumping using BuRec Power to grow alfalfa, cotton feed grains

Please submit your comments in the space provided, fold the card in half, tape the edges, and mail the completed card back to:
Regional Director, Bureau of Reclamation, Upper Colorado Region, Attention: UC-402, 125 South State Street, Salt Lake City, Utah 84138-1147.
Comments must be received by February 28, 2007.

STATE OF COLORADO

Colorado Water Conservation Board

Department of Natural Resources

1313 Sherman Street, Room 721
Denver, Colorado 80203
Phone: (303) 866-3441
FAX: (303) 866-4474
www.cwcb.state.co.us



February 27, 2007

Mr. Rick Gold
Regional Director
U.S. Bureau of Reclamation
Upper Colorado Region
Attention: UC-402
125 South State Street
Salt Lake City, Utah 84318-1147

Bill Ritter, Jr.
Governor

Harris D. Sherman
Executive Director

Rod Kuharich
CWCB Director

Dan McAuliffe
Deputy Director

Ref: Glen Canyon Adaptive Management Program - Long-Term Experimental Plan for the Future Operation of Glen Canyon Dam – Scoping Concerns

Dear Mr. Gold,

Thank you for the opportunity to comment on the scope of the EIS that the Department is preparing concerning the adoption of a long-term experimental plan for the future operation of Glen Canyon Dam and other associated management activities as announced in the Federal Register on November 6, 2006 (71 Fed. Reg. 64982-64983).

As you are aware, the Colorado Water Conservation Board (CWCB) is the state agency charged with promoting, protecting, conserving and developing Colorado's water resources in order to secure the greatest utilization of those resources for the benefit of present and future generations, and to minimize the risk of flood damage and related economic losses. The CWCB has a long association with activities concerning the Colorado River Compact and the "Law of the River" and is actively involved with the Glen Canyon Adaptive Management Program.

To begin, we want to observe that an adaptive management process is a process designed to help managers arrive at solutions using sound science as quickly as possible. Therefore, the Long-Term Experimental Plan (LTEP) should be developed with this goal in mind. The LTEP should be a scientific process to develop a management plan as quickly as possible, not an extended research plan.

During the December 5-6, 2006 Adaptive Management Workgroup (AMWG) meeting, the AMWG voted to recommend to the Secretary of the Interior that the scope of the alternatives for the LTEP should maintain a balance of all the resources, which

balance was articulated in the 1995 EIS concerning operations of Glen Canyon Dam, while focusing on the humpback chub and sediment resources insofar as possible and maintaining that balance. The recommended alternatives should:

- Include a range of flows with variable patterns and timing, but remain consistent with the Compacts and “Law of the River;”
- Include non-flow experiments, such as non-native fish removal, the development of refugia and ultimately a Humpback chub stocking program;
- Be based upon credible science;
- Maximize hydropower capacity and flexibility to the extent possible;
- Address the cultural resource issues.

In developing the LTEP, key to the process, timetable and results is a robust set of testable hypotheses that are consistent with the objectives of the program. We are generally supportive of the objectives articulated by the AWMG at its December 2006 meeting, and as generally described in Table E.1 of the “Assessment of the Estimated Effects of Four Experimental Options on Resources Below Glen Canyon Dam” prepared by the Grand Canyon Monitoring and Research Center (GCMRC). We further recommend that the Bureau consider incorporation of the following hypotheses as part the LTEP for the operation of Glen Canyon Dam.

1. FLOW TREATMENT – INCREASED DAILY FLOW FLUCTUATIONS
 - Fluctuating flows have been shown to increase the aquatic food base diversity, productivity and availability more so than steady flows. An increase in daily flow fluctuation range may enhance the positive effect of fluctuations on the aquatic food base.
 - Maximum daily flows of 25,000 cfs do not negatively impact humpback chub populations.
 - Daily Stage Variation of the following magnitudes does not negatively impact humpback chub populations: 12,000 cfs/hr (Dec/Jan); 10,000 cfs/hr (Feb/July/Aug); 8,000 cfs/hr (Mar/June/Sept-Nov); 6,000 cfs/hr (Apr/May).
2. FLOW TREATMENT – ALTERNATIVE RAMPING RATES
 - A down ramp rate of 3,000 cfs/hr in April-October and 4,000 cfs in November-March does not negatively impact humpback chub populations.
 - An up ramp rate of 4,000 cfs/hr does not negatively impact humpback chub populations.
3. FLOW TREATMENT – BEACH HABITAT BUILDING FLOWS (BHBF)
 - Beaches satisfactory to recreational users can be and have been temporally created by a BHBF, but such are not a long-term management solution given the frequency with which they may occur, the fairly rapid rate at which they erode,

the vegetative encroachment that occurs, and the impacts of the recreational users themselves. Periodic uses of habitat maintenance flows (releases which remain within the limitations of the hydropower facilities at Glen Canyon Dam) are just as effective and useful in the long-term.

- The entire sediment volume migrates down the main channel of the river whether or not there is a BHBF, if it does not we need to know what portion is actually conserved and for how long in comparison to the total volume transported.

4. NONFLOW TREATMENTS – WATER TEMPERATURE and DISEASE/PARASITE RESEARCH (We would note that construction of a Temperature Control Device or TCD is a huge economic investment and therefore the impacts of a TCD need to be justified before construction, not constructed as part of an experiment.)

- Warm water non-native fish numbers and diversity will increase as water temperatures rise.
- Warming the water may negatively impact the sport fishery below Glen Canyon Dam.
- Warming the water may create conditions more favorable to parasites and diseases to the detriment of native fish populations.
- Will warming the water benefit the Humpback chub sufficiently to overcome the increased populations of warm water (catfish, bass, etc.) predator fish that may move into the reach?

5. CONTROL OF NONNATIVE COLDWATER AND WARMWATER FISH

- The control of nonnative fish species through mechanical removal has proven to be a useful and effective management tool and should continue to be included as part of the LTEP and included in any long-term management plan.

6. HUMPBAC CHUB RECOVERY PROGRAM FOR THE GRAND CANYON
A safe and stable population is required before effective experimentation of dam operations can occur. We recommend a separate recovery effort which includes:

- Humpback chub translocation
- Humpback chub refuges
- Humpback chub population augmentation

We support the Bureau's commitment to work through the Glen Canyon Adaptive Management Work Group as this EIS process develops. We do note, however, that a tremendous amount of money has been spent and more than a decade elapsed since this process began. We need to move to a final solution on Glen Canyon Dam operations and this EIS needs to recognize that fact. We are prepared to assist in this EIS process as Reclamation deems appropriate. Thanks again for your considerations.

Sincerely,



Rod Kuharich
Director

ORIGINAL
STATE OF COLORADO

Colorado Water Conservation Board
Department of Natural Resources

1313 Sherman Street, Room 721
Denver, Colorado 80203
Phone: (303) 866-3441
FAX: (303) 866-4474
www.cwcb.state.co.us

January 17, 2007

Mr. Rick Gold
Regional Director
U.S. Bureau of Reclamation
Upper Colorado Regional Office
125 South State Street, Room 6107
Salt Lake City, Utah 84138-1147

rc012307-16

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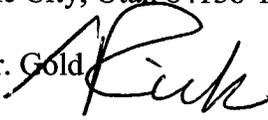
Bill Ritter, Jr.
Governor

Harris D. Sherman
Executive Director

Rod Kuharich
CWC Director

Dan McAniff
Deputy Director

Dear Mr. Gold,



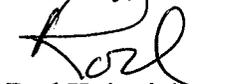
We are in receipt of your January 8, 2007 letter inviting our participation as a cooperating agency in the Environmental Impact Statement (EIS) process for the development and adoption of a Long-Term Experimental Plan to address the future operation of Glen Canyon Dam. As you are well aware Glen Canyon Dam operations are extremely important to Colorado and the Upper Basin for assuring Compact compliance.

Colorado would be glad to participate as a cooperating agency in the Environmental Impact Statement (EIS) process for the development and adoption of a Long-Term Experimental Plan. As you know, there are many issues that will need to be addressed as this EIS moves forward. Concerns have been raised about sediment transport, the economics and downstream impacts of the Temperature Control Device and the reintroduction of the humpback chub to name just a few. We believe that within the capability of our existing resources we can provide useful information and assistance to Reclamation within our areas of expertise in the areas outlined in your letter of invitation.

We are supportive and appreciative of your willingness to hold the cooperating agency meetings either as part of or in conjunction with the Glen Canyon Adaptive Management Program meetings as such will help us all in addressing our respective budget concerns.

Thanks for your invitation; we look forward to working with you on this effort.

Sincerely,


Rod Kuharich
Director

332 N. Jackson St.
Wyocena, WI 53969 FEB 26 '07
February 15, 2007

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Regional Director, Bureau of Reclamation
Upper Colorado Region
ATTENTION: UC-402
125 South State Street
Salt Lake City, Utah 84138-1147

RE: Long-Term Experimental Plan EIS and Mailing List Request

Dear Regional Director:

I am taking this moment to notify you that I want to be placed on the mailing list for the development of the proposed Long-Term Experimental Plan EIS for the Colorado River.

Second, I am taking this moment to advance notify you of my direct interests in Plan development, so that these interests can be made part of the public record for this Scoping Process immediately.

I am *highly motivated* to make sure that the proposed Plan accounts for the needs and interests of private, river permit holders. You see I held a permit at the time of the high flow experiment in November 2004 and was on the river when a fellow rafter from Phoenix lost his life in Hance Rapid. While my party did not suffer loss of life, our trip suffered greatly because of the high flow regime. I documented the impacts of high flow regimes on private rafting parties in a lengthy and detailed letter in August 2005. . . a letter which was never responded to by the Bureau of Reclamation, Geological Survey, and National Park Service. I expect the Scoping Process to accept and include my letter in its proceedings.

In the interest of summarizing key findings of this letter, I will include several of my more prominent conclusions here regarding the safety and courtesy owed to private permit holders who have waited for years to claim their permit:

- 1) High flow regimes can have serious and profound impacts upon the rafting experience and create life-threatening conditions for rafting parties. Everything from rapids flow conditions to on-river turbulence/flotsam to loss of beach access to camping safety is affected by river stage. Our party experienced a 10 to 12-foot increase in stage.
- 2) High flow regimes should be planned far enough in advance to coordinate with the National Park Service permit program so that floods are held when either no one is on the river OR ample time provided for a permit holder to negotiate with the Park Service to determine what trip flexibility exists.

NOTICE IF YOU DETACH
ENCLOSURES PLEASE INSERT
CODE NO. _____

3) Should it become known that a high flow will/could occur when private parties are rafting, immediate and confirming communication should be made with all affected permit holders. This early communication would allow the permit holder to assess likely river and beach conditions, allowing for a determination if a change of release date is necessitated.

4) Should it become known that a high flow will/could occur when private parties are rafting, all directly affected permit holders should be given early and immediate detailed information on the flood hydrograph, river stages inside the Canyon, expected beach availability for the flood's duration, likely rapids conditions at difficult rapids, and safety guidance for high water.

The point of my passion is simple: **I DO NOT want anyone else to endure what happened to my party in November 2004.** It didn't have to happen then, but it did. Now is the time to make sure that the proposed Long-Term Experimental EIS Plan for the Colorado contains clear sensitivities to the needs and interests of private rafting parties.

I am dedicated to this cause and would be pleased to provide more comments beyond those contained in this letter and my August 2005 letter if needed.

In the Interest of Rafting Safety,

A handwritten signature in cursive script that reads "Roger E. Springman". The signature is written in black ink and is positioned below the typed name.

Roger E. Springman,

cc Dennis Kubly, BOR

MEMORANDUM

August 2, 2005

**TO: Fran P. Mainella, Director
National Park Service**

**Mike Snyder, Acting Regional Director
Intermountain Region, National Park Service**

**John Keys, Commissioner
Bureau of Reclamation**

**Rick L. Gold, Regional Director
Upper Colorado Region, Bureau of Reclamation**

**P. Patrick Leahy, Acting Director
US Geological Survey**

**John D. Buffington, Regional Director
Western Region, US. Geological Survey**

**FROM: Roger Springman, Grand Canyon Permit Holder PM03-0308
332 N. Jackson St.
Wyocena, WI 53969**

**RE: November 20 – 26, 2004, Grand Canyon Experimental Flood Comments and Reaction to
Superintendent Alston's Letter**

**cc Ted Mellis, Grand Canyon Monitoring and Research Center
Norm Henderson, Grand Canyon Adaptive Management Team
Willie Odem, Grand Canyon Private Boaters Association
Marc Grisham, Grand Canyon River Outfitters Association
Roderic Parnell, Northern Arizona University- Sand Bar Studies Program
Rep. Richard W. Pombo, Chairman, House Committee on Resources
Rep. Nick J. Rahall, Ranking Member, House Committee on Resources
Senator James Imhofe, Chairman Senate Committee on Environment and Public Works
Senator James Jeffords, Chairman, Senate Committee on Environment and Public Works
Rep. Tammy Baldwin, 2nd Congressional District, Wisconsin**

I am submitting the following comments to include in the Final Report and/or any other summary documents on the Experimental Flood of November 20- 26, 2004. Let me make this clear. **I want these comments and the attached correspondence to be made part of the public record because it has become apparent to me that your agencies have no sense of what the real impact of an experimental, 41,000 cfs flood is on Grand Canyon river runners.** You see, my rafting party WAS on the river during the entire course of the flood and it caused us great concern, not only forcing us to escape to higher ground during the night, altering trip plans, getting us behind schedule, and denying us access to numerous beaches for hiking, but potentially endangering our lives too. And , as you know, it played a contributing role in the taking one life on Monday, November 20th in Hance Rapid.

As permit holder, I bore special responsibility for ensuring the safety of my passengers and I can tell you in no uncertain terms that it was more-than-apparent to me that your agencies DID NOT have river running safety as your highest concern. **I do not want what happened to us to ever happen to another rafting party.** One of the best ways to assure greater safety in the future is to create a system of information delivery that assures that river runners (those few people who must face the challenges of the big water) get every chance to receive quality, accurate information on expected river conditions in a timely manner.

Let me start my official comments off with my unequivocal dissatisfaction with your bureaucracies. I have been on the river on numerous occasions and I happened to be on the river in the fall of 1996. In the spring of 1996, the first experimental flood was sent down the Canyon under a different flow regime than what we experienced last November. I point this out because it is apparent that your bureaucracies learned nothing about the etiquette of working with rafting parties and providing them with critical pre-launch information in timely ways. Or, worse yet, my greater fear is that an even larger number of rafting parties endured what we did in 1996, perhaps even worse, and their comments were placed in some drawer and ignored. **I do not want that to happen again.** I expect that each of you as natural resource professionals will faithfully place my comments in the public record, so that your agency heirs know how to treat river runners with the respect they deserve. It is already challenging enough to run the Canyon! We don't need agency staff deliberately denying critical information to river runners. Should you indicate that my comments will not affect agency policies, I will make this oversight an active and sustained campaign in the entire Southwest.

My final point on the above is reinforced by the attached letter from Grand Canyon Superintendent Alston. Superintendent Alston was responding to my December 8, 2004 letter (also attached) on the direct impacts of the experimental flood on my rafting trip. Not only did Superintendent Alston not respond to the specific informational failures that we endured and the results of that informational failure on our trip, but it is clear that he believes that what the NPS and all other agencies did was "okay" because the flood fell within the 5,000 to 100,000 cfs conditions observed during the post-dam era. Really? Is running the Colorado at 5,000 cfs no different than running it at 100,000 cfs? Do you believe that? Moreover, as you will read, he goes on to say that the BOR and NPS "did all they could" to inform river runners of potential conditions? Really? The NPS knew exactly where I was for the three years prior to my party showing up at Lees Ferry on November 10th. I received NOT ONE communiqué from them on this matter. Is that doing all you can? My point is that if the Superintendent of the Grand

Canyon Park thinks that this is an acceptable communication standard, then the entire EIA process is but a scam and charade on all river runners.

Now I would like to turn my attention to the very document that your agencies signed on November 19th just hours before the plug was pulled at the Glen Canyon Dam.

Let me begin this section of my comments with these opening remarks. An EIA can only be a valuable document if it meets certain minimum standards: 1) does it fairly and accurately portray the impacts of a proposed action (or lack of proposed action) on the environment and cultural resources, 2) does it give those potentially affected parties or interests an opportunity to make timely comments, and 3) is the process significantly non-prejudicial so that final decisions, no matter their impact, can be made without impunity. The document that you signed on behalf of your agencies failed miserably on all three counts.

The initial draft of the Experimental Flood EIA was completed in September 2002. That is both interesting and important because the NPS permit system works several years in advance and the rafting parties who would be exposed to an experimental flood through early 2005 were already known and part of the public record. Even as late as summer 2004, you could have easily informed all November 2004 to January 2005 permit holders of the likelihood of an experimental flood. You did not! More critically, each of these parties could have been notified of the opportunity to provide formal EIA comments once the 15-day comment period was triggered. Alternatively, you certainly could have informally given all rafting parties a chance to comment in the early fall and then have their questions and concerns addressed. You did not do this either.

Well, what did you do? You apparently released some general press releases throughout the Southwest and engaged the public in what COULD happen in fall 2004. Yet, because you said you were not sure the flood would happen, constant hedge words accompanied most stories. No one, not even the ranger who would eventually check us in at Lees Ferry knew for sure what would happen and in what sequence. In the meantime throughout America, the most affected people, the people who would be on the river during the flood, kept making their plans in the illusion that this would be a "normal" Grand Canyon rafting experience. So, after spending more than \$20,000 in permit fees, rafting supplies, transportation support, etc. we show up at Lees Ferry on November 10th to learn that a large flood COULD come down the river while we are on it. And, guess what, we cannot comment on the EIA because it was just released and the official comment period would end while we were on the river. A reasonable opportunity? I hardly think so.

There is nothing about this sequence that indicates respect or concern for the very people who fall into harms way during a Grand Canyon flood. The interests and needs of private river runners were treated as collateral damage and superfluous to the EIA process. "We did not have to tell you people anything" is effectively what this sequence says.

The above lack of respect was also reflected in the EIA's false assessment of flood effects on recreational users. Let me quote from the EIA to begin this section: "Timing of the high experimental flow in the period of November-January is not anticipated to alter the effects on boaters and campers. Boaters and campers in the Colorado River will be advised in advance of the high experimental flow (page 16)." This statement along with the final "Finding of Fact" on

the experimental flood shows an extreme disconnect with reality. EIA readers are led to believe that increasing fall river flows by 200 to 300% from norm do not affect rafting conditions on some of the most dangerous waters in North America. Really? I must be doing rafting all wrong if it is that easy and predictable. And, the above statement certainly plays down the significance of the "few people" who happen to be private permit holders as well. Of course the lunacy here is that no rafting parties would have been affected by the flood if it had been held from early December through January (other times that were pre-approved in the EIA). Instead, the flood was "rushed into action" with the signing of the EIA on November 19th.

The above EIA statement could not have been reviewed and approved by river rafting professionals since it grossly misrepresented rafting conditions during high flood regimes. I find this omission very curious. How can agencies who manage the Canyon make such false statements? Let me tell you what happens during the hours leading up to peak flows.

- 1) As water levels rise, larger and larger trees, stumps, and suspended debris move down river at an ever-faster pace. This is NOT a time to be on the river with an oar in the water!
- 2) As water levels rise, some rapids "wash out" while others increase in turbulence and natural rafting routes are lost. This is a bad time to run powerful, non-laminar rapids. Staying put or lining around dangerous rapids should be considered. NOTE: Keep in mind that some sections of the Inner and Middle Gorges need to be run blind; they cannot be scouted!
- 3) As water levels rise, near-shore turbulence and eddy action increases and extreme care must be taken with raft tie-ups. Rafts can get pulled under or break-away from poorly set moorings.
- 4) As water levels rise, beaches are inundated and the number of truly safe beaches for larger rafting parties quickly diminishes . . . and there aren't that many good beaches in many parts of the Canyon anyway. Being caught in an exposed beach during nightfall with rising waters can lead to dangerous outcomes.
- 5) As water levels rise, the current steadily quickens and any in-water accident becomes life threatening. It would be possible to never catch up with someone who goes into the river before exposure or other dangers set in.

You can read in my attached letter what happened to us, but for the record let me say that the river rose anywhere from 8 to 10 feet and the current went from 3-4 mph to around 9-10 mph. These are hardly conditions that represent "just another day on the river". Your EIA downplayed the flood's potential hydraulic changes. Just how is that possible? Do you really mean to tell me that no one understood the impacts of hydraulic changes on river rafting? I asked our check-in ranger at Lees Ferry what he could tell us on hydraulic changes and he didn't know either. He was on temporary assignment from Cataract Canyon. In the end, all he agreed to do was fax whatever he could find to Phantom Ranch, and that turned out to be the flood hydrograph.

Helpful but far from complete! Why was it that no one could provide exact information on expected flood stages, beach closings/availability, rapids conditions, and safe rafting guidelines in BIG water? **This is critical information that should have been provided to all river runners at Lees Ferry or even before.** It is unconscionable that your agencies would let people on the river without the above information.

Your EIA may or may not have been accurate for its impacts on fish and sediment, but it grossly underplayed the impacts on river runners. Your collective agencies have an ample number of people who have rafted the Grand Canyon during all sorts of conditions. Yet, the knowledge of those people did not find its way into the EIA or the "Final Action" document. The implication here is obvious. For whatever reason, honest and accurate information was deemed unessential or prejudicial toward the goals of the Experimental Flood.

My final conclusion is an obvious one: the way your agencies construct EIAs and then approve/disapprove them is faulty and needs changing. The resource professionals who hold the most technical information on potential flood impacts must be given a chance to participate in the process before it goes to the public. Moreover, the entire process is mired down by its own prejudice and the lack of interest in river safety. If the safety of river runners was actually given a priority:

- 1) all potentially affected river parties should have been notified well in advance of their launch dates of the proposed flood and the potential release dates of the EIA so appropriate opportunities for comments could have been made. This early communication would have also allowed ample opportunity for questions to be addressed and possible trip changes to be implemented.
- 2) all directly affected river parties should have received detailed information about flood hydraulics, beach availability, likely rapids conditions, and safe rafting guidelines for flood waters at least two months before launch. A faxed flood hydrograph to Phantom Ranch is NOT enough!
- 3) the flood should have been postponed until early December through January when virtually no private parties are on the river. Fish and sediment are not safety concerns but people are!

My final observation is a political one. It is hard for me to believe that your agencies would have attempted to undertake this flood during the commercial rafting season when hundreds of people and perhaps ten or more rafting parties would have been affected by the same six-day flood. I can just imagine the howl of protest from commercial companies when they found out that a major, experimental flood was being planned between May and October. No, I doubt that idea would ever see the light of day. Yet, it is okay to put at risk a smaller number of private river runners because they don't have a clear political stake in the process. . . and only a small number of river parties are affected after all. Your entire process needs balance, honesty, and accuracy to work correctly. **My final recommendation is that your agencies must make sure that private rafting representatives, and commercial ones, get early and full access to the entire experimental flood development process and resulting EIA review.**

The record shows that your agencies learned little, if anything, on how to communicate fully and accurately with river rafting parties. **I expect my comments to be entered into the public record and I expect that you will NEVER repeat these same mistakes again.**

I cannot leave this letter without making some final observations on the value and efficacy of the flood itself. We were on the river near Tapeats when the flood hit on Monday, November 20th, ran flood tail water on Thanksgiving Day, and observed post-flood conditions from above Lava all the way to Diamond Creek. Our entire rafting party could tell you in no uncertain terms that this flood accomplished very little permanent beach building. We saw little evidence of stable beach conditions, even where there was newly deposited sand. Beaches were steep and already eroding. Waters likely receded too fast. We took many digital images of beaches from Tapeats on down and we would be most happy to share them with you upon request.

We had many laffs sitting around post-Tapeats campfires considering the lunacy of what we had just endured. Here, in the middle of the one Southwest's most significant droughts with Lake Powell down 140 feet, several government agencies decide to run a single, high volume flood over six days to see what would happen. The answer? Aside from lowering the level of Lake Powell three more feet and pushing fish downstream, its major accomplishment was to move driftwood from the Upper Canyon to the Lower Canyon. A good value for the effort? We hardly think so. Infrequent floods in a restricted sand environment just aren't going to do the trick . . . and we recommend letting rafting parties move the wood next time. Nature rules when it comes to building beaches!

GCDExpPlan GCDExpPlan - Grand Canyon Long-Term Experimental Plan

From: Roger <webmaster@nazas.org>
To: <GCDExpPlan@uc.usbr.gov>
Date: 2/22/2007 8:21:26 PM
Subject: Grand Canyon Long-Term Experimental Plan

The Colorado River Ecosystem deserves a better future than current programs are producing.

The Long-Term Experimental Plan must address mechanisms to:

- **Restore flow regimes** to properly transport the sediment and nutrients within Grand Canyon, when and where it belongs. The reduction in size and distribution of beaches, a result of Dam operations, has had significant impacts on downstream ecology and on associated recreational use.
- **Restore the seasonally variable water temperature** in the main stem of the Colorado River through Grand Canyon.
- **Implement a restoration and recovery program** for the Colorado River corridor in Grand Canyon **that includes the recovery of all species known to be native to Grand Canyon prior to the operation of Glen Canyon Dam.** Only four of eight native fish species continue to exist in the Grand Canyon. The Humpback Chub will fail to recover and likely go extinct if action isn't taken to reverse the degradation posed by Glen Canyon Dam.

Respectfully,

Roger Radd
Conservation Director
Northern Arizona Audubon Society

nazas.org

From: Ron Newcome <rnewcome@seward.net>
To: <GCDExpPlan@uc.usbr.gov>
Date: Wed, Jan 3, 2007 9:50 PM
Subject: LTEP for Glen Canyon Dam

>
>
> Regional Director,
> Bureau of Reclamation
> Upper Colorado Region,
> Attention: UC-402
> 125 South State Street,
> Salt Lake City, Utah 84318-1147
>
> Dear Dear Madam or Sir,
>
> As one who remembers the construction of Glen Canyon Dam and the
> flagrant disregard of known science that advanced its construction,
> I beg of you not to repeat those same mistakes.
>
> The National Park Service should serve as the joint lead agency for
> the EIS as the Grand Canyon Protection Act should be of primary
> consideration in developing alternatives that preserve and improve
> park values downstream of the dam.
>
> LTEP alternatives must reflect well-defined scientific hypotheses
> and not the politically preferred science du jour. We know so much
> more about eco-science then we did in the 1960s please let's use
> these more sophisticated, known models and not create post facto
> studies to justify fait accompli.
>
> I understand that Beach habitat Building Flow (BHBF) studies are
> especially critical and should be initiated in early 2007 to
> provide useful data for the LTEP. These BHBF studies should be the
> common element to all LTEP alternatives, utilizing sediment
> triggers with specified frequency based on best scientific data.
> Selective Withdrawal Device(s) for temperature control and improved
> water quality should b a common element to all alternatives.
>
> Please consider the whole picture this time and incorporate broader
> socioeconomic analyses and note restrict the impact to hydropower.
> Recreation, local economies, and non-market values are equally
> important. Enormous strides have been made in the quantification
> of these non market values and should be used to accurately reflect
> the real cost of hydro-power from the dam.
>
> Glen Canyon Dam was a bad idea and an environmental disaster. I
> knew that at 19 and can only wish at 57 that other women and men of
> good will do everything in their power to correct the errors of the
> past and preserve the Park for my children and grandchildren.
>
> Sincerely,
>
>
> Ron Newcome
> PO Box 3731

