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13 July 2006

Mr. Mark Limbaugh
 Assistant Secretary—Water and Science
 Secretary's Designee for Glen Canyon Dam Adaptive Management Program

Dear Mr. Limbaugh:

As a member of the Glen Canyon Dam Adaptive Management Work Group (AMWG), the Grand Canyon Trust recently received your memo regarding several issues in the AMWG. We appreciate the clarifications in the memo but would like to respond to two issues: (1) the role of the Secretary of Interior's office in the AMWG, and (2) the hydrograph for Water Year 2007 (WY2007).

We are concerned that the AMWG remains independent. As you know, the AMWG was formed under the provisions of the Federal Advisory Committee Act to provide advice and recommendations to the Secretary of Interior relative to the operation of Glen Canyon Dam and the exercise of other authorities to protect, mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreation Area were established. The Federal Advisory Committee Act requires that the "...advice and recommendations of the advisory committee will not be inappropriately influenced by the appointing authority or by any special interest, but will instead be the result of the advisory committee's independent judgment..." Although we appreciate the need to increase the effectiveness of the AMWG in making recommendations to the Secretary of Interior, we question the appropriateness of increased involvement of the Secretary's office in the AMWG.

In particular, it appears that you have unilaterally interrupted the process designed to recommend an experimental flow regime that was to start in WY2007. Technical Work Group (TWG) meetings have been postponed or cancelled. AMWG meetings have been postponed or cancelled. Without these meetings taking place as scheduled, the time available for meaningful deliberation has been severely curtailed.

We also disagree with the specific suggestions in the memo that WY2007 be a "transitional year" and that the hydrograph recommendation be similar to the hydrograph conveyed to the Secretary in recent years (i.e., Modified Low Fluctuating Flows). Although we prefer to forward recommendations on how best to meet the intent of the Grand Canyon Protection Act (GCPA) through the



normal AMWG process, the suggestions in the memo, as well as the revised AMWG and TWG calendars, have left us no choice but to make our recommendation directly to you.

We strongly urge implementation of experimental flows and activities in WY2007 that meet the intent of the Grand Canyon Protection Act. The GCPA states that the "...Secretary shall establish and implement long-term monitoring programs and activities that will ensure that Glen Canyon Dam is operated in a manner consistent with that of section 1802." It is clear that Modified Low Fluctuating Flows (MLFF) do not do not meet the intent of the GCPA, especially with regard to three high priority (declining) park values: humpback chub, sediment, and cultural resources.

We also urge implementation of experimental flows in WY2007 that meet the requirements of the 1994 Biological Opinion (BO). The BO found that the alternative selected in the Record of Decision on the operation of Glen Canyon Dam (i.e., MLFF) is "likely to jeopardize the continued existence of the humpback chub and razorback sucker and is likely to destroy or adversely modify designated critical habitat." The Reasonable and Prudent Alternative (RPA) describes four elements that would avoid jeopardizing the continued existence of humpback chub and razorback sucker. Element 1 requires, in part, the attainment of riverine conditions that support all life states of endangered and native fish species. Element 1A requires that, "[a] program of experimental flows will be carried out to include high steady flows in the spring and low steady flows in summer and fall during low water years (releases of approximately 8.23 maf) to verify an effective flow regime and to quantify, to the extent possible, effects on endangered and native fish." Despite strong scientific support for these flows and six years with releases of 8.23 maf (WY2001 through WY2006), there has not been a single comprehensive test of Element 1A.¹ Furthermore, it is likely that WY2007 will be another year with 8.23 maf releases.

The AMWG has failed in its responsibility to recommend experimental flows that are likely to protect, mitigate adverse impacts to, and improve park values. Although we have participated in the Science Planning Group's efforts to develop experimental flows to meet the intent of the GCPA and the requirements of the BO, it is clear that a recommendation from this ad hoc committee will not be in time for consideration by the TWG and AMWG for a recommendation to the Secretary for WY 2007.

The failure by AMWG to produce a timely comprehensive experimental plan does not necessitate an "interim year" with MLFF releases. The Grand Canyon Trust (GCT) has developed an experimental proposal for consideration within the Adaptive Management Program that meets legal obligations, is directed at improving the conditions of the three priority park values, is supported by the best available science, and does not require additional environmental compliance. We strongly urge the Secretary to implement the WY2007 experiment from the GCT proposal while further development of the comprehensive experimental design is completed.

The GCT proposal tests whether 4 months, 8 months, or 12 months of stable flows are necessary to produce spawning and rearing habitat for humpback chub in the Colorado River mainstem.

¹ There was a short partial test of these flows in WY2000. However, the USFWS found in 2002 that this element of the RPA had "not seen sufficient progress."

Periods of steady flows begin in August when a large proportion of juvenile humpback chub enter the mainstem and would benefit from the stable nearshore habitat and increased water temperature. Throughout these tests, non-native predators and competitors of humpback chub are controlled in a reach of the river that is currently occupied by humpback chub (i.e., from above River Mile (RM) 30 to RM 69).

The GCT proposal also tests whether a positive mass balance of sand can be maintained in the canyon through Beach Habitat Building Flows (BHBF) under enriched sediment conditions. Sediment is predicted to accumulate at different rates under periods of stable flows, constrained fluctuating flows, or equalized monthly volume flows. A new "BHBF trigger" has been developed with the sediment scientists so that the spike flow is more likely to result in the conservation of sediment than previous spike flows. In addition, the proposal provides for the testing of "conditioning" flows that are intended to better distribute the sediment prior to the BHBF, and result in a higher level of sediment conservation.

Finally, the GCT proposal tests whether erosion of cultural sites can be ameliorated through aeolian transport of newly deposited sediment. A positive mass balance of sediment will provide high, dry sand deposits that can be transported by the wind to counteract the effects of erosion at cultural sites.

The WY2007 experimental flows proposed by GCT include equalized monthly volume releases (approximately 700,000 acre-feet/month) from October 2006 to July 2007 with normal ROD fluctuations (7500-13,500 cfs). The WY2007 proposal for August and September 2007 is for steady flows of approximately 10,000 cfs. One possible modification of this recommendation is to review the monitoring from the October 2005 experimental flows and determine whether it would be beneficial to implement these same flows in October 2006.

In addition to these flows in WY2007, we propose maintaining non-native predators and competitors at the lowest practical level in the humpback chub occupied reach. However, no Beach Habitat Building Flow (BHBF) is proposed during WY2007.

We also urge you to implement flows and other actions from the GCT proposal in WY2008 if AMWG does not make a timely recommendation for WY2008 flows. The GCT proposal calls for steady flows in October and November 2007, constrained fluctuating flows from December 2007 to July 2008, and then steady flows again in August and September. It would also be acceptable to implement the flows described for WY2010 and WY2011 (8 months of steady flows), or WY2012 and 2013 (12 months of steady flows). In addition to these flows, we propose maintaining the lowest practical level of non-native predators and competitors in the humpback chub occupied reach, as well as a BHBF under enriched sediment conditions.

These experiments will provide important insight into whether we can develop spawning and rearing habitat for humpback chub and other native fish in the mainstem without the expense of a Temperature Control Device, whether we can maintain a positive mass balance of sediment without the expense of sediment augmentation, and whether we can provide sufficient sand for aeolian transport to mitigate the erosion that is currently degrading cultural sites.

We have an obligation under the GCPA and the BO to test steady flows, and now is an excellent time to do it. Rainbow and brown trout are at low levels in the humpback chub occupied reach, the releases from Glen Canyon Dam are likely to be relatively warm due to low reservoir levels, and the impact on hydropower revenues appears to be significantly lower than earlier projections.

Steady flows are not a radical new concept. They have been analyzed and discussed within the Adaptive Management Program for over a decade. The only thing left to do is try them.

We would be pleased to provide any additional documentation or clarification.

Sincerely,

Handwritten signature of Nikolai Ramsey in cursive script.

Nikolai Ramsey
Grand Canyon Trust

cc: Secretary of Interior Dirk Kempthorne
Rick Gold, Alternate Secretary's Designee
John Hamill, Chief, Grand Canyon Monitoring and Research Center
Kurt Dongoske, Chair, Technical Work Group
Dave Garrett, Chair, Science Planning Group
AMWG members and alternates