(1)

From: "Mary Broniarczyk" <MBroniarczyk@azgfd.gov>
To: <GCexpReleases@uc.usbr.gov>
Date: Fri, Feb 22, 2008 9:29 AM
Subject: Experimental Releases from Glen Canyon Dam - AZ Game and Fish Response

Please let me know if you need anything else.
Thank you.

Mary Broniarczyk
Az Game and Fish Department
Program & Project Specialist
MBroniarczyk@azgfd.com
623-236-7601- Phone
623-236-7366- Fax

THE STATE OF ARIZONA
GAME AND FISH DEPARTMENT
5000 W. CAREFREE HIGHWAY
PHOENIX, AZ 85086-5000
(602) 942-3000 • WWW.AZGFD.GOV

February 22, 2008

Mr. Dennis Kubly
U.S. Bureau of Reclamation
Upper Colorado Regional Office
Environmental Resources Division
125 South State Street, Room 6107
Salt Lake City, Utah 84138

Dear Mr. Kubly:

The Department has reviewed the Environmental Assessment for Experimental releases from Glen Canyon Dam. We understand that the Environmental Assessment was developed under very narrow time constraints based upon the proposed timing for the beginning of experimental releases. The contracted period over which the EA was developed and the narrow window available for public and agency review are unfortunate consequences of the timeline that Reclamation and the Department of the Interior established for this experiment. It is unclear what prompted the need for this rapid decision-making process. It appeared to the Department that the same experiment could have been planned and executed with nearly the same sediment loading conditions during water year 2009, without the contracted planning and decision making period. While undoubtedly there may have been multiple factors influencing the timing of this experiment, no alternative proposing this experiment for water year 2009 was either described or identified as rejected.

Little detail or description of the proposed experimental component of proposed action is provided in the EA. The effects assessment is, as we understand it, focused on the releases and the effect of the releases. The absence of some detailed description of the science plan left the reader unable to connect the experiment to the release pattern. The proposed action (section 2.2) indicates that "...this experimental design is fully reflected in the science plan developed by GCMRC." The Glen Canyon Dam Adaptive Management Program's Science Advisors indicated in their review of the science plan that "...more information is needed to structure and test effective hypotheses [about backwaters] in this high flow event", suggesting that this aspect of the justification for the experiment may be premature. It is essential that detailed study plans for this aspect of the experiment, and allied research into the relative importance of various potential rearing habitats be developed before the experiment rather than after it has commenced.

The Department does not object to this proposed action. However, we believe that there are portions of the EA that could be improved upon. Reclamation and Department of Interior leaders should be more fully informed as they formulate their decision on whether or not to proceed with the experiment as proposed.

A stated purpose of the proposed experiment is to determine or understand potential benefits of backwaters created by the high-flow release for native fish, particularly humpback chub. That purpose is predicated on a hypothesis that backwaters are disproportionately valuable as rearing habitat for young humpback chub. This is uncertain. This experiment does not evaluate backwater habitat value as opposed to other near shore habitats and other monitoring and experiments not addressed in this Assessment will have to shed light on those relationships. The assessments of benefits regarding backwaters under the proposal (section 3.1.4.6) and native fish under the proposal (section 3.1.8) are perhaps overstated because of that uncertainty. Impacts to humpback chub and other native fishes are unlikely to differ greatly from the no action alternative. Benefits accruing from the experiment are more aligned with determining the value or lack of value of high flow events as management tools in the restoration of the population of humpback chub in Grand Canyon.

Reclamation has committed to a strategy of mitigation for Kanab ambersnail (sections 2.2.1 and 3.1.6.1) modeled upon successful strategies implemented during prior events. The Department has worked closely with the Bureau, the National Park Service, and Grand Canyon Monitoring and Research Center on those mitigation strategies and believes they are effective. The Department is a willing cooperator in this effort.

The Department appreciates that the trout fishery at Lees Ferry was noted as a resource of concern in the Environmental Assessment, both as a wildlife resource and a recreational value. The trout fishery, initiated in partnership with the Bureau of Reclamation under Section 8 of the Colorado River Storage Project Act, is among the values for which Glen Canyon National Recreation Area was established and hence afforded appropriate consideration under the Grand Canyon Protection Act. The trout population is a valuable wildlife resource asset belonging to the people of the State of Arizona under the stewardship of the Arizona Game and Fish Department.

We concur that direct effects to the trout population will be transitory. However, the fishery includes the recreational use and benefits that are derived from it. We believe the discussion of impacts to fishing recreation under the proposal (section 3.3.2.2) underestimates the effects of the proposed action. The discussion focuses on three days of disruption of angling recreation. However, it is our understanding that the indirect effects of the event prompt anglers to cancel reservations and fishing plans at the site, and stay away from Lees Ferry for some protracted period following the event based on their concerns that the fishery has been disrupted. We have partnered with the Grand Canyon Monitoring and Research Center to dispel misperceptions, however; the effects were described by business owners at Marble Canyon in meetings you reported in section 3.3.2.1, were included in reports to Reclamation, and may be very real. In turn, your discussion of net economic value under the proposal (section 3.3.2.6) may grossly underestimate the effect on regional economic activity of the proposed experiment. That estimate, which we assume is based upon a personal communication of expected expenditures by anglers in the local economy over three days, might be extended for weeks or months beyond the three days of proposed high flows. The Environmental Assessment

indicates that Reclamation will assist in implementing the measures described in section 2.2.1. However, it appears upon reading that section that it is incomplete, and ends with the phrase "These proposed measures include:". We recognize that the start of the high flow experiment was shifted by several days which may or may not reduce impact to fishing recreation, and that Reclamation is committed to working with the Department, the U.S. Fish and Wildlife Service, and the National Park Service to propose measures within the Adaptive Management Program to improve communication with that local business community. The proposed mitigation measures were omitted from the document. The Department requests the opportunity to discuss those mitigation measures with Reclamation prior to the decision to proceed.

Because the community at Marble Canyon is small, remote, employs local residents beyond hotel/restaurant owners and fishing guides (sections 3.3.4 and 3.4), and its economic well-being is directly linked to angler visitors; the issue of direct and indirect impact of the proposed experiment should be evaluated as a possible environmental justice issue (Executive Order 12898). The Department does not have the economic expertise that Reclamation can bring to bear on this aspect, however if this aspect of the issue has not been evaluated for decision makers perhaps it should be.

Sincerely,

Bob Broscheid
Assistant Director, Wildlife Management Division

BB:lr

cc: Brenda Burman, Deputy Assistant Secretary, U.S. Department of the Interior
Steve Spangle, Field Supervisor, U.S. Fish and Wildlife Service - Ecological Services
Sam Spiller, Lower Colorado River Coordinator, U.S. Fish and Wildlife Service
Stewart Jacks, Project Leader, Arizona Fisheries Resources Office, U.S.F.W.S.
John Hamill, Chief, Grand Canyon Monitoring and Research Center

(2)

From: "Casey Tyson" <casey@arcieromiller.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 21, 2008 8:36 PM
Subject: I SUPPORT the NO ACTION ALTERNATIVE

I am writing to give comments in regard to the "PROPOSED" series of experimental releases of water from Glen Canyon Dam to help native fish, particularly the endangered humpback chub, and conserve fine sediment in the Colorado River corridor in Grand Canyon National Park.

I do not think this is an effective use of our dollars & in fact I think it has been proven that the such releases will NOT achieve the stated objectives. Please reconsider this experiment & allow more time to come up with more efficient ways to achieve some of these goals.

I would also like to take this chance to voice my strong concern over low steady flows in September and October. I feel like this would be two steps back & we should be using Glen Canyon dam as a source for CLEAN ENERGY. The costs of energy are sky rocketing in this country & the issue is not going away. I think it will look really silly when oil is $130/barrel & nat gas is $10 at the end of this year & we put through a proposal to cut flows at Glen Canyon Dam.

Thank you for taking my stance of opposition into consideration. I support the NO ACTION ALTERNATIVE.

Casey Tyson

Chief Financial Officer

Arciero-Miller Racing LLC

www.vwmotorsportusa.com

<http://www.arcieromiller.com/> www.arcieromiller.com

949-461-7100: Office

602-214-6364: Mobile

3

From: "Chad H" <chadjan@gmail.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 21, 2008 4:59 PM
Subject: No to controlled flooding on the Colorado river

Do not conduct this experiment, instead investigate nondestructive methods of building beaches in the Grand Canyon and to use common sense and sound judgment in dealing with this and all future planned experiments on the Colorado River.

Complete waste of money doing an Environmental Assessment, Spend the money on keeping Zebra Mussels out of our lakes and waterways.

I support clean energy and encourage the use of power generation from Glen Canyon Dam.
I support the NO ACTION ALTERNATIVE

Thank you
Chad Humphrey
970 252 0811

4

From: <rockarosa@aol.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 21, 2008 3:05 PM
Subject: March High Flows

Dear Sirs,
? I encourage you to look at a moderation of the down ramping after this test flow. I have been down the river many times after test flows and the subsequent quick down ramping and witnessed the resulting steep beaches and calving of beaches. The result has been that after a few months the sand has moved back into the river and the beaches are not much improved as a result. A natural flood event does not end quickly like these artificial flood events. Take a hint from the natural processes and try do duplicate it this time. You only get to do these flows every once in a while so try to get it right when you have the chance.

Sincerely,
David P. Christensen
Former River Guide and Park Service Employee

5

From: "Bob Sweet" <trouttramp@sweetdecks.com>
To: "river" <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 21, 2008 2:05 PM
Subject: GC experimental releases

Once again a goverment dept./bureau is kicking a dead horse so to speak. Previously the Bureau of Reclimation has experimented and failed in The Grand Canyon. They need to consider other non destructive methods of building beaches in the GC. There are always alternative answers, one which can accomplish the desired goal and sustain all recreational activities and thier associated economies.

In this time of record high fossil fuel costs, depleted supplies and most importantly the need for clean energy sources, to plan to reduce flows in September and October, which of course will lower electrical output from Glen Canyon Dam, requiring made up electric to be generated elsewhere in a non clean energy plant. I oppose the scheduled low flow .

I as well support the No Action Alternative

From: "Liquidity Group" <liquiditygroup@jps.net>
To: <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 21, 2008 1:06 PM
Subject: Support for March High-Flow release

Hello,

I understand the multiple-mission conflicts of BuRec, but in order to have a reasonably balanced approach to management, a flood flow is not unreasonable. The environment always takes a back seat to other concerns; this is not a lot to ask! Credible scientists feel this is the right time to try it again, so please go ahead with it.

Randy Michaels

7

From: Doni Kelly <dkelly04@earthlink.net>
To: <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 21, 2008 12:09 PM
Subject: In support of Grand Canyon River Guides position

Dear Sir;
I have read the position paper by the Grand Canyon River Guides and believe that their points are well thought out and based on both scientific principles and many years of personal observations of the river. While I can't speak to the scientific points regarding the chub (paragraph 3), I have observed the progressive subsidence and calving of beaches during 4 separate Grand Canyon river trips, from 1987 through 1994. As noted in paragraph 2, the rapid downramping of flows caused significant calving of beaches; overnight subsidence leaving a 3-4 foot wide beach in the morning after having camped on a beach 5 times that size the night before. It's also reasonable to test the high flows for a year without committing to a 5 year time frame.
I hope that you will consider the position of the Grand Canyon River Guides as a positive and thoughtful approach to preserving the Grand Canyon for all stake holders.
Sincerely,
Donell D. Kelly
Tucson, AZ

Doni

8

From: Richard Herron <RHerron@maximsys.com>
To: "'GCexpReleases@uc.usbr.gov'" <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 21, 2008 11:53 AM
Subject: Stop the flush

Hello,
I support the "NO ACTION ALTERNATIVE". I feel that if it is beaches that are the prime reason behind this scheme, then why can they not use the debris from the deepening of Castle Rock Cut project at Lake Powell. This is a waste of tax payer dollars for this flush and only benefits a very small number of rafters. Then there is the issue of previous floods killing endangered chubs. Stop the flood.
Respectfully,
-rich herron
San Diego, CA

Richard Herron
Senior Software Engineer
Office: 619-574-2257
Fax: 619-692-3597
Cell: 619-994-6380
rherron@maximsys.com

9

From: "Alanna M. Larson" <AlannaMarlene@msn.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 21, 2008 10:39 AM
Subject: Fw: GCRG comments on EA

We are totally in agreement with the Grand Canyon River Guides, Inc. view.
Alanna Larson
Prescott, AZ

----- Original Message -----
From: Lynn Hamilton<mailto:gcrg@infomagic.net>
To: Undisclosed-Recipient:;<mailto:Undisclosed-Recipient:;>
Sent: Wednesday, February 20, 2008 11:28 AM
Subject: GCRG comments on EA

Hi everyone,

I have attached Grand Canyon River Guides' official comments on the Environmental Assessment concerning the High Flow Experiment (HFE). As you know, GCRG is strongly supportive of the HFE. We are also recommending a more gradual downramp rate to maximize the effectiveness and longevity of resource benefits for this experiment. In other words, subsequent flows are every bit as critical as the High Flow Experiment itself.

If you have not already done so, PLEASE send comments to GCexpReleases@uc.usbr.gov<mailto:GCexpReleases@uc.usbr.gov> by close of business on February 22, 2008 (that's this Friday!)

This EA is an outstanding opportunity for the Bureau of Reclamation to hear directly from the river community on these important issues. Please let your voice be heard at this critical juncture. Your individual comments are vital. Thanks for your advocacy on behalf of Grand Canyon and the resources downstream of Glen Canyon Dam.

Sincerely,

Lynn Hamilton
Executive Director
Grand Canyon River Guides, Inc.

GRAND CANYON RIVER GUIDES
PO Box 1934
Flagstaff, AZ 86002
(928) 773-1075 phone
(928) 773-8523 fax
gcrg@infomagic.net
www.gcrg.org

Comments on Environmental Assessment

Date: February 20, 2008

To: Dennis Kubly, Bureau of Reclamation

From: Grand Canyon River Guides, Inc.

Re: Comments on Environmental Assessment of High Flow Experiment (HFE).

1) Grand Canyon River Guides strongly supports this High Flow Experiment.

We are fairly certain that an HFE will result in deposition of many new sand bars at higher elevations throughout the river ecosystem. We advocate for post-test flow regime that maximizes learning and resource benefits for as long as possible. Our objectives are to solve problems and improve conditions in the downstream river ecosystem, while minimizing impacts to hydropower, the trout fishery, and other ancillary benefits of the dam.

2) Stable beach profile for recreation and cultural resources:

We are concerned that the steep down ramp following the high release will create an unstable beach profile, leading to calving-off of water-saturated, newly deposited sand bars. This may result in rapid slope retreat, especially when daily high releases reach 17k cfs in July and August. This was a principle scientific conclusion of the Glen Canyon Dam EIS in 1995. A more gradual down ramp may rework the new deposits to a more stable beach profile. This should provide terraces at levels accessible to recreational boaters while leaving large sand areas upslope for wind distribution into the higher pre-dam terraces where archaeological and cultural resources are located.

3) Backwater habitat:

We are concerned that the steep down ramp following the high release will not optimize backwater habitat for young-of-year chub in the newly formed deposits. Backwaters formed at 41k cfs may become perched and/or drained when lower flows are

later released. A more gradual down ramp may create a beach profile in the new deposits accessible to fish at lower flows.

4) Run the High Flow test as a discrete experiment. Do not commit to a five-year, Sept.-Oct. steady flow experiment at this time.

It seems that this five-year steady flow proposal has not been scientifically analyzed well enough to know that it is the best route to take. Perhaps try it for one year to see if steady fall flows are optimal for sampling and maintenance of backwater habitats. Seine net sampling during the subsequent year should determine if the fall steady flows should be continued in subsequent years or modified.

5) Summary:

Grand Canyon River Guides appreciates Reclamation's support of the HFE and interest in using steady flows to mitigate ecosystem problems. Similarly, GCMRC with the AMWG stakeholders have produced an excellent effort to plan for these activities. We already know from previous HFE experiments that sand can be re-distributed to higher elevations, but less attention has been paid to making those newly formed sand bars effective and last for longer periods of time. If the post-HFE hydrograph was designed more carefully to optimize ecosystem goals, it may reduce the urgency for subsequent HFEs and more effectively achieve goals to restore the Colorado River ecosystem below Glen Canyon Dam.

Thank you for the opportunity to comment on this Environmental Assessment.

Andre Potochnik, Ph.D.
Grand Canyon River Guides, Adaptive Work Group Representative

Lynn Hamilton
Grand Canyon River Guides, Executive Director

Sam Jansen
Grand Canyon River Guides, President

10

From: "Tiffany Mapel" <tmapel@durango.k12.co.us>
To: <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 21, 2008 10:24 AM
Subject: Grand Canyon flood comments

Dear Mr. Kubly,

I support the NO ACTION ALTERNATIVE in regard to the proposed Grand Canyon flood in March. With the low water level in Lake Powell, this flood is not needed or justified at this time.

Thank you,
Tiffany Mapel
549 E. 5th Ave.
Durango, CO 81301

11

From: "Richard" <mokimac@mokimac.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 21, 2008 9:35 AM
Subject: Comments on High-Flow Experiment

Attached are comments submitted by Moki Mac River Expeditions

Thank you.

Comments on Environmental Assessment

Date: February 20, 2008

Dennis Kubly, Bureau of Reclamation
Upper Colorado Regional Office
125 S. State Street
SLC, UT 84138

Re: Comments on Environmental Assessment of High Flow Experiment (HFE).

Submitted via e-mail to GCexpReleases@uc.usbr.gov February 20,2008

As a National Park rafting concessionaire providing outfitted trips down the Colorado River through Grand Canyon, we support the concept of the currently proposed High Flow Experiment (HFE).

As we witnessed after the last such high water release, beneficial results, particularly sand bar deposition, were realized. We would anticipate similar or even more beneficial results from the proposed HFE given the current heavy sediment load that has been building in the river channel over the last several years.

Management practices that result in "beach building" along the river corridor in the Grand Canyon is a worthwhile endeavor, in part because recreation resources are enhanced. Beyond that, and in some assessments more importantly, we are after all talking about one of this country's premier National Parks – and the river corridor through the Park is its heart and soul. The more that can be learned about protecting and returning in so far as is practical the river corridor to pre-dam conditions, the better.

In this regard, we would suggest consideration for and development of a post-test flow regime that maximizes benefits for as long as possible. Following the last high release experiment, we were struck how rapidly the new beaches that were produced began to erode away – not lasting even for the rest of that season. We appreciate and encourage objectives designed to solve ecological problems and improve conditions in the downstream river ecosystem, while minimizing impacts to hydropower, the trout fishery, and other benefits of the dam.

Sincerely,

Clair Quist, President
Moki Mac River Expeditions

12

From: <Nazelectricmotor@aol.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 21, 2008 9:32 AM
Subject: Attn: Dennis Kubly Re: High Water Flush

Dear Sir:

I support the "NO ACTION ALTERNATIVE" concerning the high flow experiments being considered for Marble and Grand Canyons from Glen Canyon Dam and Lake Powell.

Experts have recommended that this experiment NOT be exercised to appease scientist and special interest groups as Living Rivers and the Grand Canyon Trust. The recommendations of the experts and VOTE AGAINST the high flow by 14 of the 16 members of the water management board should stand and be recognized and followed.

Thank You '

Ronald Paul
Flagstaff,Az

**********Ideas to please picky eaters. Watch video on AOL Living.
(http://living.aol.com/video/how-to-please-your-picky-eater/rachel-campos-duffy/2050827?NCID=aolcmp00300000002598)

13

From: <erthquest@aol.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 21, 2008 1:07 AM
Subject: high flow test releases.

Call me a cynic,
?I've guided?In the Grand for 40 years. All I see is sediment going downstream with very little replacement. That's a given to the present system.What don't you get? How much revenue has to be spent to say that beach and river bottom sands are going to fill Lake Meade and won't be replaced?

Ramping rates will affect the speed of erosion. DUH. I worked in the 70's when daily flows went from 6k to 30+k cfs that's when beaches really dissappeared. Your flood flows don't amount?to a hill of beans compared to normal fluctuations in the 70's. 45k was often seen then.

I was an emergency hire NPS river ranger in '83 -- I've seen some big water. I also was on the river in '77 when we ran on dam "seepage" 800cfs at best.

What exactly are you guys trying to prove here? I would really like an honest answer. All my experience tells me sediment moves downstream and in an artificial environment nothing will rectify it.

Saludos,

Yerry Brian

When you

14

From: "Jay and Linda Moyer" <stanlee2@cox.net>
To: <GCexpReleases@uc.usbr.gov>
Date: Wed, Feb 20, 2008 10:12 PM
Subject: 2008 FLUSH OF GLEN CANYON DAM

Please do not continue with these "flushes". I believe it will not help anyone or anything. It is detrimental to Lake Powell, the fish below the dam, and the Colorado below.and beyond.

I objected to this at the Phoenix BOR meeting in early 2007 (or late 2006) and I still object to this ridiculous waste of tax payer's money.

Thank you,

Jay Moyer

Fountain Hills, Arizona

Great fan and user of Lake Powell

15

From: <cheavnrich@aol.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Wed, Feb 20, 2008 9:53 PM
Subject: feedback

To whom it may concern

I've been a river guide in the Canyon since 1978, and have watched as the operation of the dam has wreaked havoc downstream. In the

first "spike" flow event in '96, I watched as the beaches were repopulated by an additional 35% in just the first 48 hours. Then, for the rest

of the summer, I watched those beaches shrink dramatically due to high flows for an extended time. I believe the flows were around 27,000

for some of that time. To protect the beach building portion of the proposed high flow event in March, it would be crucial to change the downramp

schedule to reflect this concern. Take more time, use less change per hour in the downramp schedule, and preserve the positive input of the

higher flows.

Thank You

Charly Heavenrich

Canyon Explorations Guide (and proud of it)

303-545-5414

16

From: <Luv10sMargie@aol.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Wed, Feb 20, 2008 8:40 PM
Subject: (no subject)

i strongly Oppose.. thank you john fraser

**********Ideas to please picky eaters. Watch video on AOL Living.
(http://living.aol.com/video/how-to-please-your-picky-eater/rachel-campos-duffy/2050827?NCID=aolcmp00300000002598)

17

From: "Mario Kowalski" <kowalski3@cox.net>
To: <GCexpReleases@uc.usbr.gov>
Date: Wed, Feb 20, 2008 8:39 PM
Subject: High Flow Experiment

Please support the high flow experiment with a gradual return to normal flows. Not only will this help build beaches, but also allow a more gradual slope which will aid chub and other fish not get caught as the flows fluctuate from high to low.

Thanks!

Mario Kowalski

Phx, AZ

"Live simply, love generously, care deeply, and speak kindly. Leave the rest to God"

18

From: "the baileys" <baileys@montrose.net>
To: <GCexpReleases@uc.usbr.gov>
Date: Wed, Feb 20, 2008 8:31 PM
Subject: Flush

Dennis , I only have one thing to say. "STOP THE FLUSH" It's just no good!!!

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From: "Paul Weitz" <pweitzq13@npgcable.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Wed, Feb 20, 2008 4:39 PM
Subject: Glen Canyon Dam releases

Mr. Kubly - I am an Arizona resident with no commercial interest in any aspect of river flows out of Glen Canyon Dam. With regard to the proposed experimental releases from the dam, I strongly support the "No Action Alternative" proposal. I vigorously oppose the high flow test and any proposal for steady flows during any part of the year. If GC Dam were in the proposal stage, I would contribute to any effort to defeat it; however, the dam is there, and people need to recognize that and learn to live with it. Sincerely, Paul Weitz

20

From: sarah kuhn <kuhndaug@yahoo.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Wed, Feb 20, 2008 12:18 PM
Subject: HFE

To whom it may concern;

I am a member of Grand Canyon Rivers Guides and on behalf of everyone who has fallen in love with rivers I would like to make a short comment regarding the upcoming High FLow Experiment (HFE).

Recently, I was fortunate to receive an invitation to go down Grand Canyon on a private river trip that would launch on the fifth of March, the first day of the proposed HFE. Prior to actually receiving the invitation, I was made aware of the private permit's existance by a friend who stressed that a beach building flow was going to be released. As we talked about how it would change the rapids and where we would camp, I was struck by the potential for BIG beaches. I had to on that trip and if not that trip, a trip, any trip that would allow me to be down there to see those beaches, to see the Colorado like that.

I have been a professional boater for 10 years and I have been on many rivers, dammed and undammed, and I can honestly say that you can tell a lot about a river by the condition of its beaches and right now the Colorado through Grand Canyon is on the verge of being ill.

Thank you for all you do to keep the river healthy. Sarah Kuhn

---

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From: "Lynn Hamilton" <gcrg@infomagic.net>
To: <GCexpReleases@uc.usbr.gov>
Date: Wed, Feb 20, 2008 11:37 AM
Subject: Grand Canyon River Guides comments on EA

Attached please find Grand Canyon River Guides' official comments on the Environmental Assessement for a High Flow Experiment. If you have any questions, please let us know. Thank you for the opportunity to provide input.

Sincerely,

Lynn Hamilton
Executive Director
Grand Canyon River Guides, Inc.

CC: "Dennis Kubly" <DKUBLY.4ucro.ibr4dm10@uc.usbr.gov>, "Andre Potochnik" <apotochnik@prescott.edu>

GRAND CANYON RIVER GUIDES
PO Box 1934
Flagstaff, AZ 86002
(928) 773-1075 phone
(928) 773-8523 fax
gcrg@infomagic.net
www.gcrg.org

Comments on Environmental Assessment

Date: February 20, 2008

To: Dennis Kubly, Bureau of Reclamation

From: Grand Canyon River Guides, Inc.

Re: Comments on Environmental Assessment of High Flow Experiment (HFE).

1) Grand Canyon River Guides strongly supports this High Flow Experiment.

We are fairly certain that an HFE will result in deposition of many new sand bars at higher elevations throughout the river ecosystem. We advocate for post-test flow regime that maximizes learning and resource benefits for as long as possible. Our objectives are to solve problems and improve conditions in the downstream river ecosystem, while minimizing impacts to hydropower, the trout fishery, and other ancillary benefits of the dam.

2) Stable beach profile for recreation and cultural resources:

We are concerned that the steep down ramp following the high release will create an unstable beach profile, leading to calving-off of water-saturated, newly deposited sand bars. This may result in rapid slope retreat, especially when daily high releases reach 17k cfs in July and August. This was a principle scientific conclusion of the Glen Canyon Dam EIS in 1995. A more gradual down ramp may rework the new deposits to a more stable beach profile. This should provide terraces at levels accessible to recreational boaters while leaving large sand areas upslope for wind distribution into the higher pre-dam terraces where archaeological and cultural resources are located.

3) Backwater habitat:

We are concerned that the steep down ramp following the high release will not optimize backwater habitat for young-of-year chub in the newly formed deposits. Backwaters formed at 41k cfs may become perched and/or drained when lower flows are

later released. A more gradual down ramp may create a beach profile in the new deposits accessible to fish at lower flows.

4) Run the High Flow test as a discrete experiment. Do not commit to a five-year, Sept.-Oct. steady flow experiment at this time.

It seems that this five-year steady flow proposal has not been scientifically analyzed well enough to know that it is the best route to take. Perhaps try it for one year to see if steady fall flows are optimal for sampling and maintenance of backwater habitats. Seine net sampling during the subsequent year should determine if the fall steady flows should be continued in subsequent years or modified.

5) Summary:

Grand Canyon River Guides appreciates Reclamation's support of the HFE and interest in using steady flows to mitigate ecosystem problems. Similarly, GCMRC with the AMWG stakeholders have produced an excellent effort to plan for these activities. We already know from previous HFE experiments that sand can be re-distributed to higher elevations, but less attention has been paid to making those newly formed sand bars effective and last for longer periods of time. If the post-HFE hydrograph was designed more carefully to optimize ecosystem goals, it may reduce the urgency for subsequent HFEs and more effectively achieve goals to restore the Colorado River ecosystem below Glen Canyon Dam.

Thank you for the opportunity to comment on this Environmental Assessment.

Andre Potochnik, Ph.D.
Grand Canyon River Guides, Adaptive Work Group Representative

Lynn Hamilton
Grand Canyon River Guides, Executive Director

Sam Jansen
Grand Canyon River Guides, President

22

From: William Wen <williamwen@hotmail.com>
To: <gcexpreleases@uc.usbr.gov>
Date: Tue, Feb 19, 2008 10:31 PM
Subject: NO ACTION ALTERNATIVE

Dear Madam or Sir,

I am adamantly opposed to the proposed high flow schedule that is tentatively scheduled for early March, 2008. This experimental flow is a total waste of resources and the motivation and science behind its reasoning is inconclusive and deceptive. The trout *ARE* here to stay. There has been no proof that the rainbow trout are predatory and responsible for deaths of native species. The brown trout are already being removed from Bright Angel Creek. If there's a real desire to create better conditions for native species then spend the time and energy to make the dam modification necessary to warm up the water being released and not on random guesses which cost the tax payers millions of dollars.

I am also opposed to the low experimental flows proposed for September and October. This will promote the increase of greenhouse gases as needed by other means of power generation. Is anyone not aware of all the "green" trends that are currently taking place?

I take monthly trips up to the Glen Canyon area and have been for the last 5 years. Year after year, the habitat decreases and the environmental impact from these rash decisions are evident. The beaches are the same as they ever were and the river habitat becomes less and less lush. Trout aside, this is bad for wildlife in general and decreases the interest level for people to visit the area to appreciate this valuable natural resource.

I suport the "NO ACTION ALTERNATIVE" and oppose the following:

1) high flows in March 2008 (and others thereafter)

2) low flow regime in September/October 2008 (and others thereafter)

Sincerely,

William Wen

23

From: "Joe Gregory" <joekgregory@gmail.com>
To: <gcexpreleases@uc.usbr.gov>
Date: Tue, Feb 19, 2008 11:21 AM
Subject: Experimental Flood of the Grand Canyon

Dear sir, I 'am writing to voice my adamant objections to the proposed experimental flood of the Colorado river down stream from Glenn Canyon dam scheduled for March 2008. I believe this proposed flood is ill advised and is being done over the objections of the AMWG which voted 14 to 2 against the proposed flood. To date, none of the previous floods have shown to be an effective means of moving sediment in the Grand Canyon. It is time to develop appropriate and effective means to improve the Grand Canyon ecosystem rather then doing the same thing without achieving any discernible results.

The economic impact this will have on an already strained economy is like wise inappropriate. The proposed steady flows recommended for Sep. and Oct. will eliminate desperately need electricity for an area of the country that has already experienced significant shortages over the past few years.

I am encouraging you to take the no action alternative at this time.

Joe Gregory

24

From: <oldwest@oldwestmarine.com>
To: <gcexpreleases@uc.usbr.gov>
Date: Tue, Feb 19, 2008 11:19 AM
Subject: "Environmental Assessment Experimental from Glen Canyon Dam, Arizona 2008 through 2012

The subject Environmental Assessment fails to take account of the effect on Lake Powell, above Glen Canyon Dam. It is recognized that the total water release for the water year will be the same under both alternatives but there are short term 2008 impacts that have been ignored.

1. Marina Facilities

Table 7 (page 48) shows that no consultation has been made with marina operators with respect to the impact on their facilities of the lake level dropping 2.5 feet in a short period at a time when the lake is typically at its lowest point. Economic and safety factors need to be addressed.

2. Castle Rock Cut

There is no analysis regarding the impact of the lower level on the opening of the Castle Rock Cut which could be delayed by up to seven days if the lake level is temporarily dropped. This variable needs to be analyzed against the proposal to deepen the cut that has yet to release its Environmental Assessment. Variables to be taken into account include additional gasoline consumption, safety response times and others as listed in the scoping documents for that project (available from the National Park Service).

3. Land Facilities

During the period when the lake is at its lowest, the length of the ramps will have been artificially extended by 250 ft. (typical for a ten per cent grade). The impact of this on the tractor/trailers hauling boats in and out has not been analyzed.

In addition, the Environmental Analysis makes no mention of the additional loss of water due to the higher evaporation rate at Lake Mead versus Lake Powell. While this will recover under either alternative there will be additional water lost as water will be staged in Lake Mead longer under the high flow alternative.

Reclamation has continued their practice of allowing only the minimum comment period required by law for these floods which does not embrace the spirit of full consultation with stakeholders. You are encouraged to raise your standards beyond the legal minimum.

Sincerely

Len Cook
President
Old West Marine Services INC
PO Box 4798
Page, AZ 86040

Voice: 928 645 2705
Fax: 928 645 2542

CC: <dkubly@uc.usbr.gov>

25

From: <Steve_P_Martin@nps.gov>
To: <gcexpreleases@uc.usbr.gov>
Date: Tue, Feb 19, 2008 11:02 AM
Subject: Fw: DELIVERY FAILURE: Comments on EA

Sent using BlackBerry

----- Original Message -----
From: Steve_P_Martin
Sent: 02/19/2008 09:28 AM MST
To: GCexpRelease@uc.usbr.gov; rpeterson@uc.usbr.gov
Subject: Comments on EA

Delivery Failure Report

Your message: Comments on EA
was not delivered to: GCexpRelease@uc.usbr.gov
because: 550 No such recipient

What should you do?

You can resend the undeliverable document to the recipients listed above by choosing the Resend button or the Resend command on the Actions menu.

Once you have resent the document you may delete this Delivery Failure Report.

If resending the document is not successful you will receive a new failure report.

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Routing Path

NP003DENVER/MTA/NPS;NP057WASHDC/MAIL/NPS

Original message follows----------

To: GCexpRelease@uc.usbr.govrpeterson@uc.usbr.gov
Cc:
Subject: Comments on EA
Date: 02/19/2008 11:28:05 AM

Randy..

Call if you have questions.

(See attached file: BOR-EA.doc3.doc)

Steve Martin

Superintendent
Grand Canyon National Park
Phone: 928-638-7945
FAX: 928-738-7815

The National Park Service cares for special places saved by the American people so that all may experience our heritage.

EXPERIENCE YOUR AMERICA

United States Department of the Interior

NATIONAL PARK SERVICE
GRAND CANYON NATIONAL PARK
P.O. BOX 129
GRAND CANYON, ARIZONA 86023-0129

IN REPLY REFER TO:
N1632(GRCA)

February 19, 2008

Mr. Randall Peterson
Bureau of Reclamation
Upper Colorado Region
125 South State Street, Room 6103
Salt Lake City, Utah 84138

Reference: Environmental Assessment for Experimental Releases from Glen Canyon Dam, Coconino County, Arizona, 2008 through 2012

Dear Mr. Peterson:

On February 8, 2008, the Bureau of Reclamation released for public comment an Environmental Assessment (EA) on the proposed high-flow and fall steady flow experiment on the Colorado River. This experiment is proposed to occur downstream from the Glen Canyon Dam and through Grand Canyon National Park in early March of 2008 and subsequently September and October for the next five (5) years.

Accordingly, Grand Canyon National Park is submitting comments on the EA during the public comments period that ends on February 22, 2008. The following are Grand Canyon's comments on the EA divided into three (3) sections – Key Concerns, General Comments and Specific Section Comments.

Grand Canyon National Park believes that the execution of high flow experiments is consistent with the Grand Canyon Protection Act, the NPS management policies of 2006, the results of recent science, the 1996 ROD on the operation of the Glen Canyon Dam. We do have concerns over the costs of the experiment and the lack of use of scientific information and study results to discuss the need for future high flow experiments that could benefit the resources of Grand Canyon National Park.

Analysis of the draft Environmental Assessment and proposed action (including strict limitations on future flows, a short-duration steady flow regime in the latter part of the monsoonal period, and other key factors) indicates these measures would likely result in impairment of the resources of Grand Canyon National Park. The EA as written appears to be in conflict with NPS 2006 Management Policies, may not be consistent with CEQ guidelines and is significantly in conflict with out understanding of the science and inconsistent with the intent of the Grand Canyon Protection Act and the 1996 ROD. We also believe that if significant changes are made to the EA, these impacts could be avoided.

While we regret that we were not included as a cooperator nor included in deliberations on this issue, we remain committed to making changes to the EA that address the key concerns outlined below and will allow

the experimental high flow to move forward. It is our position that a FONSI cannot be signed unless these key concerns are met and changes to the document are made regarding the resources of Grand Canyon National Park.

Key Concerns

1. The purpose and need and the reasons for the action need to be more closely tied to the Grand Canyon Protection Act, the Secretaries responsibilities under the Act, and the approved Science Plan for the experimental flow. This discussion must include a connection to the 5 years of the fall steady flow. Currently, the EA does not clearly express the purpose and need, proposed action or how the addition of steady flow periods articulates with the science plan. We request that the steady flow component be separated out of this document and simply focus this EA on the March high flow event.

2. Results of research over the past 10 years need to be utilized and cited to support the creation of action alternatives and impact analyses. The citations in the EA are limited and dated, and personal communications should not be the basis for such important decisions. It is not apparent where the 80 million dollars in research, conducted over the last 10 years has been used in this decision making process. Our analysis shows that this document is not consistent with current best information.

3. A reasonable range of alternatives has not been presented and analyzed, including seasonally adjusted steady flows as originally articulated by the USFWS. Since this EA is intended to tier to previous environmental documents, enhancing the range of alternatives by using alternatives developed in previous environmental documents would provide an avenue for addressing many of the concerns relative to the original Record of Decision and subsequent legal challenges.

4. An economic analysis needs to be accomplished that is supported by independent research to address the concerns raised relative to costs and environmental justice. Those costs that are truly related to the experimental plan need to be reflected in the EA.

5. A review of the costs (approximately 4 million dollars) associated with the science plan needs to be accomplished that shows the true cost of the experimental plan research vs. the on-going costs associated with routine research and monitoring. Only those costs that are truly related to the experimental plan need to be reflected in the EA. These costs should be discussed in the EA in a section that is not devoted to hydropower. We recommend a detailed analysis into the value of the current science program, a review of the deliverables, a review of the use of science in the AMP process and the efficiency of the current science program. Our analysis shows that significant savings to power revenues could occur through a more effective AMP process and more efficient science program. The document gives the impression that the inflated costs of this experiment are the norm, when significant data could be gathered from a HFE for 25% of the costs of this experiment. This should be made clear in the document.

6. If this EA is to reflect an experiment over the next 5 years, inclusion of additional high flow experiments must be included. This needs to be clarified in the EA and decision document to indicate that DOI expects to consider additional high flow tests within the implementation period of the EA to test the hypotheses of long-term sediment sustainability. NPS, Reclamation and USFWS need to be involved in determining resource triggers (both humpback chub and sediment) to justify and guide the experimental flow program into the future. Based on current scientific information lack of inclusion of additional high flows could lead to impairment of the resources of Grand Canyon National Park.

7. Explanation of the 2-month steady flow portion of the proposed action lacks scientific evidence related to resource benefits. The reasoning behind the timing and duration of the flow seems to

contradict statements in the document. Longer duration seasonal steady flows have been proposed by the USFWS as part of the Reasonable and Prudent Alternative (RPA) in the Glen Canyon Dam Environmental Impact Statement, with high steady flows in the spring and low steady flows in summer and fall. These provisions are part of the environmental commitments made by the Secretary upon signing the Record of Decision for Glen Canyon Dam operations in 1996. Per the RPA, Reclamation was to include a program of experimental flows to include seasonally adjusted steady flows as part of the adaptive management program. Inclusion of a seasonally adjusted flow regime per the RPA would be an appropriate alternative for this EA and would likely be the preferred alternative. If Reclamation, through this EA, is changing the 1996 commitment to a test of seasonally adjusted steady flow, it should be clearly articulated in this decision document.

8. The alternatives include information on post high flow event scenarios. Previous high flows have been followed by ROD flows that have been shown to be erosive. This experimental flow should be followed by prescriptive flows to insure the gains made (i.e. sandbars and backwaters) are not immediately eroded and research data preserved. This will also help prevent significant effects to the resources of Grand Canyon National Park. A seasonally adjusted flow scenario would accomplish this as would the proposed maintenance flows described in the 1995 FEIS.

9. Given that one of the primary purposes of the experimental flows was to provide further evidence and understanding of protected aquatic resources, the preferred alternative must address how the action will address Endangered Species Act concerns, most specifically the biological assessment/opinion for the humpback chub. The plan should state how the actions are being instituted to improve conditions for the chub in the system and how the conservation measures will be incorporated into the DOI decision. There needs to be a commitment as part of the implementation of this 5-year program to fund the conservation measures as part of the experimental program.

10. The plan should include targets or desired future conditions so that measurements can be made through the research and science program on the effectiveness of the action. Nowhere in the document are measures of success (or failure) articulated. These conditions need to be clearly stated so that the Secretary will know the value of his action.

General Comments

- Clarify the purpose of the action; why is BOR undertaking this action? The information provided in the introduction is contradictory, especially relative to the primary purpose of Glen Canyon Dam (is it water conservation and storage or is it water delivery?)

- The introduction needs to clarify what the experimental action is and why the agency is proposing to take it. Currently, the action is loosely described as the experimental high flow (presumably one flow) and steady flows (more than one). How can a 5 year program of steady flows be adequately addressed in this environmental assessment?

- The document claims to be tiered to the GRCA CRMP. This is incorrect; the CRMP is a visitor use document and the experimental flow(s) is unrelated to that management plan.

- The document is very general in its claims, with little specific information to lend credence to the statements made. More citations would help explain and justify the statements in the document.

- In the purpose and need section, the document needs to recognize that "project purposes of the dam" includes those purposes outlined in the Grand Canyon Protection Act, not just water conservation and storage.

- The purpose and need section should also articulate what the stated objectives are for this experimental high release in a similar way as the document explains what the objectives of prior high releases were (Schmidt et al 1999:30).

- If the GCMRC Science Plan is being used as the guiding document for the research to be conducted under this EA, more description needs to be included. On page 6 of the draft EA, the Science Plan is mentioned for the first time, without any explanation or context.

- The introduction of the steady flow component of the experiment is not well articulated and the science behind the notion of fall steady flows (rather than summer or seasonally adjusted) is not documented.

- For NEPA purposes, the document states that prior scoping and analyses were used, although it is unclear how or when information on the 2-month fall steady flow proposal was gained. Information was provided to back up the statement concerning high experimental flows (1996 and 2004), but there is no information to suggest that the 2-month fall steady flow period was ever scoped with the public or analyzed in other documents. If the fall (September and October) is the right period of time for steady flows, the document needs to reference the scientific work to support the claim.

- The document needs to explain the timing of the high flow with the steady flows. In section 1.3, Relevant Resources, the text states that "this new proposal follows the high flow with steady fall flows;" how do steady flows 6 months after the high flow equate to "follows" in the context of a holistic experiment?

- The preamble to the alternatives (section 2.0) should clearly state what the alternatives are intended to do. The text discusses population increases to the humpback chub and consultation efforts under the Endangered Species Act. It is hard to understand what or why the alternatives are what they are. Additionally, the document states that there are two experimental alternatives, yet one is the no action alternative (which does not have an experimental component). Therefore, there is really only one experimental alternative.

- The proposed action (2.2) needs clearer explanation of the reasoning behind the 2-month fall steady flow proposed for 2008 - 2012. Logic would suggest that if the high flow is intended to determine the effectiveness of sandbar building and backwater formation with the intent that humpback chub will use the backwaters, then it would seem that fluctuating flows would immediately diminish the newly created sandbars and backwaters. The timing of the steady flow in the fall is stated to be tied to young-of-year chub, yet in other places in the document the fall steady flows are attributed to concerns with environmental justice. The design of the experiment needs to be tied to science and the positive resource benefits we anticipate. Previous work has documented that ROD flows following high flow events erode the newly created sandbars. This experiment should not follow the same path as those of the past 10 years.

- In the description of the steady flows, it would be helpful to indicate what the flows will be; great detail is provided for the high flow event, yet little information is provided on the fall steady flows other than they will occur for 5 years in September and October.

- The explanation of the action is unclear (pages 10-11), with little value added by discussing the interim guidelines and the four tiers of operation.

- Reference is made to NHPA compliance, but it is unclear if this EA is a combined NEPA/NHPA compliance document or if NHPA will be addressed separately. The compliance requirement for the one site to be mitigated is actually being addressed through the 1994 Programmatic Agreement on Glen

Canyon Dam operations. The previous compliance should be referenced, especially given that this EA is tiered to previous compliance actions.

- The opening paragraph of section 3.0 needs to have additional information concerning the interdisciplinary team and how they determined that only one action alternative was appropriate and how they determined that the only adverse impact would be to hydropower ("a disproportionate and significant adverse impact on low-income power customers"). These statements are unsubstantiated.

- The environmental impacts section (3.0) should follow the list of issues as identified in Table 1. The section begins with Natural Resources, 3.1, and is not listed in the table.

- There is one cited reference that was not in bibliography (eGRID 2006) and one reference to an "unpublished report". There are also numerous (personal communication) references that overall represent the inadequacies of the entire EA.

Specific Section Comments

- Section 1.3 - No criteria for evaluation is identified. Usually definitions for "negligible" and "significant" impacts are defined or thresholds of significant impact are quantified for each of the primary resources evaluated. Without clear criteria for whether the impact is significant or not, how can an agency assign a FONSI or make any other determination?

- Section 2.2 – Need some example of hydrograph of proposed action. The table with min/max is not instructive.

- Section 2.2.1 – The document states "significant adverse environmental justice impact, the impact was reduced by proposing a steady flow test during the fall instead of the summer…" This is a major argument of this EA, yet there is no attempt to quantify the impact upon the consumer of the steady flows in either the fall or summer. This quantification is imperative to determine if, in fact, the impact is "significant".

- Section 3.0 - Introduction - "Disproportionate and significant adverse impact on low-income power customers" - Again, how do they define the minimal change in power rates as a "significant impact"?

- Section 3.1.4 – "uncertain of sandbar effects will persist"… Research clearly demonstrates that ROD flows following the HFE will degrade the sandbars. Therefore it is not uncertain, but in fact, very clear from the research that postponing the steady flows to the fall will degrade the sandbars.

- Section 3.1.4.2 – "A key question is whether a high flow under sediment enriched conditions might result in more lasting effect." This question is not being tested by GCMRC because BOR is not proposing steady flows after the HFE.

- Section 3.1.5 – Third paragraph – This document should cite all the work by Carothers et al. regarding the effects of the first 10 yrs of controlled flows; *Baccharis emoryi* is misspelled; Tamarisk is the dominant phreatophyte, all others are posers.

- Section 3.1.5.1 – First paragraph – The reliance on local demonstration of ecological phenomena (e.g., Stevens and Waring for flood impacts) indicates a dangerously insular view of the autecology of these species.

- Section 3.1.5.1 – Second paragraph/second sentence – What will be the riparian zone "alternate" (sentence 2)? Here and elsewhere in the document the impacts of day-to-day operations of the dam on vegetation composition and density are ignored. The vegetation section of the Kearsley et al. 2003 report on integrated resource monitoring showed definitively that things like the max flows or mean flows over a 3 month period had profound effects on the density and composition of vegetation in the riparian zone.

- Section 3.1.5.2 – First paragraph – This paragraph does not follow from its topic sentence. There is evidence of huge blooms of non-native Bermuda grass following the '96 high flows (see Art Phillips' report on Hualapai monitoring), and other high flow events (see Marianne Porter's MSc Thesis at the NAU Library).

- Section 3.1.5.2 – Second paragraph – The '96 high flows changed Kwagunt marsh into a wooded shrub land vegetation type. No wetland species benefited from the flows.

- Section 3.1.5.2 – Third paragraph – Again, post-flood, day-to-day operations have *at least* as great an effect on vegetation change as floods do. We suggest a discussion of the models in Kearsley's '03 report on vegetation monitoring.

- Section 3.1.5.2 – Fourth paragraph – Rather than being an argument for flooding, the Porter thesis showed pretty convincingly that the new habitats opened up after high flows were colonized quickly and completely by exotic species.

- Section 3.1.5.2 – Fifth paragraph – Succession and adaptation in the lower riparian area are more affected by day-to-day operations, not simply "along a gradient" specified here. This may be the biggest flaw in the vegetation section. Kearsley developed statistical models for cover and richness of vegetation in the 15, 25, 35, 45 and 60 kcfs stage elevations (plus in the general area of new high water zone) which included some elements of the flow regime of the previous 2 or 3 months to predict changes in vegetation density and vegetation species richness. GCMRC has these models created by Kearsley from the monitoring from 2001 to 2004 and should be able to make predictions regarding post-flow day-to-day operations.

- Section 3.1.6 – Third paragraph – This is misleading. Yes, Carpenter did show (as did Warren and Schwalbe before him) that the new high water zone has high herpetofauna densities, but both also showed that herpetofauna densities and activities are highest where the vegetation is minimal – herpetofaunas are cold-blooded and need basking sites and good line-of-sight opportunities (they are visual predators). This same misleading statement is repeated on the bottom of Section 3.1.6.2.

- Section 3.1.6.2 – Spence report is noted in bibliography as 1996 but in report as 1997. This report's conclusion that there are no expected impacts upon the frog population assumes that there is a robust population of frogs as was the condition during the 1996 report. That is not the case in 2008. With only two adults, it is uncertain what the impact of a high flow will be upon the frog population.

- Section 3.1.8 – Third paragraph/first sentence – Add "in the long term". In 1996, some of the rebound was due to the clear, aquatic conditions, i.e. limited tributary sediment input after the high flow. This paragraph should address the impact of weather after the high flow in the rebound of the benthic algal and invertebrates, including forecasts for this spring and summer.

- Section 3.1.8 – Fifth paragraph – Running fluctuating flows after the high flow will remove many of the newly built backwaters. To maximize the positive impact of steady flow, the steady flow should be run when there are the most backwaters, i.e. immediately after the high flow.

- Section 3.1.9 – SWWF and Eagle river mile locations should be removed from this report. Endangered Species information should be treated with the same security protocols about geographic locations as archeological sites. Add note that there have been no SWWF citing in the Marble Canyon in 2006 & 2007. Remove reference to Nankoweap Eagle congregation, flashing flooding destroyed trout breeding recently, so Eagles do not congregate at Nankoweap anymore.

- Section 3.1.10 – First paragraph – Need citation for conclusion that Cladophora have withstood much higher flows for longer duration (e.g. 1983-1986).

- Section 3.1.10 – Third paragraph – Word "flood" should be replaced with high flow.

- Section 3.2.1 – First sentence – Need citation for BOR Treatment Plan.

- Section 3.2.1 – Second sentence – Reword to read "Archaeological data recovery efforts are scheduled over the next 5-10 years."

- Section 3.3.6 - "Electrical costs would create a slight, but disproportionately adverse impact among low-income households..." How if the impact is "slight", can it be considered "significant"? A quick evaluation of Executive Order 12898 suggests that the Bureau may be misinterpreting this executive order. The language in the EO is disproportionately high and adverse effect, NOT disproportionately adverse impact (BOR language). The words are the same, but the meaning is totally different. One says that the impact needs to be way higher for the poor than others to be considered under this EO and the other simply makes the threshold as any impact that will affect the poor more than others. By using the BOR interpretation, a rise in the entrance fee at Grand Canyon would be considered a "significant" impact since it has a disproportionate affect upon the poor, i.e. a dollar to someone who makes $20K a year is more valuable to that individual who makes $100K a year. In evaluating the EO, we do not believe that was the intent.

Should you have any questions concerning these comments, please contact me at 928-638-7945.

Sincerely,

/s/ Steve Martin
Superintendent

26

From: Mari Carlos <macgcra@sbcglobal.net>
To: <GCexpReleases@uc.usbr.gov>
Date: Mon, Feb 18, 2008 10:39 PM
Subject: Experimental Releases: Comment from Grand Canyon River Runners Association

February 18, 2008

Mr. Dennis Kubly
Bureau of Reclamation, Upper Colorado Regional Office
125 S. State St.
Salt Lake City, UT 84138

GCespReleases@uc.usbr.gov

Dear Mr. Kubly:

In response to the Bureau of Reclamation's request for public input on the proposed spring and fall experimental flow operations of the Glen Canyon Dam, the *Grand Canyon River Runners Association*, representing the interests of commercially outfitted river runners, wishes to express its support for the proposed action.

Since the closure of the dam conditions have deteriorated for river runners. In particular, sandbars and beaches have suffered from erosion, reducing the area available for camping and potentially increasing the impact of campers on beaches they can use. In addition, as a result of side stream floods which deposit boulders and debris which impede the main current, the severity of rapids is increasing. Eventually, some rapids could be rendered unrunnable.

According to the /Environmental Assessment for Experimental Releases from Glen Canyon Dam, AZ 2008 through 2012/ sediment accumulation in the Colorado is at the highest volume in approximately a decade, nearly three times the level sufficient to trigger the 2004 high flow experiment. The proposed experimental flow will be expected to result in substantial amounts of sandbar deposition and to allow ongoing scientific study of the processes of sandbar deposition and erosion along the river corridor. Hopefully, the size of camping beaches will be increased and the duration of the increase will be prolonged. Based on the results of the 2004 experimental flow, some rapids will be reworked, possibly improving boating conditions. We see both of these changes as positive outcomes of the proposed action for recreational river runners. We urge the Bureau of Reclamation to take advantage of the exceptional situation and to proceed with the experimental release in March 2008.

Very sincerely,

Mari Carlos, President
On behalf of the Board of Directors
Grand Canyon River Runners Association
P.O. Box 1833
Flagstaff, AZ 86002

27

From: Kathryn Bennett <bennett.kathryn@gmail.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Mon, Feb 18, 2008 9:09 PM
Subject: experimental flow release proposed for early March

I am writing to extend my full support of the experimental release being considered for the Colorado River below Glen Canyon dam. The health of the river has been seriously compromised by artificially controlling the flow and depriving the river system of natural floods. Please strongly consider the great need for this event and vote in its favor.

Sincerely,
Kathy Bennett

28

From: "Bob" <soule@canyoncountry.net>
To: <gcexpreleases@uc.usbr.gov>
Date: Mon, Feb 18, 2008 4:15 PM
Subject: Experimental releases Glen Canyon Dam

This was done once before on a larger scale with questionable results and at great expense. How about we experiment when we are not in the midst of a prolonged drought . Even tho snowpacks look good this year its too early to predict a good year. The objectives of the proposal seem questionable especially since its labeled an experiment.

Bob Soule

Box 5081 Page AZ 86040

29

From: "Candy" <Quixly@cableone.net>
To: <gcexpreleases@uc.usbr.gov>
Date: Mon, Feb 18, 2008 12:56 PM
Subject: Glen Canyon Flood Release - DISAPPROVAL

Dear GCA,
I have been living in Glen Canyon region for over 10 years and in southwest for over 30 years. I have designed and built power plants throughout the world and am intimately aware of water resources and conservation efforts required in desert regions.
I STRONGLY DISAGGREE with releasing water from Glen Canyon at this time when the southwest is STILL experiencing drought conditions and the major impact that that volume of water lost to the resource system that releasing water would do. IT IS A WASTE of our precious water resources at this time.
Having to reproduce beach erosion down in the Grand Canyon is a worthwhile effort - HOWEVER NOT AT THIS TIME!
ONLY - AND ONLY when the there is a glut of water in Lake Powell should this "experiment" be done.NOT when precious resource of southwestern water is needed by many!!!!! WATER IS PRECIOUS and THIS IS TRULY A PRECIOUS AND VALUABLE RESOURCE that should be preserved for all of the American public in the west that you are charged with being guardians of this USA public natural resource!!! NOT TO WASTE this resource - it is NOT yours to waste - this valuable commodity of water storage belongs to the American public!! Not to special interests or to the government to do wasting experimentation of a natural resource when the resource is at a most vulnerable position.
PLEASE PLEASE PLEASE delay any wasteful experimentation of water release for a later time when it is better suited to do so. NOT NOW!!
Resources are valued and belong to the American Public and MUST NOT be squandered within your guardianship in wasteful experiments!!!
Thank You kindly for listening and hopefully you will not be squander our precious water from glen canyon area.
CC Johnnie
Retired Engineering Program Manager in Page AZ

30

GCexpReleases GCexpReleases - Experimental High Colorado River flows

From: "jcady@cableone.net" <jcady@cableone.net>
To: <GCexpReleases@uc.usbr.gov>
Date: 2/18/2008 10:04:19 AM
Subject: Experimental High Colorado River flows

I am opposed to the wasteful experimental high flows proposed for the Colorado River on March 6-8,2008. I ask that the Bureau of Reclamation and other concerned agencies use common sense instead of politics regarding future planned experiments on the Colorado River.

I also oppose the proposed low flow and steady flow experiments planned for the Colorado River in September and October. These flows are wasteful and will disrupt the sorely needed clean energy produced by Glen Canyon Dam.

I recommend and support the NO ACTION ALTERNATIVE in regard to the experimental high flows and steady flows proposed for the Colorado River.

James
Cady
PO Box
4690
Page, AZ 86040

31

From: "kris mydler" <kris_mydler@hotmail.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Mon, Feb 18, 2008 9:42 AM
Subject: No High Test Flow

I STRONGLY OPPOSE THE RECLAMATION PROPOSED EXPERIMENTS, THE HIGH TEST FLOW AND THE FALL STEADY FLOWS.

I STRONGLY SUPPORT THE "NO ACTION ALTERNATIVE."

Please do not perform the high test flow which will destroy the rebuilding trout habitat.

Thank you,

Todd Mydler, MD

8935 Scenic Pine Drive

Parker, CO 80134

CC: <todd_mydler@yahoo.com>

32

From: Steven Quick <quickstevens@yahoo.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Sun, Feb 17, 2008 8:30 PM
Subject: Stop the Experiments!!

US Department of the Interior,

In regards to;

Environmental Assessment
Experimental Releases from Glen Canyon Dam, Arizona
2008 through 2012

My public comments are as follows:
1. Do not conduct this experiment and instead investigate nondestructive methods of building beaches in the Grand Canyon and to use common sense and sound judgment in dealing with this and all future planned experiments on the Colorado River.
2. Remove the proposal for low steady flows in September and October from the experiment. I support clean energy and encourage the use of power generation from Glen Canyon Dam.
3. I support the NO ACTION ALTERNATIVE.

CC: Terry Gunn <tgunn@hughes.net>

33

From: "Erle Swearingen" <erle_at_mka@msn.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Sun, Feb 17, 2008 5:42 PM
Subject: Colorado River Blowout

I urge the No Action Alternative!!!

Erle Swearingen

2 comments

34

From: <EQKID@aol.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Sat, Feb 16, 2008 7:51 PM
Subject: Fwd: Proposed High-Flow and Steady Flow Experiment on the Colorado River

From Rick Holt.

The release of this level of water is damaging a precious resource and income stream to the people of Lee's Ferry. It is a waste of precious water.

Rick Holt.

From: jamesroache@earthlink.net
Reply to: jamesroache@alumni.usc.edu
To: GCexpReleases@uc.usbr.gov
Sent: 2/15/2008 5:02:35 P.M. Pacific Standard Time
Subj: RE: Proposed High-Flow and Steady Flow Experiment on the Colorado River

35

To Whom It May Concern,

I have recently learned that there is yet another proposed high flow study for the Glen Canyon Dam area. As I recall there have been two high flow studies performed in the recent past that did not accomplish much of anything. The beaches downstream still come and go with nature, the Hump Back Chub continues to populate below the Little Colorado and it seems this is again is much to do about nothing. The AMWG already has made a 14-2 recommendation to the Secretary of the Interior against another high flow study, yet the study still remains proposed. I don't understand why.

While this water will be retained in Lake Mead and purportedly not wasted, you can't help to imagine that the silt removed from the river (and its down stream beaches) as a result of this flush, which runs clear and silt free from the base of Glen Canyon Dam, will end up in Lake Mead itself.

This proposal seems contrary to expert opinion, repetitive without desired results, and a complete waste of resources. I urge you to abandon this proposal.

Yours Truly,
James H. Roache, PharmD

President and CEO

Advanced Pharmacy & Respiratory Care Solutions

26611 Cabot Road, Suite B

Laguna Hills, CA, USA 92653

1-949-348-7900 Ext 141

**********Ideas to please picky eaters. Watch video on AOL Living. (http://living.aol.com/video/how-to-please-your-picky-eater/rachel-campos-duffy/2050827?NCID=aolcmp00300000002598)

36

From: Kent <azflyfisher@hotmail.com>
To: <gcexpreleases@uc.usbr.gov>
Date: Sat, Feb 16, 2008 7:17 PM
Subject: Comment on Experimental High Flow at Glen Canyon Dam

I have completed my review of the Environmental Assessment and the Science Plan for Potential 2008 Experimental High flow at Glen Canyon Dam and hereby express my strong support for the "No Action Alternative." For the past 25 years I have enjoyed regular fly fishing trips to the area and have witnessed negative impacts that a multitude of low and high flows have had on the trout fishery. And again, just when the fishery is poised for a strong comeback, another experiment will interrupt the food availability and jeopardize the health of the trout. In turn, this imposes a detrimental impact on the local businesses (e.g., guides, motels, restaurants) that rely upon sport fishing for their livelihood. I'm particularly concerned about the statement in the Science Plan report that, "....the economic impact to recreational fishing is uncertain and yet to be studied."

After the Glen Canyon Dam was constructed, the nature of the Colorado River below the dam changed permanently. By today's standards, environmental impact considerations were essentially non-existent 50 years ago. While the environmental attitude of our forefathers may seem irresponsible, sometimes the consequences have to be accepted. The plan to emulate pre-dam conditions through high water releases is wasteful, expensive, and destined to provide the same historical negative results. Trying to manage a warm water species living in a cold water environment is futile.

I support clean energy and support hydroelectric power generation from the Glen Canyon Dam. The proposal to conduct low steady flows in September and October should be abandoned as this represents a loss of clean energy production which must be made up by replacement power from the burning of fossil fuels.

I'm also disappointed that money may be wasted studying the preservation of archeological sites due to wind deposited sand! I believe in the preservation of such sites, but certainly a more efficient method can be researched and employed.

The uncertainties and conjecture that riddle these plans should be carefully considered before a final decision is made. As a reminder, "The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public." I believe the interest of the American public includes making informed decisions based on common sense, sound judgment, without political predudice and includes the positive management of the trout fishery at Lee's Ferry.

Thank you for your consideration and the opportunity to comment.

Arizona Flyfisher

37

From: peri@plan-itconsulting.com
To: <GCexpReleases@uc.usbr.gov>
Date: Sat, Feb 16, 2008 2:25 PM
Subject: Glen Canyon Experimental Releases

Dear Secretary of the Interior,

In regard to the Glen Canyon Experiment Releases, I wish to state my support of the NO ACTION ALTERNATIVE.

I respectfully ask that you take more time to seriously consider the negative impacts that this may cause. Specifically I request NOT to conduct this experiment and instead investigate nondestructive methods of building beaches in the Grand Canyon and to use common sense and sound judgment in dealing with this and all future planned experiments on the Colorado River.

Please also consider the environmental impact of changing the flows in the fall. I urge you to remove the proposal for low steady flows in September and October from the experiment in the support of clean energy and encouraging the use of power generation from Glen Canyon Dam.
Sincerely,
Peri Gore

--
Peri Gore
Hm Ofc: 720-482-2823
Fax: 270-626-7282
Cell: 303-717-2197
Website: www.Plan-itConsulting.com <http://www.plan-itconsulting.com/>

38

From: Dan & Dottie Dreyer <dubled@npgcable.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Sat, Feb 16, 2008 11:04 AM
Subject: Planned flow increases Lake Powell dam

Gentlemen:

Please do not carry out the current plan to increase flows to 42,000 starting March 5. This ill conceived plan will not achieve any positive long term result for the Colorado river--as previous "experiments" have shown. Slowed, steady flows in the fall are just is dumb. Please leave the Colorado River alone. This constant environmental tinkering has got to stop. The dam is there. Let it produce electricity and let the river system adapt accordingly.

Everything I read or see tells me this is expensive, wasteful and stupid action.

Please let me know who in Washington is capable of stopping the current bad plan for the Colorado. I would like to forward them some important information.

Daniel Dreyer

39

From: Adam Unrein <ajunrein@hotmail.com>
To: <gcexpreleases@uc.usbr.gov>
Date: Sat, Feb 16, 2008 9:51 AM

I am opposed to the underhanded handling of the Colorado River by government bureaucrats. It took years to regulate the water flow from Glen Canyon Dam to perserve the recreational benefits below the dam. The first planned FLOOD flow was hugely unsuccessful relative to the objectives (rebuild beaches in the Grand Canyon). I would like to know why another one is planned when the first was not successful. Who is behind these experiments? Where do we complain to Washington?

40

From: "Jeff G Schmitt" <jeffs@prodigy.net>
To: <GCexpReleases@uc.usbr.gov>
Date: Sat, Feb 16, 2008 9:10 AM
Subject: NO Action Alternative at Glen Canyon Dam

The purpose of this e-mail is to provide my comments regarding the proposed series of experimental releases from Glen Canyon Dam. After reviewing all of the materials related to the previous flow experiments, and the one proposed now, I favor the NO Action Alternative.

I do not believe that previous flow experiments have been effective at achieving the stated purpose, even if the stated purpose is a valid reason for the experiments. The attempt to restore native species, when one has already modified the eco-system as significantly as placing a dam in the river does, simply does not make sense. While, in general, I am not in favor of damming up rivers, I do use the power these dams generate and once we've made the decision to place a dam on the river, we should do our best to build a new eco-system that matches the new conditions.

It is my understanding that the board that had local input over these flow experiments opposed them. That says a lot to me about both the validity of the experiment and the source of the proposal.

Once again, I favor the NO Action Alternative.

Jeff G. Schmitt

Austin, Texas

41

From: jamesroache@earthlink.net
To: <GCexpReleases@uc.usbr.gov>
Date: Fri, Feb 15, 2008 6:03 PM
Subject: RE: Proposed High-Flow and Steady Flow Experiment on the Colorado River

To Whom It May Concern,

I have recently learned that there is yet another proposed high flow study for the Glen Canyon Dam area. As I recall there have been two high flow studies performed in the recent past that did not accomplish much of anything. The beaches downstream still come and go with nature, the Hump Back Chub continues to populate below the Little Colorado and it seems this is again is much to do about nothing. The AMWG already has made a 14-2 recommendation to the Secretary of the Interior against another high flow study, yet the study still remains proposed. I don't understand why.

While this water will be retained in Lake Mead and purportedly not wasted, you can't help to imagine that the silt removed from the river (and its down stream beaches) as a result of this flush, which runs clear and silt free from the base of Glen Canyon Dam, will end up in Lake Mead itself.

This proposal seems contrary to expert opinion, repetitive without desired results, and a complete waste of resources. I urge you to abandon this proposal.

Yours Truly,

James H. Roache, PharmD
President and CEO
Advanced Pharmacy & Respiratory Care Solutions
26611 Cabot Road, Suite B
Laguna Hills, CA, USA 92653
1-949-348-7900 Ext 141

42

From: Gore David <ljgore@sbcglobal.net>
To: <GCexpReleases@uc.usbr.gov>
Date: Fri, Feb 15, 2008 5:18 PM
Subject: Glen Canyon Experimental Releases

I am a fly fisherman who loves to fish the Colorado River below Glen Canyon Dam. I strongly recommend that you select the "No Action Alternative". It appears to me that when the Adaptive Management Work Group voted 14-2 against the program and local businesses and sport groups are against it that the No Action Alternative would be a no brainer. The only reason I can think of to proceed is pandering to one or more environmental groups in an election year.

David E Gore
Colleyville, TX

43

From: "Perry White" <pw3771@cableone.net>
To: <gcexpreleases@uc.usbr.gov>
Date: Fri, Feb 15, 2008 1:54 PM
Subject: River Purge

I am highly opposed to the purging of the Colorado River. At this time we need all the storage of water we can get, Anything other than commitment or demand is such a waste. I have made 28 trips down the Colorado river (1967-1990) & I don't think to many people are going to tell me to much about the river I don't already know.
The "Monkey Wrench Gang" continues to try & destroy Glen Canyon Dam.

Perry L. White
P.O. Box 635
Page,AZ 86040

pw3771@cableone.net

"Together We Stand, Divided We Fall"

44

From: Jo Bjorholm <jobjorholm@msn.com>
To: <gcexpreleases@uc.usbr.gov>
Date: Fri, Feb 15, 2008 8:57 AM
Subject: water release from Lake Powell

This idea of draining our lake even farther than it is so you can move sand bars around for the fish is even dumber than heating water for those very same fish. I cannot believe that we have to pay you out of taxpayer money to come up with these ideas. That is like paying someone in 1999 to invent a round wheel for a horse cart. A GROSS WASTE OF MONEY WE DON'T HAVE and a perfect example of too much Big Brother and not enough COMMON SENSE to know when enough is enough

45

From: "Glen Reeves" <gdreeves_3@msn.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 14, 2008 10:23 PM
Subject: Proposed High-Flow and Steady Flow Experiment on the Colorado River

I would like to express my strong support for the "No Action Alternative" described in the Environmental Assessment - Experimental Releases from Glen Canyon Dam, Arizona 2008 through 2012. My perspective is that of a sportsman and somewhat regular visitor to the Lees Ferry area. For the past six years I have enjoyed regular fly fishing trips to the area. In the past year I have observed that the trout population is by far the healthiest that I have seen during this time. I am quite fearful that a High-Flow Experiment at this time will do irreparable harm to the trout population. This in turn will have irreparable harm to those of us that take the opportunity to enjoy the sport of fly fishing in this region as well as the businesses that depend upon sport fishing such as the guides, restaurants, motels in the area. The Lee's Ferry fishery has been a victim of the water management practices of the past. Only in the last year have sportsman observed a return to fishing conditions that were common in the distant past before the water management practices took their toll.

I am not qualified to comment on the various scientific studies and forecasts that attempt to identify the possible impacts on the ecology of the river. What I do note however, is that there is not unanimous agreement within the scientific community on the potential impacts, nor does there seem to be a good understanding of just what effects the test will have on the building of sandbars and removal of near shore vegetation. There seems to be even less certainty on just what effects will occur to both the native and non-native fish populations. Many of us fear however that this drastic operation will have a significantly detrimental impact on the trout population in the Lee's Ferry area at a time when it has just begun to show signs of a return to health.

When the Glen Canyon Dam was constructed, the nature of the Colorado River below the Dam changed forever. The debate rages on concerning whether the dam should have been built or whether it should be removed. However while it is in place, efforts to replicate pre-Dam conditions are foolhardy and a waste of time and money. Rather, the focus should be on utilizing the new environment to the best possible extent. That use should include positive management of the trout fishery in the Lee's Ferry area.

Thank you for the opportunity to comment.

Glen D. Reeves
1343 E Greentree Dr
Tempe, Az 85284
602 838 6323

46

From: "Arizona Fly Fishing" <flyfish12@mindspring.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Thu, Feb 14, 2008 1:08 PM
Subject: No Action Alternative for Lee's Ferry

To Whom it may concern,

My name is Kevin Krai and I am Vice President of Arizona Fly Fishing in Tempe. I urge you to reconsider the experimental flows scheduled for Lee's Ferry in early March as well as the low flow experiments in September and October. I advocate the No Action Alternative. There is no scientific evidence to support the claims that this will help rebuild beaches in the Grand Canyon or help the Humpback Chub population. When Glen Canyon Dam was constructed it forever changed these stretches of the Colorado River. To think that any flow regime will return this stretch of river to how it was before there was a dam is naive. The reality is change is happening and it is how we learn to live with the changes that is important. I run a business that is effected by these changes. After the last "experiment" much of the food that the trout ate was the main causality. The fish became very skinny and the consequent spawns were not as prolific. Since that time the fishery at Lee's Fer
ry has started to rebound and we have seen more food and weeds in the system. This is good for business, not only in the Marble Canyon area, but has a big impact statewide. The sport fishing industry has put millions of dollars into this area and it would be a disservice to ignore their voice and only listen to a small group of Washington Lobbyist.

Sincerely,

Kevin Krai
Vice President
Arizona Fly Fishing
flyfish12@mindspring.com
480-560-9930

47

From: Tim Van Hemelryck <timdar@att.net>
To: <gcexpreleases@uc.usbr.gov>
Date: Thu, Feb 14, 2008 9:53 AM
Subject: Flooding the Canyon

Dear Dennis Kubly,

Regarding the March 4 -9 scheduled flood in the Grand Canyon. This would seem to be a futile attempt at returning the area below the Glen Canyon Dam to its original condition. This has been attempted twice with the same results, which have been shown to be marginal at best. Repeating the same experiment over and over and expecting different results is just foolish.

According to the article in the Daily Sun, the experiment is expected to cost about 8 million dollars in research cost and lost power. If the intent is to saved the humpbacked chub, the 8 million dollars would go a long way to building a hatchery to raise and supply the river with chubs for many years to come.

We are completely against this redundant foolishness.

Sincerely,

Tim and Darlene Van Hemelryck
Page, AZ

48

From: "Bob and Ann Novak" <cancaper@commspeed.net>
To: <gcexpreleases@uc.usbr.gov>
Date: Wed, Feb 13, 2008 9:58 PM
Subject: 5 day flood from Glen Canyon Dam

Interested parties,
Arizona has been in a regional drought for several years now. Water is prescious! This is not a year to send a five day flood downriver from Glen Canyon Dam. If possible, we need to intake enough water in Lake Powell this year to allow boaters to take the shorter route uplake and avoid the Narrows. Thank you for your serious consideration to this matter.
Sincerely, Ann Novak

49

From: Bill Erickson <azcanyondreamer@yahoo.com>
To: <gcexpreleases@uc.usbr.gov>
Date: Wed, Feb 13, 2008 9:26 PM
Subject: flood comment

Please do not go forward with the experimental flood that is tenatively scheduled for next month. I feel that you are just stripping all of the sand from the upper reaches of the canyon. With the net gain of sand being minimal I do not believe this study is producing good results. Please do not go forward with the planned flood.

Bill Erickson
5913 SE Holgate
Portland, OR 97206

50

From: "Tom Zwack" <thomasez@cableone.net>
To: <gcexpreleases@uc.usbr.gov>
Date: Wed, Feb 13, 2008 8:35 PM
Subject: Glen Canyon Dam Flood Proposal

To Whom It May Concern:

I would like to take this opportunity to express my opposition to the proposed experimental release of water from Lake Powell at the rate of up to 40,000 cfs. The timing of this experiment is ill-advised. Common sense tells us that in a long-term drought situation, with the lake level currently below 50% of capacity, concerns about the water level intakes for SRP and the City of Page growing, and the loss of necessary power generation at Glen Canyon Dam, this is not the proper time to schedule an experimental massive water release. If, indeed, an experimental release is being considered, it must not be allowed to take place until Lake Powell has reached near full-pool.

We are all aware that the southwest has been in a severe drought situation for several years. Water conservation should be the major concern of the Bureau and of the Department of the Interior. Education of the public regarding conservation of our water resource, particularly in drought years, should be a priority, far above concerns for downstream beaches and sand bars. We must not waste this precious resource on an ill-timed experiment. An experiment that has been tried unsuccessfully in the past.

Thank you for your consideration.
Thomas Zwack
P.O. Box 4508
Page AZ 86040
thomasez@cableone.net

51

From: lori gervais <justjust4me@yahoo.com>
To: <gcexpreleases@uc.usbr.gov>
Date: Wed, Feb 13, 2008 3:53 PM
Subject: letting the water go

I don't agree with the letting go of the water down river.It seems to me that all of us could find a better reason to let the water go.Thank you for your time.

Get rid of all bitterness, passion,and anger. No more shouting or insults,no more hateful feelings of anysort. Instead, be kind and tenderhearted to one another, and forgive one another,as God has forgiven you!

52

From: "Judy Edwards" <lpvjudy@hughes.net>
To: <gcexpreleases@uc.usbr.gov>
Date: Wed, Feb 13, 2008 10:11 AM
Subject: Glen Canyon Dam Flood Due in March

I would like to voice my disapproval of this release. The proponents of these releases agree the first ones didn't work. Don't waste the water during our time of drought.

Judy Edwards
928-353-2241

53

From: "Vivian Firlein" <viva@hughes.net>
To: <gcexpreleases@uc.usbr.gov>
Date: Wed, Feb 13, 2008 9:53 AM
Subject: Proposed river flooding

This seems to fly in the face of common sense. We are in a drought. There is increasing demand for electric energy. So we are going to bypass the Glen Canyon turbines and spill precious water down the Colorado "in hopes" to move some sand around and "maybe" improve some fish habitat?

I vote NO.

Vivian Firlein
928-691-0616
viva@hughes.net
Page, AZ

The hardest years in life are those between ten and seventy.
-Helen Hayes (at 73)

54

From: David Urias <davidurias1976@hotmail.com>
To: <gcexpreleases@uc.usbr.gov>
Date: Tue, Feb 12, 2008 8:32 PM
Subject: Lees Ferry

One of the best quotes I can cite regarding this situation is from a fellow angler. "I am curious how we can make the same mistake again. Lees Ferry is finally rebounding from the last experimental flood and we are deciding to do it once again? I sometimes wonder if the powers that be, give these ideas any thought whatsoever! I have friends that are finally starting to go there again after a several year hiatus, the guides and lodges are starting to make a little money again, this will be the death knoll for most of the businesses in the area. Is this the master plan? Are we trying to destroy the fishing and the fishing industry once again? I know many of the past and present guides on the river and in talking with most of them, a big downturn in the fishing will end their livelihood on the Colorado River."

"It's really too bad as some of my best experiences, fishing and non-fishing have been on that section of the Colorado. I have so many pleasant experiences with my father, brother, and many of my friends. It will be a shame that more people in the future will not be able to say the same thing. I guess the good ol' days will be all we have now."

What a shame!!

Paul Freeman

As a sportsman I have a tremendous respect for the beauty of the canyon. Its funny how our bureaucratic system has a say on what should survive and what should be removed. The sad reality is that the temperature of the river and the ecosystem changed forever when the usbr built the dam and changed the flow to a tailwater. If you could talk to historians, they would tell you that the river was and would still be a muddy river in which temperatures would be much warmer than 46 degrees. Its sad that you decide to experiment the flows ONCE AGAIN to try and restructure the ecosystem when the chubs and native fish would not successfully flourish under the current conditions that the usbr has built. They are warm water fish. This is just a partial view on what you plan to do not to mention destroy an economy that is on the border of a rebound. Hopefully you will all come to your senses and stop messing with the ecosystem that you continue to disrupt through your "experiments". Leave well enough alone.

Dave Urias
10115 E. Mountain View Rd Unit #2030
Scottsdale AZ. 85258

55

From: "Dave Kendall" <dken5@cox.net>
To: <GCexpReleases@uc.usbr.gov>
Date: Tue, Feb 12, 2008 5:19 PM
Subject: 62,000cfps release plan

Please do not go forward with this devasting plan. Not only would native chub minnows be harmed so would other species. Very bad Idea! Dave Kendall

From: Michael Faulkinbury <mfaulkinbury@msn.com>
To: <gcexpreleases@uc.usbr.gov>
Date: Tue, Feb 12, 2008 4:12 PM
Subject: Lees Ferry Flood.

This event has been executed twice before. Did you not pay attention then to the results it had? If in two tries you did not get information you needed why are you wasting my tax dollars to fail to get the data you want a third time? This plan has NO merit, it may further complicate the HBC population, and didn't you in the last two years kill trout at bright angle creek to protect the HBC?
In the hope of some common sense I urge the "The No Action Alternative"!

Regards
W.M. Faulkinbury

57

From: "Mike Kasulaitis" <Mike.Kasulaitis@cushwake.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Tue, Feb 12, 2008 3:08 PM
Subject: Lee's Ferry Flows

Please refrain from initiating the flooding of Lee's Ferry on March 4th. Based on my knowledge of the river, conditions are better than they have been in years. Much of this, and I am not alone, has to do with the fact that they have not flooded the river in the last few years.
Additionally, you would be damaging the spawning grounds that the trout have just recently begun to use again.

If you're going to experiment, go release the flows on some other river.

Lastly, if you could forward me your hypothesis as it relates to this matter, that would be greatly appreciated.

Mike Kasulaitis
Associate Director

Cushman & Wakefield of Arizona, Inc.

2525 East Camelback Road, Suite 1000
Phoenix, Arizona 85016

Tel: (602) 229-5969
Mobile: (602) 769-2302
Fax: (602) 253-0528
Email: mike.kasulaitis@cushwake.com
www.cushmanwakefield.com <http://www.cushmanwakefield.com/>

58

From: <Aaron.A.Otto@wellsfargo.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Tue, Feb 12, 2008 3:02 PM
Subject: Exp Flows Question.

Is this purely a financial decision based upon beach users as apposed to the local economics built around the fishery? I seem to remember last time how bad this was on the fishery, not really sure what justifies that kind of damage again. Hoping someone can help me understand.

Thanks,

Aaron Otto

480 724 2138

59

From: "Julie Hayes" <area51az@cableone.net>
To: <gcexpreleases@uc.usbr.gov>
Date: Tue, Feb 12, 2008 1:44 PM
Subject: The real reason you want to take water out of Lake Powell?

http://www.msnbc.msn.com/id/23130256

Dry Lake Mead? 50-50 chance by 2021 seen

Study cites warming, water use and growing Colorado River deficit

This view of Lake Mead was taken last July 26, during the seventh straight year of drought that had caused the lake to drop more than 100 feet to its lowest level since the late 1960s.

Ethan Miller / Getty Images file

MSNBC staff and news service reports
updated 1:57 p.m. ET Feb. 12, 2008

What are the chances that Lake Mead, a key source of water for more than 22 million people in the Southwest, would ever go dry? A new study says it's 50 percent by 2021 if warming continues and water use is not curtailed.

"We were stunned at the magnitude of the problem and how fast it was coming at us," co-author Tim Barnett of the Scripps Institution of Oceanography said in a statement. "Make no mistake, this water problem is not a scientific abstraction, but rather one that will impact each and every one of us that live in the Southwest."

"It's likely to mean real changes to how we live and do business in this region," added co-author David Pierce, a Scripps climate scientist.

The experts estimated that the Colorado River system, which feeds Lake Mead and Lake Powell, is seeing a net deficit of nearly 1 million acre-feet of water per year — an amount that can supply some 8 million people. That water is not being replenished, they noted,

and human demand, evaporation and human-induced climate change are fueling the growing deficit.

The system is already at half capacity because of eight years of drought.

"When expected changes due to global warming are included as well, currently scheduled depletions are simply not sustainable," Barnett and Pierce write in the study.

The two analyzed federal records of past water demand as well as calculations of scheduled water allocations and climate conditions.

'Bucket' being depleted

"The biggest change right now is taking more water from the bucket than we are putting into it," Barnett said.

Lake Mead straddles the Arizona-Nevada border. Aqueducts carry water from the system to Las Vegas, Los Angeles, San Diego, and other communities.

The researchers also noted that their estimates are conservative — in other words, the water shortage is likely to be even more dire than they estimate. The conservative approach included basing their findings on:

- The premise that warming effects only started in 2007, though most experts consider human-caused warming to have likely started decades earlier.
- Averaging river flow over the past 100 years, even though it has dropped in recent decades.

The study has been accepted for publication, possibly next month, in the peer-reviewed Water Resources Research, a journal of the American Geophysical Union.

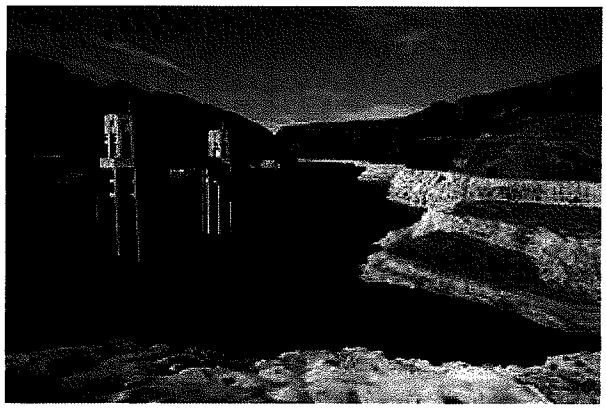
Barnett and Pierce also estimated:

- A 10 percent chance that Lake Mead could be dry by 2014.
- A 50 percent chance that reservoir levels will drop too low to allow hydroelectric power generation by 2017.

The uncertainty about when and if the lake will run dry stems from the natural fluctuations of the Colorado River, which feeds the lake, Barnett said. In recent months the flow has been above average, he said, after years below average.

'At or beyond the sustainable limit'

The system could still run dry even if recently proposed mitigation measures are implemented, the researchers said.



Laura Rauch / AP file

The reduction in water levels due to drought on Lake Mead can be seen by the white ring around the shore at Hoover Dam in this photo from July 21, 2006.

"Today, we are at or beyond the sustainable limit of the Colorado system," the study concludes. "The alternative to reasoned solutions to this coming water crisis is a major societal and economic disruption in the desert southwest; something that will affect each of us living in the region."

Lake Mead, which was created when Hoover Dam was buit, provides 90 percent of Las Vegas' water.

Scott Huntley, a spokesman for the Southern Nevada Water Authority, said his agency overseeing the Las Vegas area's water was concerned about reliance on Lake Mead as the major source for Las Vegas and officials were seeking alternate sources.

"While we wholeheartedly support the authors' call for greater urban water conservation, it is important to also remember that agriculture uses four-fifths of the Colorado River's flows, so meaningful solutions cannot be borne solely by urban users," he added.

Reuters contributed to this report.

60

From: "Paul Freeman" <pfreeman@idoc.idaho.gov>
To: <GCexpReleases@uc.usbr.gov>
Date: Tue, Feb 12, 2008 12:50 PM
Subject: Experimental flood

I am curious how we can make the same mistake again. Lees Ferry is finally rebounding from the last experimental flood and we are deciding to do it once again? I sometimes wonder if the powers that be, give these ideas any thought whatsoever! I have friends that are finally starting to go there again after a several year hiatus, the guides and lodges are starting to make a little money again, this will be the death knoll for most of the businesses in the area. Is this the master plan? Are we trying to destroy the fishing and the fishing industry once again? I know many of the past and present guides on the river and in talking with most of them, a big downturn in the fishing will end their livelihood on the Colorado River.

It's really too bad as some of my best experiences, fishing and non-fishing have been on that section of the Colorado. I have so many pleasant experiences with my father, brother, and many of my friends. It will be a shame that more people in the future will not be able to say the same thing. I guess the good ol' days will be all we have now.
What a shame!!
Paul Freeman

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From: "Julie Hayes" <area51az@cableone.net>
To: <gcexpreleases@uc.usbr.gov>
Date: Tue, Feb 12, 2008 9:31 AM
Subject: Lee's Ferry

I live in Page, Arizona and I am against releasing large amounts of water from Glen Canyon Dam. I enjoy trout fishing on the river below the dam. I pay good money for guides and equipment. I know of many Native Americans who make their living from the Lee's Ferry fishery through jobs in services at Marble Canyon, Cliffdwellers and Vermillion Cliffs. How can you ask these already poverty stricken people to give up even more? They can't make it on jewelry stands alone. Why does the U.S. government continue to oppress Native Americans? They have jobs now and will not after you guys flush the toilet that is Lake Powell. It happened last time and it will happen again.

This whole thing is ridiculous in my opinion. My guess is all the "reasons" for the big release are lame excuses for giving more water to Lake Mead, and that alone. I wouldn't be surprised if someone is getting paid off to lie about "native fish", sand bars, etc. Just leave the river alone, please!

February 13, 2008

Dennis Kubly and Randall Peterson
Bureau of Reclamation, Upper Colorado Region
125 South State Street, Room-6103
Salt Lake City, UT 84138

Dear Mr. Kubly:

Regarding the upcoming proposed "flood" in the Grand Canyon, scheduled for March 5th, I am absolutely shocked this flood has gotten pushed through as quickly as it has. In seeking the final comments for this flood, the public only has two weeks to respond, and the addresses are vague at best where to direct our comments to. This whole situation seems fishy, and ought to be investigated. There are so many reasons *NOT* to do this flood:

- Lake Powell is down 110 feet. We are in a drought. Experimental floods should not even be considered until the water level is significantly higher. Not a good idea for a flood from a major water source for the western U.S. that is low (and predicted to go dry by 2021, from latest articles).
- March 5th is typically a low-flow period. A flood would seriously disrupt established riparian shoreline areas, young fish, beaver dens, and other endangered species.
- Look at the results from the last two floods of 1996 and 2004: beaches were replenished, then started to erode (that's typically what occurs in the Grand Canyon—millions of years of erosion) and most of the young Humpback Chubs, the endangered fish scientists are trying to preserve, were washed downstream toward Lake Mead.

If this flood absolutely has to happen, why do it so early? Can't it wait until the end of March or early April, when the normal spring runoff happens? Before the dams, that's the way it has happened for millions of years. And why a duration of 60 hours? Wouldn't 10 hours be sufficient?

I am outraged at the prospect of this needless flood. It is estimated that $8,000,000 will be lost in revenue—from clean hydroelectric power—for a 60-hour flood. That will be taken away from the grid, when it will sorely be needed this summer. In order to make up for the loss, it will come from coal-burning plants—pollution in excess of what should be normal. This is unacceptable.

Consider for a moment an opportunity: The Army Corps of Engineers **(Public Notice Number: SPK-2007-02165-DC)** is currently seeking public comments (until March 2) on deepening the Castle Rock Cut area at Lake Powell, just a few miles away from Glen Canyon Dam. This area is formerly lake bottom, and the project wants to remove 400,000 cubic yards of sand, rock, and sediment. This excavated material would be perfect to deposit near Lee's Ferry or even in the Paria River drainage, so precipitation could

naturally wash it into the Canyon. These needed sediments could potentially replenish the Canyon all year long. This solution seems like a no-brainer to me. You could time it with the scheduled "flood" and spread even more sediment into the Canyon. But the flood would have to be postponed. The Castle Rock Cut deepening wouldn't be able to start until the end of March.

And in regard to the possibility of steady-flows from Glen Canyon Dam year-round in the Grand Canyon: **Another bad idea**. Since the dam went up in 1963, flows from the dam have fluctuated, just like the river did before the dam. This is for need during electrical periods when more power is needed vs. when power is not as needed. The plants and animals in Grand Canyon have adapted to fluctuating flows—it is a tidal ecosystem. To radically introduce change with steady flows sets up the system to have failures. The natural river never flowed at a constant amount.

Please consider my comments, and either eliminate or postpone this flood for a better time.

Thank you for your time,

Tiffany S. Mapel

Tiffany S. Mapel
549 E. 5th Ave.
Durango, CO 81301

cc to:

Dirk Kempthorne, Secretary
Department of the Interior
1849 'C' Street NW.
Washington, DC 20240

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Mark Steffen
Federation of Fly Fishers/Northern Arizona Flycasters (FFF/NAF)
11475 Homestead Lane, Flagstaff Arizona 86004, 928-522-0617

02-12-08

Regarding: Reclamation Environmental Assessment, Experimental releases from Glen Canyon Dam, Arizona, 2008 through 2012.

I STRONGLY OPPOSE THE RECLAMATION PROPOSED EXPERIMENTS, THE HIGH TEST FLOW AND THE FALL STEADY FLOWS!

I STRONGLY SUPPORT THE "NO ACTION ALTERNATIVE", and offer the following comments:

It is unfortunate that Reclamation and the Department of the Interior, including the National Park Service (NPS) and the US Fish and Wildlife Service (FWS) have chosen to force these experiments on the public with a complete lack of consideration and in defiance of five years of collaboration by Stakeholders in the Glen Canyon Dam Adaptive Management Program (GCDAMP). Stakeholders including FFF/NAF worked hard to design appropriate flow experiments, only to be forced now to accept these Bureau of Reclamation experiments which were repeatedly voted down by GCDAMP Stakeholders.

Grand Canyon Monitoring and Research Center (GCMRC) scientists, Reclamation bureaucrats, the NPS, the FWS and the Grand Canyon Trust wear rose colored glasses and assume that high flows and steady flows will be a panacea for all resources downstream of Glen Canyon Dam. This is an outrageously fallacious, dangerous and irresponsible assumption that ignores the negative consequences of all past grandiose, extreme flow experiments that have had disastrous impacts on the aquatic ecosystem in a fanatical, zealous and blind obsession to manipulate sand in the Grand Canyon.

The comment period of 14 days is grossly inadequate and irresponsible for experiments this extreme, this excessive, this expensive and this controversial. Notification of the public for comments was extremely inadequate. Reclamation in an EA press release seeking comments, did not even give instructions on how the public should submit comments.

IMPACTS TO FISH AND FISH FOOD SUPPLIES:

1) The Little Colorado River (LCR) flooded in Late January and early February 2008 with a peak flow of 4,400 cfs. This flooding above the base flow of 200cfs certainly flushed many if not most of the young humpback chubs (HBC) born in 2007 in the LCR into the main Colorado River. The USFWS

Little Colorado River (the spring fed and all year round warm water home of HBC in Grand Canyon) from invasion of warm water non-native fish (channel catfish, small mouth bass, stripped bass etc.) from Lake Mead. This current Reclamation fall steady flow proposal that "might" benefit juvenile HBC by warming backwaters in the Colorado River, also will invite invasion of warm water non-native predacious fish from Lake Mead. These warm water non-native fish would be likely to enter the LCR and could exterminate all remaining HBC in the Grand Canyon. The past four years of government trout killing in the Colorado River has opened a niche and led to increases of existing non-native warm water fish (bullhead catfish and carp) in the Grand Canyon and perhaps in the LCR. Trout in the Colorado River almost never enter the LCR. After 1950 but prior to Glen Canyon Dam, highly predacious catfish were the dominant fish in Grand Canyon (Webb, Melis and Valdez, 2002) and would likely have led to extermination of HBC in Grand Canyon including the LCR. Cold water from Glen Canyon Dam and the No Action Alternative have protected and saved HBC in the Little Colorado River in Grand Canyon. The current Reclamation proposed steady flow experiment creates new threats to the Grand Canyon Little Colorado River HBC population that should not be acceptable.

HIGH FLOW TEST TIMING, MAGNITUDE AND DURATION:

6) There is no need for "expediting" a high flow test (page 6 EA). GCMRC has stated that the current enriched sediment condition will persist in the river for several years (Steffen 2007).

7) A high flow test in a low water month is inappropriate. Damage to the aquatic ecosystem would be less if the test occurred during a high water month such as January or July. Cladophora (aquatic algae) grows intensely in spring and fall with sharp decreases in mid-summer. Increased growth of Cladophora in spring coincided with rising base flow. (Pinney 1991)

8) GCMRC has not justified a need for the test flow duration as excessive as the 60 hours in the current Reclamation proposal. The GCMRC science plan does not consider the impact a 60 hour duration 41,000 cfs flow relative to the normal high flow of 13,000cfs, will have on the Aquatic Food Base (GCMRC 2007).

ADVICE IGNORED BY RECLAMATION:

9) The Federation of Fly Fishers and the Northern Arizona Flycasters are listed in the EA as having been consulted. ALL advice give by these organizations was ignored!

10) The Glen Canyon Dam Adaptive Management Work Group (AMWG) has not recommended a high flow test or steady flows. The Glen Canyon Dam Adaptive Management Technical Work Group (TWG) voted not to recommend an identical high flow test proposed by the Grand Canyon Trust in November 2007. The AMWG and TWG have repeatedly voted not to recommend any periods of steady flows.

11) In this EA, Reclamation continues to ignore advice from AMWG and TWG including AFB experiments proposed by WAPA and the Federation of Fly Fishers (FFF) to determine AFB impacts from fluctuating flows and steady flows. Experiments proposed by WAPA and FFF included brief but significant daily flow fluctuations that would attenuate to steady flows 60 miles downstream by the Little Colorado River and chub locations.

12) The expense of this test is grossly excessive. A total cost of twelve million dollars for benefits that will be minimal, maybe only to some camping beaches and to scientist's resumes (academic reports, graduate degree dissertations etc.).

BACKWATERS:

13) Backwaters are less than 5% of shoreline according to GCMRC data. Backwaters could be destroyed by a high flow. Vegetated shorelines are more important for chubs and may also be destroyed by high flow.

14) IF backwaters are improved even temporarily for chubs, the timing of the test in March will not benefit chubs. A test in July would produce the hypothetical improvement when chubs are actually flushed from the LCR, in July and August by monsoon rains.

STEADY FLOW ISSUES:

15) Steady flows in October will lead to colder, not warmer water temperatures in backwater areas, due to low air temperatures in October, negating and reversing the intent of creating warm backwaters. Fluctuating flows maintain a relatively warm temperature of 50 degrees Fahrenheit in backwater areas even in winter when steady flows would result in very cold shoreline water temperatures.

16) Steady flows would exacerbate the effect of low dissolved oxygen that can occur in fall. Fluctuations increase dissolved oxygen in dam water releases.

17) Reclamation and this EA irresponsibly disregard evidence of benefits and even dependence of aquatic plants, aquatic insects and fish, on daily fluctuating flows. The Colorado River Aquatic Ecosystem (CRE) has evolved, adapted and become dependent on daily flow fluctuations. The CRE is now essentially a "tidal" or "estuarial" ecosystem. Steady flows would be extremely disruptive and analogous to government bureaucrats proposing that some particular ocean organism would benefit if the government could only stop the ocean tides!

18) Cessation of fluctuating flows would likely reduce drifting simmulids, gammarus (fresh water shrimp) and chironomids, important food sources for HBC. Cladophora (aquatic algae) drift was significantly higher during upramp and downramp than during steady flows. Gammarus composed the bulk of HBC diet by volume, although simmulids were the most common by number. (Valdez 1995)

19) Fluctuating flows increase the availability of food, increasing the dislodgement and movement of algae and invertebrates. Invertebrates in trout stomachs increased during periods of fluctuating flow. Anglers favor fluctuating flows because they believe rising water stimulates feeding by fish. Trout growth rates could decline due to an absence of fluctuating flows. (GCES final report introduction January 1988)

20) Fluctuating flows can lead to increased diversity of diatoms that produce mucilage which protects Cladophora against effects of dessication from dewatering during fluctuating flows. (Peterson 1984)

21) Cladophora is conditioned evolutionarily for the submergence-emergence of fluctuating flows in regulated rivers. (Pinney 1991)

22) Cladophora composed 77% of HBC stomach contents in the 1980's, chironomids and terrestrial insects only 10%. (Kubly 1990)

23) Cladophora was heavily exploited by carp, trout, channel catfish, flannelmouth and bluehead suckers. Oil droplets from diatoms attached to Cladophora provide a major energy source for fish. (Carothers and Minkley 1981)

24) Cladophora and associated diatoms are the foundation of the aquatic food web and are utilized by both Gammarus and Rainbow Trout in Glen Canyon. (Pinney1991)

25) Diatoms associated with Cladophora provide 95% of Gammarus diet at Lees Ferry. Gammarus grazed on diatoms without ingesting the host Cladophora. (Pinney 1991)

26) Diatoms associated with Cladophora appear to be an important food source for Trout below Glen Canyon Dam. Trout derive nutritional benefit from diatom lipids and achieve increased digestive efficiency from a full stomach of indigestible Cladophora. . (Liebfried 1988)

27) Gammarus show a preference for ingesting diatoms that grow best on Cladophora during fluctuating flows versus diatoms that grow under steady flows. Achnanthes affinis-minutissima and Rhoicosphenia curvata versus Cocconeis pediculus. Gammarus had difficulty removing and ingesting the diatom pediculus from cladophora. Pediculus increased with steady flows and decreased with fluctuating flows. Ingestion of A. affinis was high during fluctuating flows and affinis exhibits "hitch hiking" ability on drifting Cladophora. (Pinney 1991)

28) Gammarus become mobile during fluctuating flows. (Pinney 1991)

29) Stomachs of HBC from the Colorado River contained more food than HBC from the Little Colorado River. (Minckley 1996)

Literature cited:

Barron, Dale, Fowler, Gunderson, Kitchell, Robertson, Tyus, Wohl and Garrett. 1-13-2008. Review of the "Science Plan for Potential 2008 Experimental High Flow at Glen Canyon Dam".

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Kubly, 1990.The endangered humpback chub in Arizona.

Liebfried and Blinn, 1986 The effects of steady versus fluctuating flow below Glen Canyon Dam.GCES report B-8

Liebfried,1988. The utilization of Cladophora and diatoms as a food resource by Trout in the Colorado river below Glen Canyon Dam.

Minckley, 1996. Observations on the biology of the HBC in the CR basin 1908-1990.

Peterson, 1984. Benthic diatom community dynamics in the Colorado river: Interactive effects of periodic dessication.

Pinney, 1991. The response of Cladophora and associated diatoms to regulated flow, and the diet of Gammarus, in the tailwaters of glen canyon Dam.

Reclamation, 12-2007. Biological Assessment on the Operation of Glen Canyon Dam and Proposed Experimental Flows for the Colorado River Below Glen Canyon Dam During the Years 2008-20012.

Steffen, 12-02-2007. Report on Lees Ferry meeting about 2008 Beach-habitat-building-flow.

Valdez, 1995 Life History and Ecology of the Humpback Chub in the Colorado River, Grand Canyon, Arizona.

Van Haverbeke, USFWS, May 2005. Monitoring of Native Fishes of the Little Colorado River Ecosystem in Grand Canyon. Spring 2005 trip report.

Webb, Melis and Valdez, 2002. Observations of Environmental Change in Grand Canyon, Arizona.

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From: Dennis Kubly
To: GCDExpPlan GCDExpPlan
Date: Tue, Feb 19, 2008 7:27 AM
Subject: Fwd: Questions on HFE EA process

>>> Andre Potochnik <arp4@infomagic.net> 02/13/08 11:04 AM >>>
Hello Dennis,
Attached is a memo with our questions on the relationship between the HFE EA and LTEP EIS. Any clarifications you provide will help us formulate our comments on the HFE EA.
Feel free to give me a call, if you prefer. My cell phone is best for the rest of this week.
thanks!
Andre
--
Andre Potochnik, Ph.D.
Adaptive Management Work Group
Grand Canyon River Guides, Inc.
PO Box 1934
Flagstaff, AZ 86002
(928) 774-0698 (office)
(928) 773-1075 (main office)
(928) 380-7745 (mobile)
(928) 773-8523 (fax)
arp4@infomagic.net

Memorandum

Date: February 13, 2008

To: Dennis Kubly and Randy Peterson, Bureau of Reclamation

From: Andre Potochnik, AMWG member, Grand Canyon River Guides

Re: GCRG Questions on the High Flow Experiment Environmental Assessment.

1) We are expecting a draft EIS in April, 2008 on the Long Term Experimental Plan. How will this EA affect the production of the draft LTEP EIS?

2) Does this EA require a linkage between the HFE and proposed Sept./Oct., 5-year steady flow experiment? Isn't this pre-decisional for the LTEP EIS?

3) Would it not be more appropriate to separate the analyses of the HFE and the Steady Flow experiment into separate documents? If not, then analyze the effects separately, so the responsible official has the appropriate and comprehensive decision space to approve part of the proposed action (HFE) while allowing another part (steady flows) to proceed to a more comprehensive analysis (EIS)?

We appreciate your interest in conducting this High Flow Test from the dam in March, 2008. We believe it is very timely and important, as it should provide both learning and resource protection. We do not wish to see it jeopardized by being attached to a steady flow proposal that was intended to be part of the LTEP process.

Thank you for your response to our questions.

Sincerely yours,

Andre Potochnik, Ph.D.
Grand Canyon River Guides

cc.
Brenda Burman

C5

From: Dennis Kubly
To: GCDExpPlan GCDExpPlan
Date: Fri, Feb 15, 2008 11:46 AM
Subject: Fwd: High Flow experiment?

>>> Doug Hendrix 02/15/08 8:57 AM >>>
Here's a comment from a outside party that I received in today's email....

>>> "JONATHAN SCHULMAN" <jonschulman@msn.com> 02/14/08 10:59 PM >>>
Dear Sirs:
Once again this is another effort in creating jobs for scientists in the Grand Canyon. We can study this again and again for millions of dollars and come up with same different set of answers. Its not about the endangered species or the building of beaches for habitat. The bottom line is " its all about the water" The water needs to go south to expansive Nevada and southern Arizona. Save the tax payers of the country s millions of dollars and cancel the flood. Its government waste.

A Taxpaying American

Jon Schulman

G R A N D C A N Y O N T R U S T

66

February 11, 2008 231439

Secretary Dirk Kempthorne
U.S. Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

RE: SEASONALLY-ADJUSTED STEADY FLOWS IN GRAND CANYON

Dear Secretary Kempthorne:

The Grand Canyon Trust filed a Glen Canyon Dam lawsuit in federal court December 7, 2007, against the Bureau of Reclamation for violations of the Endangered Species Act and National Environmental Policy Act. Not only has Reclamation's operation of Glen Canyon Dam violated federal law for the last seven years, but current dam releases are damaging humpback chub habitat, and releases contemplated in the December 2007 Biological Assessment will continue to damage humpback chub habitat as well as other Grand Canyon resources.

Restoring humpback chub habitat in the Colorado River through Grand Canyon will require implementing the Seasonally-Adjusted Steady Flows (including periodic spike flows to replenish the eroded beaches and sediment-related habitats) that are described in the 1994 Biological Opinion. Scientists have recommended testing these flows for many years, and Reclamation originally agreed to implement them. In addition to sediment, Seasonally-Adjusted Steady Flows are required to produce the shoreline warming and stable near-shore flows that humpback chub need for significant spawning and rearing to occur in the Grand Canyon. If we are to retain humpback chub in the Colorado River through Grand Canyon, the best available science and current research point to steady flows being a big part of the equation.

Claims that the abundance of adult humpback chub in the Little Colorado River has stabilized do not change the science linking fluctuating flows with jeopardy of humpback in the Grand Canyon. Without the improvement in habitat conditions that steady flows can provide, humpback chub will remain vulnerable to extirpation from Grand Canyon due to its small size and reliance on reproduction in a short stretch of the Little Colorado River. Although the Little Colorado River currently provides adequate habitat conditions for spawning and rearing, it is threatened by changes in water quantity and quality.

The five-year/two-month-steady-flow proposal in the December 2007 Biological Assessment is a poor surrogate for the needed changes in dam operations, and it also violates NEPA. It shortchanges the public participation required for proposals with significant controversy in both science and law.

(over)

2601 N. Fort Valley Rd., Flagstaff, Arizona 86001 (928) 774-7488 FAX (928) 774-7570
www.grandcanyontrust.org

In short, we interpret Reclamation's recent proposal for a much-diluted steady-flow regime to be an attempt to coax a supportive response from USFWS, even though such a response would be inconsistent with their own science and ESA law. Such a maneuver cannot be tolerated because it merely strives for inoculation against a lawsuit and against science, all to the detriment of the park so many of us love. We hope you will steer the Bureau of Reclamation away from its current path of doing as little as possible for Grand Canyon toward one that is consistent with science and law, one that will ultimately restore Grand Canyon National Park to the health and grandeur it deserves.

Sincerely,

Bill Hedden

Bill Hedden
Executive Director
Grand Canyon Trust
2601 N. Fort Valley Rd.
Flagstaff, AZ 86001

L7

Loren Gronewold
125 Schuerman Dr.
Sedona, AZ 86336
Fax: 928-282-1488

Attention: Linda Whetton, UC-733 Management Analyst
Fax-801-524-3858

January 31, 2008

Dear Bureau of Reclamation,

It doesn't take a genius to figure out what is wrong with a man made flood that you have scheduled for March, '08 for Lee's Ferry:

1. We are in a drought and need to save all the water we can in Lake Powell. Read the Feb. '08 issue of National Geographic's article entitled, " Drying of the West".

2. I have talked to many river rafter customers and there are hundreds of places down stream to camp. A sand bar is at what cost to fishermen?

3. The chub will not survive without warm water. Tail water fisheries are cold.

4. Why are you determined to kill a multi-million dollar fishery?

I have been an avid fishermen of Lee's Ferry for 22 years, several times a year. Fishing declined after the first flush. Fishing really declined after the 2004 flush. Four months after the flush the rocks were still scoured clear with no sign of aquatic insect life anywhere. What few fish we did catch and release, were 8-12" long and skinny. Thousands of other fish had been washed into the Grand Canyon.

I keep going back hoping things would improve. But they haven't. In the spring of '07 we finally started catching more fish and a few were 15-18" long. September and October '07, were fairly successful, along with 4 days in January '08. We noticed that the fish we caught during this time were all above 14" with a few going to 20", and all healthy and fat.

Another flush at the ferry will take 4 to 5 years for the trout to come back – if they come back at all! Lee's Ferry is my all time favorite place to fish, but if you flush it again, I and many other fishermen will be forced to take our passion for fly fishing trout, and our money to neighboring states such as Colorado, Utah, and New Mexico.

Why wasn't the general public informed about this months ago? I have only heard of this tragic event, by word of mouth from other anglers. Was it kept quiet so no one could protest? Shame on you!

I was always led to believe that environmentalists were all for preserving good things that nature has given us. Now I know that they basically have set common sense aside for their narrow minded actions.

Please do not go through with this stupidity!

Sincerely yours,

Loren Gronewold

Loren Gronewold

L7

Loren Gronewold
125 Schuerman Dr.
Sedona, AZ 86336
Fax: 928-282-1488

Attention: Linda Whetton, UC-733 Management Analyst
Fax-801-524-3858

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Please do not go through with this stupidity!

Sincerely yours,

Loren Gronewold

Loren Gronewold

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From: lora colten <lcolten@yahoo.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Fri, Feb 22, 2008 10:30 AM
Subject: comment on EA for High Flow Experiment Grand Canyon

Hello Mr. Kubly,

I have been a commercial river guide in Grand Canyon for fifteen years. I have seen a steady decline in some beaches, have spent much time throughout the canyon and have participated in the research on the 1996 flood collecting data on macro-invertebrates in the river.

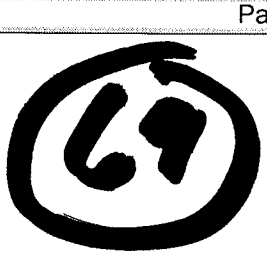
I would like to voice my support for the upcoming March High Flow experiment.

I agree that these flows are critical for the downriver ecosystem and I support them. Following past test flows,I've witnessed the rapid decline of the new sediments back into the river when the banks are steep.
I support a measure to ramp the flow down slowly following the peak flood, to minimize the steepest banks from occurring and calving.

I value the continued study of these flows on the grand Canyon and river environment.

Thank you for taking my comments for consideration

Lora Colten



From: Lisa Iams
To: GCexpReleases@uc.usbr.gov
Date: Fri, Feb 22, 2008 12:38 PM
Subject: Fwd: Inquiry to UC Region

This message came in to the Public Affairs Office via the contact link on the UC Region Web site

>>> C. D. Springstun <amostex@aol.com> 2/22/2008 11:28:06 AM >>>

From C. D. Springstun (amostex@aol.com) on Friday, February 22, 2008 at 18:28:06

msgbody: I am voicing my opposition to proposed high water releases from Glen Canyon Dam scheduled for March 2008. Time and again this has proved fruitless and a waste of time money and resources which would be better spent elsewhere. Prior releases and endless studies have shown no value to this course of action. I support the "No Action Alternative".

Thank You,

C. D. Springstun
Flagstaff, AZ.

previous_page: http://www.usbr.gov/uc/envdocs/ea/gc/2008hfe/index.html

Submit: Send

REMOTE_HOST: 159.87.53.104

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From: Jeff English <flyguide@hughes.net>
To: <gcexpreleases@uc.usbr.gov>
Date: Fri, Feb 22, 2008 1:32 PM
Subject: I support the no action alternative

Dear BOR, I ask you to reconsider the proposed steady flow treatment designed in Sept & Oct 08 and continuing for the next five years. A process has been established, called the AMWG which is comprised of several cooperating agencies working togather to create a management plan that considers all participant inputs. How is it that one of those members (Grand Canyon Trust) decides on its own when things are not going the way they want, they decide to enlist attorneys, create a lawsuit, that forces everyone else out of the process as they launch their own beliefs upon all the rest of the cooperating members. I have a few questions regarding this situation

1) Does the furture of this process rest to the member who has the best attorneys?

2) At what point does a members behavior become so disruptive to the designed process, that they should be removed from the AMWG?

3) How can we hope for continued cooperation from all involved, if the Grand Canyon Trust is allowed to trump all other opinions with lawsuits?

Sincerely Jeff English

HC-67 Box 13
Marble Canyon, AZ 86036

(928) 355 - 2292

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From: Terry Gunn <tgunn@hughes.net>
To: <GCexpReleases@uc.usbr.gov>
Date: Fri, Feb 22, 2008 2:12 PM
Subject: Experimental Flow Comment

I'm writing to you today to ask you to please consider NOT conducting the proposed experimental flow scheduled for March 2008 and September and October 2008-2112.

In my 25 years experience on this river I have witnessed flows from 500-cfs to 100,000 cfs and can assure you that experimental flows have a negative affect on the local aquatic ecology and economy. The last experimental flood occurred in 2004 and the river and the aquatic food base is just now beginning to recover to pre-flood conditions. If another flood were to occur at a time that the river is just starting to recover it could spell disaster to recreational sport fishing and the local economy that fishing supports.

As you drive to Lees Ferry it is evident that you are passing through the most economically depressed region in the United States (US Census Data). The local economy in the Lees Ferry-Marble Canyon area is strongly dependent on the millions of dollars that fishermen spend here. While travelers and river runners might visit our area for an evening (most river companies transport their guests in the day of departure), a fishermen's average stay is 3 nights at one of the local lodges. The fisherman's money stays in the local economy, supports many local Native Americans and their extended families and creates numerous jobs in the local area. Past experimental flows have been very destructive to the local economy and all of the local Marble Canyon businesses are opposed to this proposed experiment.

The November 2004 flood caused severe damage to the aquatic plants and insects that provide the food supply for Rainbow Trout at Lees Ferry and for Humpback Chubs in the Grand Canyon. Trout populations at Lees Ferry and in Marble Canyon have declined by as much as 50% since the 2004 flood (AGF data). The Marble Canyon area economy has suffered from a drastic reduction in Lees Ferry fishermen. The proposed spring experiment could also lead to aquatic food base damage as indicated by an AGF report that food (Algae) for fresh water shrimp was drastically reduced by the April 1996 flood.

It is my understanding that the major driving force for floods is to enhance recreational opportunities for river-runners and provide pristine beaches for camping. I assure you that people are not going to be canceling their scheduled river trip because there are no new pretty beaches to sleep on. I do guarantee you that fisherman will be canceling their fishing trips to Lees Ferry IF a flood is conducted. News reports of another flood will result in even fewer anglers traveling to fish Lees Ferry and will again seriously hurt the Marble Canyon economy. February though June is a very popular time to fish Lees Ferry and when most of the annual revenues for local businesses is generated.

I spend quite a lot of time traveling around the country promoting the Lees Ferry fishery and my business. The past couple of years, half of the people I speak to approach and ask "Are they planning

another flush?" "I understand that the last flood wiped out the fish and food, "has the river recovered from the last flush?" 'Will they ever stop experimenting on this river and allow the fishery to recover?" I used to come up and catch 50 fish a day before they ruined it, I don't come anymore, the last time I was there we hardly caught any fish." These are the comments that I hear and this is the public perception. This negative perception translates into lost revenues and recreational opportunities. Is it fair to trade one recreational opportunity (beaches) for another (fishing)?

A local guide described it best when he said "using high water flows to build beaches is like using an atomic bomb to dig a hole," you'll certainly get a hole dug but at what other expense! Many believe that if you want beaches that will last in the Grand Canyon, there is technology available to achieve this goal using nondestructive methods.

1: I urge the BOR to not conduct this experiment and instead investigate nondestructive methods of building beaches in the Grand Canyon and to use common sense and sound judgment in dealing with this and all future planned experiments on the Colorado River.

2: I urge the BOR to remove the proposal for low steady flows in September and October from the experiment. I support clean energy and encourage the wise use of power generation from Glen Canyon Dam.

3: I, my 40 employees, and all the businesses in Marble Canyon, strongly support THE NO ACTION ALTERNATIVE.

Terry Gunn
Lees Ferry Anglers Fly Shop, Guides, & Rentals
Cliff Dwellers Lodge
http://www.terrygunn.com
http://www.leesferry.com
http://www.cliffdwellerslodge.com
800-962-9755
Fax 928-355-2271
Hm. 928-355-2220

72

From: "R/C Southwick" <RSouthwick@ShamanProducts.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Fri, Feb 22, 2008 2:29 PM
Subject: Comments on Environmental Assessments of the GC Experimental Release propsed

Comments on Environmental Assessment

Date: February 20, 2008

To: Dennis Kubly, Bureau of Reclamation

GCexpReleases@uc.usbr.gov

From: Celia Southwick,

Private Boater

Member of GCRG, RRFW, Adobe Whitewater Club of New Mexico

Re: Comments on Environmental Assessment of High Flow Experiment (HFE).

Comments herein are not necessarily represented by those organizations listed to which I belong but rather I have used the resources to determine my own opinion. Additionally I have been down the Grand Canyon over 25 times since early 1990's and have observed changes and seen loss in beaches and riparian sediment particularly in daily hi-low fluctuation scenarios. I have also participated in Adopt A Beach Program of GCRG which has made me more aware of how the beaches are "going down the river". When the beaches and sand are newly deposited or recently eroded (an even more fragile beach) they are also more susceptible to the human factors and that certainly ramps up with more visitors in the high use season approaching.

I support the increase of beaches through this proposed High Flow in March 2008.

I do NOT SUPPORT a decision to do so for the next 5 years at this time. That decision needs to wait.

It may be that the best conditions for these releases do not occur every year (we are still in the drought cycle) and take time to build up or have weather conditions yielding flashes w/ high deposition throughout the length

of the river corridor.

I would say that the Canyon can no longer support EXPERIMENTAL flow regimes as the beaches have already suffered extreme loss due to some of that experimenting! This either works.. or it does NOT. Assessment of the series of factors that you think will contribute to beach building and sediment redistribution MUST happen and not at the whims of the bureaucratic wheels that turn.

Bottom line too is that the sediment that should be on the beaches now is ABOVE the dam and filling up the lake. Hmmm. That is yet another subject and not the one on the immediate horizon.

My understanding of the last high flow release in November 2006 was beaches in the upper reaches of the Canyon were built up and those in the lower reaches were not, in fact even devastated in some places. I have addressed this w/ GCRG and Andre Potochnic and the explanations seemed plausible. Additionally the conditions that now exist w/ much sediment deposited in the river along with current contributions from Paria, Little Colorado and side canyon flashes seem like prudent timing for such a high flow release.

The flow should be downramped at a slower pace allowing for stabilization of the sediment where deposited. In previous years we have been in the canyon on winter trips where the flows of 5-20,000 cfs daily resulted in visible bank-storage drainage that tore down the beaches and created gullies of sand wash every day. A more gradual down ramping of the flow seems prudent to give bank-storage a slower drain time and thus taking with it less sediment. The stabilization of the beaches seems essential with higher flows of the summer season coming up.

* I am not an expert in the subject above and perhaps have used some terminology incorrectly.
* I do support the high flow release w/ the correct sediment conditions as is my understanding current exist in the Canyon.
* But I do hope you consider increasing the rampdown time to help with the stabilization of sediment/beaches.
* I do hope you do not make a definitive decision to do this each year after this unless it works this time and unless the conditions needed are present yet again.
* Mother Nature's storms are not on the calendar so do require flexibility and good logical scientific assessment of the river system if we are going to micro manage it! There has certainly been the science down there to monitor this so collect the data and assess it later - not now!
* It may even make a difference for the endangered fish and other species and the overall health of the river ecosystem. I am sure you have given consideration to how all this impacts the efforts being made w/ the endangered species.

Thanks for taking time to read this and allowing for public input into the process.

I may not be down in the Canyon on the river very many more times in my life time but I do hope that things are still more or less the same (in as dynamic a place as it is) for generations to come and that they too can get all the enjoyment and lessons in life that I have gotten from this place we call the Grand Canyon.

Sincerely,

Celia Ann Southwick

Private Boater

rsouthwick@shamanproducts.com

4022 Anderson Ave SE

Albuquerque, NM 87108

505-266-8518

72

From: "R/C Southwick" <RSouthwick@ShamanProducts.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Fri, Feb 22, 2008 2:29 PM
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Date: February 20, 2008

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GCexpReleases@uc.usbr.gov

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Sincerely,

Celia Ann Southwick

Private Boater

rsouthwick@shamanproducts.com

4022 Anderson Ave SE

Albuquerque, NM 87108

505-266-8518

73

From: Rick Johnson <richard.johnson@npgcable.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Fri, Feb 22, 2008 3:32 PM

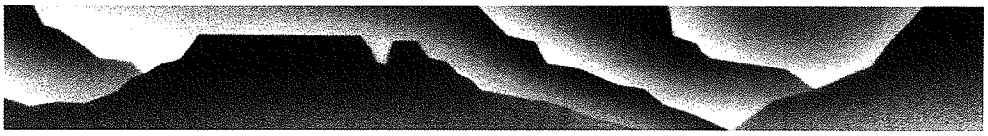
Greetings;

Please find attached the Grand Canyon Trust's comments on the 2008 Environmental Assessment: Experimental Releases from Glen Canyon Dam, Arizona, 2008 through 2012

Please feel free to contact me if you have any questions.

CC: Brenda Burman <brenda_burman@ios.doi.gov>, John Hamill <jhamill@usgs.gov>, Steve Martin <steve_p_martin@nps.gov>, Randy Peterson <rpeterson@uc.usbr.gov>, Dave Sabo <dsabo@uc.usbr.gov>, Steve Spangle <steve_spangle@fws.gov>

GRAND CANYON TRUST



February 22, 2008

Grand Canyon Trust Comments on the 2008 Environmental Assessment: Experimental Releases from Glen Canyon Dam, Arizona, 2008 through 2012

This Environmental Assessment is deficient in many ways. In general, it needs to be better connected with the Grand Canyon Protection Act, as described below. Our specific comments also address violations being committed under the National Environmental Policy Act and Endangered Species Act.

National Environmental Policy Act Issues

We are disappointed in the Bureau of Reclamation's lack of adherence to NEPA in connection with the Proposed Action. The Environmental Assessment is inadequate for several reasons, including the following:

1. The Bureau of Reclamation (Reclamation) failed to provide a Federal Register notice on the availability of the Environmental Assessment (EA) for public comment. 40 C.F.R. § 1506.6 states, "In the case of an action with effects of national concern notice shall include publication in the Federal Register and notice by mail to national organizations reasonably expected to be interested in the matter ...."

2. Reclamation has not allowed sufficient time for a 30-day public comment period between a Finding of No Significant Impact (FONSI) on the EA and the scheduled Beach/Habitat-Building Flow (BHBF). As we noted in our 24 January 2008 letter to Secretary Kempthorne, this EA triggers the NEPA requirement for a 30-day public review for several reasons including: 1) there is substantial scientific and public controversy regarding the timing and duration of the steady flow component of the EA; and 2) the proposed action is similar to one which normally requires preparation of an Environmental Impact Statement (EIS). We believe that a 30-day public review is required following the issuance of a FONSI on any action that includes steady flows.

3. Reclamation has not included the National Park Service (NPS) staff in developing the EA. A 30 January 2002 memo from James Connaughton, the Chairman of the Council on Environmental Quality (CEQ), to the heads of Federal agencies recommends the designation of cooperating agencies in the preparation of EAs. As we advised in our comments on the Long-Term Experimental Plan (LTEP), "[t]he need to comprehensively address park resources and values strongly supports designating the National Park Service as a joint lead agency." If resources under the jurisdiction of the National Park Service, a sister agency in the Department of Interior, are being affected by releases from Glen Canyon Dam, then NPS should be intimately involved in the design and implementation of any experimental releases.

4. Reclamation's action affects the development of the Long-Term Experimental Plan as noted in Reclamation's February 12, 2008 Federal Register notice. Section 1506.1 of the CEQ regulations limits actions during the NEPA process until a Record of Decision is issued.

5. Reclamation fails to provide a range of alternatives in the EA as required under Section 1508.9 of the CEQ regulations. As evidenced in the LTEP EIS (and the LTEP scoping comments), there are several alternative approaches to providing the spawning and rearing conditions in the mainstem that are necessary to remove jeopardy to humpback chub and meet the intent of the GCPA. As we noted in our 24 January 2008 letter to Secretary Kempthorne, "If a decision on an alternative in the LTEP requires multiple alternatives analyzed in an Environmental Impact Statement (EIS) with full public process, how can the same decision now require merely an EA with no analysis of alternatives and insufficient public participation?"

Purpose and Need

The Purpose and Need section of the EA is inadequate. This section should acknowledge that existing operations are not meeting the intent nor the letter of the Grand Canyon Protection Act (GCPA) and the Endangered Species Act (ESA), thereby necessitating the proposed action. The 2005 SCORE ("State of the Colorado River Ecosystem") report is an excellent resource that documents the failings of Reclamation's existing operations.

This section should also describe how the proposed action is intended to meet the intent of the GCPA and the ESA. The GCPA states, "The Secretary shall operate Glen Canyon Dam in accordance with the additional criteria and operating plans specified in section 1804 and exercise other authorities under existing law in such a manner as to protect, mitigate adverse impacts to, and improve the values for which Grand Canyon National Park and Glen Canyon National Recreation Area were established, including, but not limited to natural and cultural resources and visitor use." The values for which the park units were established (e.g., "... maintain the closest approximation of the natural condition....") are identified in the 2006 NPS Management Policies. The purposes of the ESA "... are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved...." Consistent with these purposes, the

1994 Biological Opinion (BO) directs the "[a]ttainment of riverine conditions that support all life stages of endangered and native fish species...." Nowhere does Reclamation state how these requirements will be achieved through the proposed action.

Authorizing Actions, Permits, or Licenses

In addition to the permits mentioned, Reclamation must obtain a water quality certification from Arizona under section 401 of the Clean Water Act.

Alternatives

The EA states that under the no-action alternative, "Reclamation would continue to operate the dam as described in prior NEPA analyses (Reclamation 1995, 2007a). No experimental flows or actions would occur from 2008-2012." However, these sentences are not internally consistent. In prior NEPA analyses (e.g., the EIS/ROD on Operation of Glen Canyon Dam), the Secretary made several commitments to experimentation. The no-action alternative is what is legally required by the ROD and the Biological Opinion, not what has actually occurred. The status quo is illegal as set forth in the Biological Opinion.

Steady Flows

No scientific justification exists in the EA for conducting steady flows only in September and October. Reclamation implies that they believe summer steady flows are more beneficial to young-of-year humpback chub than the proposed steady flows by stating, "Recognizing that [increased hydropower costs] would be a significant adverse environmental justice impact, the impact was reduced by proposing a steady flow test during the fall rather than the summer when much higher economic impacts would occur." The lack of scientific justification for September and October steady flows precludes the ability to make a FONSI determination on the steady flow component of the EA.

We find comments in the EA regarding the timing of the steady flows to be misleading. The EA states, "The timing of fall steady flows follows young-of-year emergence of humpback chub from the Little Colorado River into the mainstem." However, to test the effects of steady flows on rearing habitat for young-of-year humpback chub, Reclamation must provide the needed habitat conditions <u>when</u> young-of-year are emerging from the Little Colorado River (LCR), not <u>following</u> their emergence. By September, it is likely that the vast majority of young-of-year from the LCR will have already migrated into the mainstem and perished in the cold, fluctuating water. Because the majority of post-larval humpback chub probably migrate into the mainstem during monsoonal floods in August, a legitimate test of the effects of steady flows on humpback chub rearing must begin by August at the very latest.

The EA incorrectly states that, "The experimental design is fully reflected in the science plan developed by GCMRC [Grand Canyon Monitoring and Research Center]." The GCMRC science plan only addresses the 2008 BHBF.

The September and October steady flows proposed in the EA are invalid as a test of the Seasonally-Adjusted Steady Flows (SASF) analyzed in the 1995 EIS and required in the 1994 Biological Opinion. Steady flows in September and October do not meet the requirement in Element 1 of the Reasonable and Prudent Alternative (RPA) to attain "riverine conditions that support all life stages of endangered and native fish species...."

Another problem with the proposed experiment is that the monthly volumes during September and October are not well specified. The EA states, "if possible, dam operations would be managed so September and October releases would be similar (Table 3), but September releases may be structured to provide a transition between August and October monthly volumes." It is unclear how this would occur and what the potential effect of the different volumes (and thus flows) would be on young-of-year chub.

Another problem with the proposed experiment is that the SASF description in the EIS and BO not only specifies steady flows, but also monthly volumes. The September and October monthly volumes are significantly higher under the EA (~600 kaf) than SASF in the EIS (~500 kaf).

Another problem with the proposed experiment is that allowable daily fluctuations for SASF is ± 1000 cfs/24 hours (see page 32 of the EIS), whereas the EA defines steady as ± 1200 cfs within each hour. Because no information is provided on the likely daily stage variation resulting from AGC during the steady flows, it is not possible to determine the potential impact to nearshore habitats and young-of-year humpback chub.

The only justification that is provided in the EA for conducting steady flows in September and October, as opposed to the SASF requirement in the Biological Opinion, is to meet the intent of Executive Order 12898 regarding Environmental Justice. However, the EA does not provide an analysis demonstrating a "disproportionately high and adverse human health or environmental effects of [the proposed action] on minority populations and low-income populations." It is not clear to us, especially with the costs of replacement power being borne by taxpayers, how the experiment could lead to "rising electric costs."

Beach/Habitat-Building Flow

Testing the effects of a BHBF under the high sediment conditions that currently exist in Grand Canyon is crucial for advancing our knowledge of sediment dynamics in Grand Canyon. However, we believe that research efforts should be focused not only on how BHBFs can be used to rebuild beaches and sediment-related habitats, but also on how to

maintain that sediment through time. As stated in the EA, "While Reclamation has conducted two prior high flow tests with initial positive results, sandbars and backwaters reverted back to their previous state...." Reversing the continued decline of sediment in Grand Canyon is essential for meeting the intent of the GCPA and the ESA, and preventing impairment of park resources and values.

We are very concerned about the constraints that the EA suggests in regards to additional BHBFs. We concur with John Hamill, Chief of Grand Canyon Monitoring and Research Center, that additional BHBFs beyond 2008 are required to understand sediment dynamics and how best to use BHBFs to meet the goals for sediment in Grand Canyon. Although the rationale for eliminating additional BHBFs is not stated, we presume this is in response to opposition by water and power interests based on their interpretation of law. However, we believe that the Secretary of Interior has broad discretion to operate Glen Canyon Dam to meet the intent of the ESA and the GCPA. If options for meeting the intent of the ESA and GCPA are being constrained by interpretation of law, then we request a formal Solicitor's Opinion to settle the issue.

We are concerned about shifting the time frame of the BHBF from late March or early April (the optimal timing for a BHBF based on resource considerations) to the first week of March based on the "... public perception of the impacts to fishing success in the Lees Ferry reach." If the issue is an inaccurate public perception, then we suggest that a more reasonable mitigation measure is to educate the public rather than a shift in the timing that is unlikely to benefit the guides, the public, or the resource.

The EA omits discussion of aeolian processes following a BHBF for protecting archaeological sites, even though it is discussed in the GCMRC Science Plan. Protecting archaeological sites is not a trivial issue and must be addressed.

Socioeconomic Assessment

The socioeconomic assessment is deficient. For example: 1) there is no analysis or discussion of non-use values or economic effects other than hydropower; 2) there are no supporting studies cited for assertions regarding hydropower impacts; 3) there is no analysis regarding the hydropower impacts of the fall steady flows; and 4) the "analysis" of hydropower impacts uses the "average annual energy generation" from the Shortage EIS, rather than an actual estimate of generation in 2008 (which is presumably lower).

It is unclear from the text who shoulders the various "costs" of the experiments—is it taxpayers, or are the costs passed down through the utilities to their customers? The unsupported assertions in regard to environmental justice effects are inexcusable.

It would be useful to know the "opportunity cost" of the water that would bypass the generators in the proposed BHBF (92,375 af would be routed through the jet tubes and thus would not be available for generating hydropower) compared to the cost of acquiring replacement power. It also would be useful to know the magnitude of the various costs

when compared to a 2008 year without a BHBF. It appears from a table recently provided to the AMWG by Western Area Power Administration (WAPA) that under the current contracts, WAPA will need to acquire over $37 million dollars of replacement power costs in WY 2008 whether or not a BHBF is implemented. WAPA's estimated "cost" of the 2008 BHBF appears to be a reduction in the "surplus revenues" available during the summer of just over $3 million.

The paragraph on carbon emissions is also lacking. There is no support provided for the assumption that replacement power would come from carbon-producing sources, that there would be a reduction of 41 GWHr of energy generation in 2008, or that this would produce additional carbon emissions of 45,800 tons. The "eGRID 2006" citation is not referenced in the literature cited.

Best Scientific Information

Assertions in the EA are not adequately supported, and consequently, they have little credibility. A FONSI on such a poorly documented EA cannot be justified.

The EA also suffers from the lack of an experimental design. It will be virtually impossible to assign a cause-and-effect relationship between any change in the abundance of humpback chub and the steady flows proposed in the EA. Although the EA suggests that non-native control "should begin as soon as possible," it is likely that recruitment by humpback chub in the mainstem is dependent upon several processes including hydrology, predation/competition by non-natives, temperature, turbidity, and availability of stable nearshore habitats. An efficient and effective experimental design would need to consider all of these explanatory variables concurrently.

Conclusion

There have been numerous violations of NEPA process, and the EA itself is incomplete, inaccurate, self-contradictory, and poorly supported. We are surprised at the poor quality of the EA as it is far below both the quality of previous EAs, and the capability of Reclamation's professional staff. We believe it would be inappropriate to issue a FONSI on the steady flow component of the EA.

We encourage the Department of Interior to implement a revised approach that, first and foremost, benefits Grand Canyon resources. We suggest: 1) immediately rectifying violations of NEPA process; 2) immediately developing a new EA focused solely on the 2008 BHBF; and 3) immediately restarting the LTEP process to develop a program of experimental flows and other actions that will meet the intent and letter of the GCPA and the ESA.

Although we are cognizant of the time constraints for the 2008 BHBF, we believe that: 1) implementation of the BHBF could be pushed back to the last week of March or first

week of April (and in fact, the delay would probably benefit resources); 2) Reclamation, the National Park Service, and the U.S. Fish and Wildlife Service have the professional staff capability to develop and analyze an EA for a BHBF in this time frame; and 3) it would be negligent, given the high value that the American public places on Grand Canyon, to not take advantage of the large amount of sediment that is currently in the river in a manner consistent with the GCPA and ESA.

This Environmental Assessment is far off the mark for restoring Grand Canyon. It is a piece of an unfortunate political puzzle wherein Reclamation is compromising the health of Grand Canyon for the benefit of water and power interests. Notwithstanding politics, Grand Canyon National Park is deserving of the best care and protection possible.

Sincerely,

Nikolai Lash
Adaptive Management Work Group representative
Grand Canyon Trust

Rick Johnson
Technical Work Group representative
Grand Canyon Trust

Cc: Dirk Kempthorne, Brenda Burman, John Hamill, Steve Martin, Randy Peterson, Dave Sabo, Lynn Scarlett, Steve Spangle

14

From: Jane Bird
To: GCexpReleases@uc.usbr.gov
Date: Fri, Feb 22, 2008 3:51 PM
Subject: Comments on Environmental Assessment - Experimental Releases from Glen Canyon Dam

Attached are the comments of the Upper Colorado River Commission on the subject EA.

Jane Bird
Assistant to the Executive Director
and General Counsel
Upper Colorado River Commission
355 South 400 East
Salt Lake City, Utah 84111
TEL: (801) 531-1150
FAX: (801) 531-9705
E-mail: jbird@uc.usbr.gov

CC: Larry Walkoviak; Peterson, Randall; Ryan, Tom

UPPER COLORADO RIVER COMMISSION
355 South 400 East • Salt Lake City • Utah 84111 • 801-531-1150 • FAX 801-531-9705

February 22, 2008

Mr. Larry Walkoviak
Regional Director
Upper Colorado Region
U. S. Bureau of Reclamation

VIA E-MAIL: GCexpReleases@uc.usbr.gov

Re: Environmental Assessment – Experimental Releases from Glen Canyon Dam, Arizona, 2008 through 2012 (February 8, 2008 "EA")

Dear Mr. Walkoviak:

The Upper Colorado River Commission (Commission), representing its member States (Colorado, New Mexico, Utah and Wyoming) sent a letter to Ms. Brenda Burman dated December 6, 2007. This letter discusses the Commission's concerns regarding a high-flow test from Glen Canyon Dam proposed by the Bureau of Reclamation (Reclamation) for the spring of 2008. A copy of that letter is attached.

Additional consideration of this matter has taken place since the Commission's letter was written. However, the Commission remains concerned about both continuation of high-flow tests and steady flow options without addressing the significant legal and policy issues raised in the Commission's prior letter. At this time, we want to reaffirm the positions we stated previously.

The Commission appreciates the opportunity to provide comments on the EA and related documents and processes. The Commission recognizes the challenges the Department of the Interior faces in balancing competing resource needs with the requirements of the Law of the River. We urge timely completion and implementation of this process but reiterate the concerns we have expressed in the past.

Sincerely,

Jana Bird

for Don A. Ostler, P.E.
Executive Director and Secretary

Cc: Randall V. Peterson
Thomas P. Ryan

UPPER COLORADO RIVER COMMISSION

355 South 400 East • Salt Lake City • Utah 84111 • 801-531-1150 • FAX 801-531-9705

December 6, 2007

Ms. Brenda Burman, MS-6640, MIB
Deputy Assistant Secretary for Water and Science
U. S. Department of Interior
1849 C Street, NW
Washington, D.C. 20240

Dear Ms. Burman:

This letter is written on behalf of the Upper Colorado River Commission representing the states of Colorado, New Mexico, Utah and Wyoming. The Commissioners, including their engineering and legal advisors held a conference call on November 21, 2007 to discuss the decision currently before the Department of Interior on whether to initiate a one-time beach habitat building flow (bhbf) test below Glen Canyon Dam, which will result in a bypass of the power generation facilities. We understand this test might be conducted in early March of 2008 and is intended to demonstrate the effects of periodic, controlled flooding on restoring and maintaining sand beaches below the dam.

The Commissioners unanimously have expressed concern that we believe bypassing the power generating facilities is not supported by the Law of the River or the express language in the current Record of Decision for Glen Canyon Dam. We remain concerned about the financial impact upon the Basin Fund from such bypasses of the power generating facilities and if such occurs, the Bureau must assume responsibility to supplement the Basin Fund if problems arise later. Should the Secretary decide to still proceed with such a test on a one-time experimental basis, the Secretary would also be obligated to insure that adequate and complete scientific information is collected to insure that decisions can be made based upon this and the previous two tests regarding the long-term viability of similar flows being used in the future as a management practice. If such power plant by-passes are determined in the future to be a viable management practice, we believe the law would need to be changed to allow for their regular use and that a mechanism is needed to supplement the Basin Fund to mitigate the adverse financial effects from the management practice.

Thank you for consulting with us on this matter. If you have further questions, please do not hesitate to contact us.

Sincerely,

Don A. Ostler, P.E.
Executive Director and Secretary

cc: Secretary Kempthorne
Commissioner Johnson
Larry Walkoviak
Randal Peterson

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From: John Weisheit <john@livingrivers.org>
To: <GCexpReleases@uc.usbr.gov>
Date: Fri, Feb 22, 2008 2:51 PM
Subject: EA Comments: Living Rivers and Center for Biological Diversity

February 22, 2008

Mr. Dennis Kubly
Bureau of Reclamation, Upper Colorado Regional Office
125 S. State Street, Salt Lake City, Utah 84138
Fax: (801) 524-3858
GCexpReleases@uc.usbr.gov

Re: Environmental Assessment of Experimental Releases from Glen Canyon Dam, Arizona 2008 through 2012.

Dear Mr. Kubly,

On behalf of Living Rivers and the Center for Biological Diversity, we submit the following comments on the February 08, 2008 Environmental Assessment of Experimental Releases from Glen Canyon Dam, Arizona 2008 through 2012. While we appreciate Reclamation's intentions to potentially aid in the redistribution of sediment, such that it might improve habitat conditions for endangered native fish, we find this action insufficient on its own to offer any lasting benefits toward fulfilling this objective.

1. Sediment Augmentation

Past experience has already illustrated the limited benefits such experimentation can achieve. The 1996 and 2004 high flow experiments have revealed that there is not enough sediment entering the river ecosystem below Glen Canyon Dam to make up for the 44 million tons that would otherwise be entering the system on an annual basis were the dam not in place. In 2005, during the Science Symposium by Grand Canyon Monitoring and Research Center (GCMRC), and again in 2006 during meetings of the Technical Working Group, scientists discussed or recommended that the Adaptive Management Program should consider bringing additional sediment into the system through a mechanical augmentation plan. The public also recommended augmentation during the scoping period for the Long-Term Experimental Plan Environmental Impact Statement. Absent such augmentation, this proposed action will offer no lasting benefits, either to endangered fish or recreational beaches. As noted in the 2005 Score Report by the United States Geological Survey, Grand Canyon is running a sediment deficit, and no amount of experimental flows can fix this problem. Reclamation must explore sediment augmentation as a viable alternative to meeting the objectives of this action.

2. Seasonally Adjusted Steady Flows

As has been stated repeatedly, Reclamation is in violation of the terms set forth in the 1994 Biological Opinion requiring that Seasonally Adjusted Steady Flows be implemented from Glen Canyon Dam for reasons of insufficient progress to remove jeopardy to threatened and endangered species, and during minimal releases of 8.23 million

acre feet (maf). Only when such flows are integrated with sediment augmentation, as noted above, will there be any real opportunity for species recovery.

We find it particularly unfortunate that the 2007 Biological Assessment also chose to ignore Seasonally Adjusted Steady Flows (SASF). It's unfortunate that such operating criteria may offer the best opportunity for meeting the objectives of the Grand Canyon Protection Act, but continues to be shunned by the hydropower interests.

3. Declining Reservoir Levels

This action is wholly contingent on there being sufficient water in Lake Powell, such that flood flows greater than 41,500 to 45,000 cfs (cubic feet per second) can be created. However, should the reservoir elevation drop below 3,490 feet msl (mean sea level), this will be impossible. The maximum flow that could be achieved would be less than 15,000 cfs through the bypass tubes alone. While current snow pack indicates that for at least the next two years, there should be sufficient water in Lake Powell to undertake such experiments, there is no guarantee that this will be the case through the completion of the proposed action period in 2012. Lake Powell's present elevation is 3,595 feet, meaning reduced inflows during the experiment period to 2012 of a net -6.8 maf will be sufficient to force the shut down the penstocks, and this proposed action. As you are well aware, in the three years after 2000, Lake Powell's level dropped 11 maf, thus history illustrates that such reductions have occurred, yet the EA assumes, without any justification, that they will not.

While section 3.1.1.1 discusses climate change, it relies on the same limited analysis undertaken by Reclamation for Shortage Criteria—analysis which Reclamation states does not take into account climate change. More importantly, isolating the ISM single traces (index sequential hydrologic modeling) that begin with water years 1950 or 2000, would clearly show the potential for Lake Powell dropping to levels near or below the 3,490 msl threshold. While Reclamation may wish to argue the likelihood of such an occurrence, it cannot ignore the prospect altogether.

4. Water Quality

The continued avoidance by Reclamation to address the likelihood of reservoir levels dropping significantly below their current levels, represents a potentially ticking time bomb for Grand Canyon. The implications are far greater than whether or not GCMRC scientists find more grains of sand near the Little Colorado River six months following a high-flow experiment. The quality of water entering Grand Canyon could become so poor as to pose a serious threat to Grand Canyon's entire river ecosystem.

As the EA points out in section 3.1.3.1, dissolved oxygen levels at the upper portion of the reservoir are far greater than that of the water that is typically released from the penstocks. Even now, the levels flowing into Grand Canyon are higher than prior to the experimentation of 1996. This situation only worsens the lower the surface of the reservoir becomes and with the decreased volume of

water generally. This issue has never been addressed by Reclamation, nor a number of other potential water quality impacts to Grand Canyon including: extreme water temperature, increased nutrient concentrations, higher salinity, high hydrogen sulfide, heavy metals such as mercury and selenium, and the pass through of exotic reservoir animals. This EA must therefore evaluate the potential water quality impacts the Grand Canyon ecosystem might face from decreasing reservoir levels during the period of the proposed action. More importantly, Reclamation must immediately undertake a comprehensive assessment of the potential water quality impacts on Grand Canyon should the reservoir drop to dead pool.

5. Archeology

As noted in section 3.2, this action is likely to cause harm to a number of archeology sites, as well as to cultural vegetation. Such a problem would not occur were Reclamation to implement SASF as noted above in combination with sediment augmentation. Reclamation continues to make archeology a low priority, preferring to dig and relocate sites and artifacts than preserve them in situ as is their mandate.

Lastly, we remain frustrated by Reclamation's ongoing policy of unnecessarily limiting public comment periods. This action has been contemplated by Reclamation since December of 2007, yet the Environmental Assessment is offered for public comment less than one month prior to the scheduled date of the proposed action. Additionally, a federal action of this magnitude deserves a proper Federal Register notice, which Reclamation has failed to do.

Whether it's poor management on behalf of the AMP and the GCMRC, an intentional disregard for public participation, or both, Reclamation must correct this problem, beginning with extending the deadline for comments on this EA an additional 15 days.

As evidenced by the ramping up of publicity for the first experimental flow contemplated with this action on March 4, it appears Reclamation is more interested in mobilizing media interest in support of Reclamation's own interpretation of this action, than it is on assuring the public has an opportunity to evaluate it for themselves and draw their own conclusions.

In conclusion, we view this EA as merely one more volume in the unfortunate history the Bureau of Reclamation and the Adaptive Management Program has visited on Grand Canyon. Until such time as Reclamation and the AMP makes a commitment to restoring the natural process that nurtured the evolution of Grand Canyon's river ecosystem, no possibility exists for the ecosystem itself to be restored consistent with intent of the 1992 Grand Canyon Protection Act.

Sincerely,

John Weisheit, Conservation Director, Living Rivers
Michelle Harrington, Rivers Conservation Manager, Center for Biological Diversity

CC: John Weisheit <john@livingrivers.org>, Michelle Harrington <mharrington@biologicaldiversity.org>

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From: "Karen Hevel-Mingo" <khevel-mingo@NPCA.ORG>
To: <GCexpReleases@uc.usbr.gov>
Date: Fri, Feb 22, 2008 4:05 PM
Subject: Glen Canyon experimental release EA comments

National Parks Conservation Association®
Protecting Our National Parks for Future Generations®

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Southwest Regional Office

307 West 200 South
Suite 5000
Salt Lake City, UT 84101
801.521.0785 (phone)
801.359.2367 (fax)

February 22, 2008

Mr. Randall Peterson
Bureau of Reclamation
Upper Colorado Region
125 South State Street, Room 6103
Salt Lake City, Utah 84138

Reference: Environmental Assessment Experimental Releases from Glen Canyon Dam, Arizona, 2008 through 2012

Dear Mr. Peterson:

The National Parks Conservation Association (NPCA), a national non-profit corporation with a membership of over 340,000 citizens, whose mission is to preserve and protect our national parks for present and future generations, has significant concerns with the referenced environmental assessment.

We believe that the EA is incomplete and proposes a course of action that is not in compliance with the Grand Canyon Protection Act. From our perspective, it appears that the National Park Service was not included in your deliberations as a cooperating agency and this invalidates your purposes for this proposed series of experimental releases. Moreover, it further appears that the substantial work and recommendations of the USGS Workshop on Scientific Aspects of a Long-term Experimental Plan for the Grand Canyon in April 2007 has not adequately been considered for this EA.

The substantial benefits of the proposed beach/habitat-building flow (BHBF) in March, 2008 is a treatment that we support. We have concerns; however, with locking in a multiple year steady flow each fall through 2012. The scientific consensus suggests that on-going analysis and research representing an environmental triggers approach that can inform and support a seasonally adjusted flow regime, should guide subsequent releases from Glen Canyon Dam. The proposed multiple year steady flow does not appear to acknowledge the best available science and locks in a treatment that is not informed and adaptive. In addition, the EA does not recognize any other potential approaches and in our opinion is incomplete.

NPCA Headquarters
1300 19th Street NW • Suite 300 • Washington, DC 20036
202.223.NPCA(6722) • Fax 202.659.0650 • npca@npca.org • www.npca.org

As a consequence, we believe that this EA is substantially deficient. We recommend that it be revised to more fully reflect the responsibility to embrace an environmental triggers approach that appears to represent consensus among scientists. By failing to adequately consider the best available science, it is our belief that this EA does not appropriately respond to the Grand Canyon Protection Act and is not in compliance with the 2006 Grand Canyon Management Policies.

In addition, the EA represents that there are significant adverse environmental justice impacts as a consequence from future releases other than fall steady flow. This is not supported with any form of analysis and is therefore unsubstantiated and insufficient.

We recommend that the EA, therefore, de-couple the proposed (BHBF) which we believe has been recognized and validated as a crucial and fundamental adaptive management tool, from the subsequent fall steady flow regime which appears to be incomplete and in conflict with the best available science.

The Grand Canyon is one of the most remarkable units of the national parks system. While we applaud the efforts of the Bureau of Reclamation to consider adaptive management releases from Glen Canyon that can restore riparian ecosystems, it appears to NPCA that this EA is incomplete, deficient and not in compliance with the Grand Canyon Protection Act.

Sincerely,

David Nimkin
Director
Southwest Region

77

From: <emiwegner@aol.com>
To: <dkubly@uc.usbr.gov>, <GCexpReleases@uc.usbr.gov>
Date: Fri, Feb 22, 2008 4:55 PM
Subject: Comments on Proposed High-Flow Event at Glen Canyon Dam

Dennis - attached are the Glen Canyon Institute comments on the proposed glen Canyon Dam high flow event in March.? Thank you for your consideration of these comments.? Dave Wegner, citizen

---

CC: <kellett@restore.org>, <richi47@COMCAST.NET>, <amy@glencanyon.org>, <EMIWEGNER@aol.com>

Date: February 22, 2008

To: Dennis Kubly, Bureau of Reclamation

From: David Wegner, Glen Canyon Institute

Re: **Comments on Environmental Assessment of High Flow Experiment (HFE).**

1) **We Supports the High Flow Experiment.**

We are fairly certain that an HFE will result in deposition of many new sand bars at higher elevations throughout the river ecosystem. We advocate post-test flow regime that maximizes learning and resource benefits for as long as possible. Our objectives are to solve problems and improve conditions in the downstream river ecosystem, while minimizing impacts to hydropower, the trout fishery, and other ancillary benefits of the dam.

2) **We Do Not Support the Five-year, Sept.-Oct. steady flow experiment.**

The logic presented for the add on Five-year September and October steady flow experiment has not been laid out in a scientifically supportable manner. The overall intent of the steady flow is not in question; it is the lack of presentation of native fish scientific data to support the proposed action.

3) **Stable beach profile for recreation and cultural resources.**

From previous studies in the Grand Canyon and experimental flows that were conducted in 1991 we concluded that the steep down ramp following the high release will create an unstable beach profile, leading to calving-off of water-saturated, newly deposited sand bars. From data collected during the 1991 experimental flow studies we measured the impact of beach retreat created by a too rapid decrease in river flow. Go back; look at the data, video tapes from the Bureau of Reclamation, and the remote cameras to verify this comment. This was a principle scientific conclusion of the Glen Canyon Dam EIS in 1995. A more gradual down ramp may rework the new deposits to a more stable beach profile. This should provide terraces at levels accessible to recreational boaters while leaving large sand areas upslope for wind distribution into the higher pre-dam terraces where archaeological and cultural resources are located. A far better approach would be to step the flows down in a documented manner to build terraces and a more stable beach profile.

4) **Backwater habitats.**

There is no scientific logic presented to support the conclusions that a steep and rapid down ramp will create useable backwater habitats for native fish. Backwaters formed at 41k cfs in 1996 become perched and unusable by native fish. Learn from that scientific approach and ramp the flows down slowly. Look at the data and make a scientifically based decision that is best for the native fish, not one that is based on a scientific desire to leave sediment deposits up higher on the beach profile.

4) **Run the High Flow test as a discrete experiment and Tie to Long-Term Experimental Plan.**

It is unclear what the high flow test and steady flow tests are not part of the ongoing long-term experimental plan evaluation. Separating these critical elements appears to violate the intent of the ongoing NEPA process. This plan should only be for the high flow test, not the other elements.

5) **Impacts to Kanab Ambersnails and Leopard Frogs.**

Other species will be impacted by the high flow test. Specifically the direct impact to the species themselves and their habitat, and the indirect impact associated with changing flow dynamics. Specific studies should be developed and implemented to identify impacts to habitats for these species. The specifics of proposed mitigation efforts are not well defined in the Environmental Assessment.

6) **Impacts to water quality as related to lower reservoir level – distribution of mussels?**

Reservoir Powell is a much lower level than when the 1996 event was run. As a consequence it is likely that different water quality impacts will occur downstream, especially in the nutrient and thermal dynamics. This test flow offers an opportunity to couple specific water quality studies to evaluate future water conditions in the Grand Canyon.

On a similar manner, it is possible that some quagga mussels may be incorporated in the release flows and distributed to the Colorado River downstream. With the current downstream concerns regarding mussels and other exotics impacting water systems, it would seem prudent to implement a review and testing procedure to ensure that no additional distribution of the mussels occurs because of the test flow event.

Summary

The Glen Canyon Institute supports the scientific and ecosystem restoration intent of the High Flow Experiment. As long as the dam is in place it will continue to negatively impact the native species and sediment distribution patterns in the Grand Canyon. The Grand Canyon Protection Act and resulting EIS on the operations of Glen Canyon Dam recognized the impacts that the dam has and instituted protocols in an attempt to mitigate some of the negative impacts. This test flow carries on the intent of the EIS and GCPA. We advocate the process as long as a scientifically credible and supportable approach is utilized.

The EA is long on the logic for the event but short on scientific support. We know you can do better. We recommend that the post event hydrograph be designed to optimize ecosystem goals and protect the resources of the Grand Canyon.

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GCexpReleases GCexpReleases - HFE comments

From: Keith Beck <kbeck999@earthlink.net>
To: <GCexpReleases@uc.usbr.gov>
Date: 2/22/2008 5:35:42 PM
Subject: HFE comments

I am writing to state that I am strongly supportive of the HFE. I would also favor a more gradual downramp rate to maximize the effectiveness and longevity of resource benefits for this experiment. In other words, subsequent flows are every bit as critical as the High Flow Experiment itself.

thank you,

Keith Beck, MD, FACP
Professor of Medicine
David Geffen School of Medicine @ UCLA
Physician Specialist; Divisions of HIV Medicine
& Infectious Diseases
Harbor-UCLA Medical Center
Torrance, CA 90266
310.222.2467; 3#

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FEB 20 '08

February 10, 2008

Dirk Kempthorne, Secretary
United States Department of the Interior
1849 'C' Street NW.
Washington, DC 20240

RE: Proposed High-Volume water release, Glenn Canyon Dam, ~~Arizona~~

Dear Secretary Kempthorne:

You are obviously aware that the Bureau of Reclamation, a sub-agency of Interior, is considering a 41,000 CFS test release of water into the Colorado River below Glen Canyon Dam. Said test release is tentatively scheduled to begin in just a few weeks, in early March, 2008.

A press release dated February 8, 2008 was issued by the B.O.R. Upper Colorado Region Office to inform the public that comments regarding the Environmental Assessment for the proposed test would be accepted until February 22nd,, a total of just fourteen days. Moreover,, no instructions were provided that informed the public where such comments should be directed. It would therefore seem to even a casual observer that public comments regarding the proposed test flow were not welcome and an effort was being made to insure such comments were minimal in number.

In view thereof, the question of motivation for rushing ahead without adequate public input arises. That question becomes even more acute when a cursory observation of a cost/benefit analysis of the proposed test release is undertaken. As evidenced by the Environmental Assessment itself,, an aggregate loss of in excess of $8,000,000 in electrical power generation sales is anticipated, other ancillary costs not withstanding. Moreover,, the necessary shift from lost hydro-electric generated power to coal/gas fired generation is expected to release an added 45,000 plus tons of carbonized pollution into the atmosphere. In addition to these economic factors, there is ample documented evidence that the proposed test flood will have a negative impact on the endangered humpback chub, a native fish species, as well as the Amber Snail.

In consideration of these negatives, among others omitted for brevity, is the hope that sand may be carried in suspension to downstream locals and

deposited for the purpose of expanding riverside beaches and campsites, despite the well documented evidence that two prior similar experimental flows were not successful in accomplishing the stated goal.

Why Interior is even considering this obscene squandering of taxpayer funds in the face of ample reason to abandon a questionable experiment is unknown. Why it would rush to do so without an adequate opportunity for public oversight is an even greater unknown and raises the question of agency malfeasance.

If the proposed test releases go forward and are actually conducted, I will insist that a Congressional Investigation into the entire matter is conducted to explain to the public why this example of bureaucratic arrogance should be condoned and accepted.

I will anticipate and expect a written response to this letter over your signature.

Respectfully submitted,

Peter Klocki
11052 Turquoise Circle
Dewey, AZ 86327

CC: Randall Peterson
B.O.R. Upper CO Region
125 S. State Street, Room-6103
Salt Lake City, UT 84138
PSK:kve

80

From: "Ron & PJ Slovikoski" <ronnpj@ronnpj.com>
To: <GCexpReleases@uc.usbr.gov>
Date: Sat, Feb 23, 2008 3:17 PM
Subject: Lake Powell Experimental Release

Dennis Kubly,

As a 30 year recreational user of Lake Powell I am continually saddened by the repeated "experimenting" with high flow releases into the Grand Canyon. In my career as a "rocket scientist" the government would never support such shoddy technical rationale for continued failed proposals.

I recognize there are more than rational forces at work here, but if the overwhelming majority of responses to this proposal are negative, I do hope you would vote for the No Action Alternative.

Sincerely,

Dr. Ron Slovikoski

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From: "John Shields" <jshiel@seo.wyo.gov>
To: <gcexpreleases@uc.usbr.gov>
Date: Fri, Feb 22, 2008 10:09 PM
Subject: Comments on Draft Environmental Assessment

Please find attached the Wyoming State Engineer's Office's comments on the draft environmental assessment on the Environmental Assessment Experimental Releases from Glen Canyon Dam, Arizona, 2008 through 2012

With best regards,

John W. Shields
Interstate Streams Engineer
Wyoming State Engineer's Office
Herschler Building 4th East, Cheyenne, Wyoming 82002-0370
307-777-6151 (office) 307-631-0898 (cell) 307-777-5451 (fax)
jshiel@seo.wyo.gov

CC: <dkubly@uc.usbr.gov>

State Engineer's Office

HERSCHLER BUILDING, 4-E CHEYENNE, WYOMING 82002
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seoleg@seo.wyo.gov

DAVE FREUDENTHAL
GOVERNOR

PATRICK T. TYRRELL
STATE ENGINEER

February 22, 2008

Mr. Larry Walkoviak
Regional Director
Upper Colorado River Region
Bureau of Reclamation

VIA EMAIL SENT TO: gcexpreleases@uc.usbr.gov

RE: Comments on Environmental Assessment: *Experimental Releases from Glen Canyon Dam, Arizona, 2008 through 2012* (February 8, 2008) ("EA")

Dear Mr. Walkoviak:

We offer the following general comment concerning the draft Environmental Assessment released February 8, 2008 in re: *Experimental Releases from Glen Canyon Dam, Arizona, 2008 through 2012.* The EA notes the proposed action:

> "... consists of two types of experimental flows to be implemented beginning in 2008 and concluding in 2012: 1) an experimental high flow test of approximately 41,500 cfs for a maximum duration of 60 hours beginning March 4, 2008, and 2) steady flows in September and October of each year, 2008 through 2012. The overall concept of the experiment is to determine the effectiveness of sandbar building and backwater formation using a high flow test during highly enriched sediment conditions, and the subsequent impact on humpback chub in those backwaters during fluctuating flows in the spring and summer and steady flows in the fall."

It is our understanding that the proposed experimental high flow test, the subject of this draft EA, to determine the effectiveness of sandbar building and backwater formation during what is identified as a current highly enriched sediment condition, will be considered in combination with the prior iterations of these high flow experiments, to establish the "boundaries " for likely future conditions. Accordingly, we understand this experimental flow test will be the last instance that would be characterized as an experiment, and future high flow actions that exceed the generation capacity of Glen Canyon Dam will be management actions that can only be undertaken to avoid a spill.

The EA correctly observes on page 1:

> "The primary purpose and major function of the dam is water conservation and storage. The dam is specifically managed to regulate releases of water from the

> Upper Colorado River Basin to the Lower Basin to satisfy provisions of the Colorado River Compact and subsequent water delivery commitments, and thereby allow states within the Upper Basin (Wyoming, Utah, Colorado, New Mexico, Arizona) to deplete water from the watershed upstream of Glen Canyon Dam and utilize their apportionments of Colorado River water. In addition to the primary purpose of water delivery, another function of the dam is to generate hydroelectric power as an incident to other purposes of Glen Canyon Dam."

In addition, the EA notes that the Grand Canyon Protection Act of 1992 specifically mandated that the provisions of the Act shall be implemented by the Secretary in a manner "fully consistent with and subject to the Colorado River Compact, the Upper Colorado River Basin Compact, the Water Treaty of 1944 with Mexico, the decree of the Supreme Court in Arizona v. California, and the provisions of the Colorado River Storage Project Act of 1956 and the Colorado River Basin Project Act of 1968 that govern allocation, appropriation, development, and exportation of the waters of the Colorado River Basin. (GCPA § 1802(b))."

As you know, the Upper Colorado River Commission has previously expressed its understanding that this proposed upcoming experiment must be the last instance of this sort of experiment and that future management actions akin to this "experiment" that can only be undertaken to avoid a spill absent changes to as an experiment. In its letter of December 6, 2007 to Deputy Assistant Secretary of the Interior Brenda Burman, the Commission noted its view that bypassing the power plant for any additional future high flow actions that exceed the generation capacity of Glen Canyon Dam will require the law to be changed to allow such high flow actions to be regularly used or routinely occur as "management actions." Further the Commission has expressed its belief that a mechanism is needed to supplement the Upper Colorado River Basin Fund to mitigate the adverse financial impacts associated bypassing the Glen Canyon Dam Power Plant. The Wyoming State Engineer's Office and the State Engineer, in his capacity as the Wyoming Commissioner to the Upper Colorado River Commission, appreciate this opportunity to reiterate the Commission's written views as a part of our comments on the draft EA.

We believe that the proposed federal action analyzed in the subject EA – and as it will be described in the Finding of No Significant Impact (FONSI), must be implemented in its entirety, or else National Environmental Policy Act (NEPA) compliance would need to be reinitiated. Some have suggested that the Bureau should proceed with the high flow experimental test and NOT proceed with the steady flows regime during October and November of 2008 through 2012. We do not agree that this would be appropriate – and doing so would be inconsistent with the proposed federal action.

As others have stated, we in Wyoming recognize the difficult and perplexing challenges the Department of the Interior and the Bureau of Reclamation as the implementing bureau within Interior face in balancing competing resource needs, differing perspectives associated with what those resource needs are and how to best meet them to the extent practicable, and with the requirements of the Law of the River. In conclusion,

we urge Reclamation to complete and implement each aspect of the proposed action described in the EA, without delay.

With best regards,

John W. Shields

John W. Shields
Interstate Streams Engineer
Wyoming Member, Glen Canyon Adaptive
Management Work Group

JWS/js

82

From: "CREDA" <creda@qwest.net>
To: <gcexpreleases@uc.usbr.gov>, <LWalkoviak@uc.usbr.gov>
Date: Sat, Feb 23, 2008 3:17 PM
Subject: Comments

Please see attached letter.
Leslie James
CREDA

CC: <Brenda_Burman@ios.doi.gov>

CREDA
Colorado River Energy Distributors Association

ARIZONA
Arizona Municipal Power Users Association

Arizona Power Authority

Arizona Power Pooling Association

Irrigation and Electrical Districts Association

Navajo Tribal Utility Authority
(also New Mexico, Utah)

Salt River Project

COLORADO
Colorado Springs Utilities

Intermountain Rural Electric Association

Platte River Power Authority

Tri-State Generation & Transmission Association, Inc.
(also Nebraska, Wyoming, New Mexico)

Yampa Valley Electric Association, Inc.

NEVADA
Colorado River Commission of Nevada

Silver State Power Association

NEW MEXICO
Farmington Electric Utility System

Los Alamos County

City of Truth or Consequences

UTAH
City of Provo

City of St. George

South Utah Valley Electric Service District

Utah Associated Municipal Power Systems

Utah Municipal Power Agency

WYOMING
Wyoming Municipal Power Agency

Leslie James
Executive Director
CREDA
4625 S. Wendler Drive, Suite 111
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Phone: 602-748-1344
Fax: 602-748-1345
Cellular: 602-469-4046
Email: creda@qwest.net
Website: www.creda.org

February 22, 2008

Mr. Larry Walkoviak
Regional Director
Upper Colorado River Region
Bureau of Reclamation

VIA EMAIL: GCExpreleases@uc.usbr.gov

RE: Biological Assessment on the Operation of Glen Canyon Dam and Proposed Experimental Flows for the Colorado River Below Glen Canyon Dam During the Years 2008-2012 ("BA"), December 2007

RE: Long-Term Experimental Plan for the Operation of Glen Canyon Dam and Other Associated Management Activities (73 FR 29, p. 8062)

RE: Environmental Assessment Experimental Releases from Glen Canyon Dam, Arizona, 2008 through 2012 (February 8, 2008) ("EA")

Dear Mr. Walkoviak:

The Colorado River Energy Distributors (CREDA) is a non-profit organization of firm power customers of the Colorado River Storage Project (CRSP). CREDA members are all non-profit entities, including political subdivisions, irrigation and electrical districts, state agencies, tribal utilities and rural electric cooperatives. CREDA members serve over four million electric consumers in six western states. Power generation from the Glen Canyon Dam represents the largest generating resource of the CRSP; CREDA members have a direct interest in the above referenced proposals and associated processes.

CREDA offers the following initial comments on the BA and EA. In addition, we have restated under separate cover our January 11, 2008 comments and questions to the Grand Canyon Monitoring and Research Center on their draft high flow experiment science plan. Given the timeframe provided for comment on the EA, the majority of the specific references below are to the BA, but are applicable as well to the EA.

GENERAL COMMENTS (Unless otherwise noted page numbers are references in the BA).

1) P. 18: Reference to AMWG constituencies should be consistent with the ROD, i.e., "contractors for the purchase of Federal power produced at Glen Canyon Dam" as opposed to "hydroelectric power marketers." To some, the term "marketers" implies profiteers or profit-making entities. By law, such contractors are not-for-profit entities.

2) P. 46: Please elaborate on the reference to "several" Beach Habitat Building Science Plans. It is CREDA's understanding that a *single* plan is still under development. Additionally, P. 7 of the EA states that *(t)he Department does not propose through this Proposed Action to undertake any further experimental high-flow testing until the information from this element of the Proposed Action is fully*

analyzed, presented to the Adaptive Management Work Group and the general public and can be integrated into an appropriate analytical framework based on predictive models and other analytical tools. CREDA understands Interior's desire to perform the high flow experiment in 2008 in order to "book-end" the results from the previous beach habitat building flow experiments. Following synthesis of the results of the proposed high flow experiment, together with the results from the 1996 and 2004 experiments, Interior should have the learning necessary to make decisions regarding the future use of high flows. Because this experiment, when combined with prior experiments, will "bound" the likely future conditions, this is the last time that an action of this nature can be characterized as an experiment, and future high flow actions that exceed the generation capacity of Glen Canyon Dam will be management actions that can only be undertaken to avoid a spill.

3) EA, P. 4: Please clarify that Reclamation "collaborated" with the Adaptive Management Program regarding experimental releases, but that Adaptive Management "collaborators" themselves did not conduct experimental releases.

4) EA, P. 34: The estimated cost for the high flow experiment for water year 2008 is about $8 million. The steady flow five-year experiment is approximately $815,000 annually. The use of power revenues for funding the Glen Canyon Dam Adaptive Management Program, as well as the requirements of the Biological Opinion on the Operation of Glen Canyon Dam and activities required by the Programmatic Agreement on Cultural and Historic Properties is capped at an annual level (currently approximately $9.4 million), subject to escalation. In other words, costs associated with the BA and EA as well as purchased power required as a result thereof are nonreimbursable, and will have to be funded by appropriations or other sources given the cap on power revenue funding.

5) CREDA recognizes the challenges Interior faces in balancing the resource impacts with the costs associated with the Proposed Action. For example, limiting the steady flow timeframe to September and October takes into consideration the current abundance of the humpback chub, as well as the impacts to the hydropower purpose and resource. Any extension of that timeframe would have significant implications to the hydropower resource.

BIOLOGICAL RESOURCE COMMENTS (Unless otherwise notes, page numbers are references in the BA)

1) P. 48: Did the September-October 2005 experiment monitor the effects of daily fluctuations on humpback chub as well as "water quality parameters and biotic constituents?" If so, how are those findings incorporated into the flow recommendations in this BA?

2) P. 82: Non-native cold water fish, like trout, prefer higher velocity habitats than their warm water counterparts so saying that non-native fish will experience negative impacts of high flow tests due to their preference for low water velocities is not complete. Also, earlier studies showed numbers of warm water non-natives to rebound soon after high flows. Displacement does not equate to death so assuming negative impacts merely because the fish is displaced is not correct. Typically, fish are displaced from a high velocity habitat to a low velocity habitat, which is the same habitat type sought and occupied by native fish. Commingling native and non-native fish in low velocity habitats resulting from high flow tests should be viewed as a negative impact to native fish.

3) P. 82: There must be an assessment of the response of non-native fish to steady flows since they most likely would have a similar, positive response to the steady flow portion of the experiment. Also, since many of the current non-native warm water fish have a short life cycle, they may be able to respond quicker and in larger numbers than the longer-lived humpback chub. What is the current state of work related to non-native control and what triggers will be established to reverse the steady flow portion of the experiment if the non-native population proliferates?

4) P. 87: Growth rates are governed by many factors, including, but not limited to, temperature.

These may include fish species, food supply, conversion rates, age, bioenergetic costs, etc. Flows that inundate backwaters and change the temperature may affect growth rate but higher flows also may bring additional food supply offsetting temperature effects. The argument is not complete when limited solely to temperature; in other words, there appears to be an inherent bias against fluctuating flows if the beneficial aspects to the food supply are not appropriately monitored and factored into the consideration.

5) PP. 88-89: The dynamics of the Colorado River immediately below Glen Canyon Dam have historically resulted in more productivity than in the pre-dam era as a result of the creation of clear water conditions. The Lees Ferry reach is believed to be far more productive today than pre-dam due to clear water. River reaches downstream have progressively less productivity due to more turbid conditions. This means the Lees Ferry reach provides a very high percent of the biomass food for river reaches downstream. Higher fluctuating flows result in more transport of this biomass and likewise, a high flow experiment will result in a large amount of biomass transported downstream. Conversely, during steady flows as proposed for September-October, this should result in less downstream transport of this biomass. Humpback chub not residing in the 5% of shoreline habitat called backwaters may have reduced invertebrate supply but for those chub in the remaining 95% of shoreline habitat, more food is available with fluctuating flows than under steady flows. Arguing that more backwaters should be created to thereby produce more invertebrate food works *if* the remaining 95% of shoreline habitat and the increased drift that occurs when flows are not steady is ignored. In other words, why should there be a benefit provided to 5% of the habitat at the detriment of the remaining 95%?

6) P. 90: A large assumption footnoted in Table 10 is development and implementation of a successful non-native fish control program. This is an optimistic assumption, especially as it relates to control of warm water non-native fish. Second, steady flows, or at least lower fluctuating flows, could result in proliferation of non-native fish thereby exacerbating the already difficult control effort. Steady flows, or at least lower fluctuating flows, are believed responsible for an explosion of rainbow trout and this explosion may be in part responsible for the decline in humpback chub recruitment witnessed in the early 1990's. Suggesting that steady flows may be beneficial to humpback chub may not ignore the past trend or the best available science but it does add a significant risk factor.

7) EA Section 3.1.7 (P. 24): "*The razorback suckers in Grand Canyon are old and no reproduction has been documented. Razorback suckers evolved under a water regime featuring high spring flows, and adult suckers would be able to locate refuge areas during the proposed flow and would suffer no adverse effects. There is no indication that young razorback suckers occur in Grand Canyon today.*" This statement appears to imply that there are razorback suckers known to exist; but it is our understanding the last recorded razorback, young OR old, was well over 12 years ago and none have been seen since, despite repeated monitoring by GCMRC.

SEDIMENT RESOURCE COMMENTS

According to the BA (P. 5), the high-flow experiment is intended to create and improve eddy complexes, including backwater habitats and beaches, and three specific hypotheses are to be tested in this regard:

1. Widespread beach building will result from controlled releases from the dam under sediment-enriched conditions in Grand Canyon.
2. High releases from the dam will increase sandbar crest height, while increasing return channel depth through scouring.
3. If the above geomorphic changes occur as a result of the high-flow test, greater and more persistent backwaters could be created, which may benefit conservation of the humpback chub and other native fish species.

Two additional hypotheses are to be tested with the fall steady flows:

1. Backwater and other near shore habitat used by young native and endangered fish will become more hydraulically stable, with potentially warmer water temperatures than would exist under regular MLFF

operations.

2. These changes could create conditions for improved young-of-year humpback chub survival and growth rates, more persistent suitable habitat (depth and velocity over preferred substrates), and increased productivity of algal invertebrate prey items for use by humpback chub.

CREDA has not seen a Science Plan for the 5-year fall steady flow portion of the EA, but we have reviewed the Science Plan for the high flow experiment portion of the EA, as well as the cited literature, and find:

1. While the upper part of Marble Canyon appears to be sediment enriched, sufficient information has not been provided to assess whether the lower part of Marble Canyon and Grand Canyon are also sediment enriched. In fact, the available information indicates that these lower reaches may not be sediment enriched, in which case the proposed high flow experiment may actually be detrimental to the objective of widespread beach building.
2. Section 4.1.2 of the BA supports the hypothesis that high flows will improve backwater habitat. However, the literature cited concluded that *(d)espite the...qualitative evidence linking floods and backwater area, there is little evidence that floods increase the number of backwaters and the absence of floods leads to decreased numbers of backwaters.* Further, they conclude that *(t)here is no evidence of a progressive trend in backwater availability, based on the time series of backwater area and number between 1935 and 2000.* If backwaters are a key habitat component for the humpback chub, the high flow experiment may not be effective in improving or protecting this aspect of its habitat needs.
3. Section 4.1.3 of the BA presents results from a 2-D hydrodynamic model to support the hypothesis that the proposed high flow experiment and subsequent September and October steady flows will create more persistent suitable habitat conditions. However, there is little or no discussion of *how* they support the hypothesis.

CREDA recommends the following:

1) A reasonable alternative hypothesis be included which states: "The transport capacity of the mainstem Colorado River in the lower half of Marble Canyon and Grand Canyon exceeds the amount that can be delivered under sediment-enriched conditions resulting from large sand inputs from the Paria and Little Colorado Rivers. As a result, sufficient sand storage cannot be developed to enlarge and maintain eddy sandbars or substantially improve backwater habitat throughout these reaches."
2) The previous tests in 1996 and 2004 indicate high flows can be effective in building beaches and sand bars in areas that are sediment enriched, but high flows cause net erosion of sand bars in the absence of sediment enriched conditions. If beach building and maintenance throughout the Canyon, rather than only the upper part of Marble Canyon, is an objective, the 2008 plan should be modified to include more detailed data collection and analysis at specific locations in the lower half of Marble Canyon and Grand Canyon to assess their response. It should also consider the potential adverse consequences of additional erosion of sandbars in the downstream portion of Marble and Grand Canyons.
3) The available information does not clearly demonstrate how habitat maintenance flows (HMFs) within powerplant capacity are inadequate to enhance and maintain eddy sandbars and humpback chub habitat. Data from the 2000 flows that included both low, steady flows and at least one HMF release should be assessed in more detail to determine whether HMFs can be used to meet the management objectives of the Glen Canyon Dam Adaptive Management Program.

CREDA has submitted previous comments related to the "aeolian transport" portion of the high flow experiment and will not restate those comments here. However, the Science Advisors January 13, 2008 Review of the Science Plan is consistent with CREDA's previous comments in that: "*The part of the study relating to the cultural sites does not appear to be a legitimate scientific matter, at least as stated in Section*

1.C. It is, rather, an ethical archaeological issue (Fowler, Jolie and Salter 2008; Green 2008)."

SOCIO-ECONOMIC RESOURCE COMMENTS

EA, Section 3.3.1.2: The EA indicates that the "*baseline against which effects of the proposal may be compared*" is the 2007 Shortage EIS, which establishes a present value of $7.634 billion for energy generation from 2008-2026 (which is a 19-year period). The EA then estimates the cost of the high flow experiment as $4.1 million (in 1 year). Rather than comparing the $4.1 million to the $7.634 billion, CREDA believes it is more appropriate to compare the $4.1 million to what Western Area Power Administration estimates in their power repayment study to represent their purchase power obligation for 2008 WITHOUT the high flow experiment, which is $43.5 million. In other words, the high flow experiment is slightly over a 9% increase in what is anticipated for operations without the experiment. This comparison would also impact the Environmental Justice analysis contained in the EA. In addition, CREDA believes the increase in additional carbon emissions of about 45,800 tons (P. 34) should be a significant consideration in analyzing the impacts of the high flow experiment and in balancing resource benefits with economic impacts, since over 50 Indian tribes are the recipients of the benefits of CRSP hydropower. Many of these CRSP contractors are included among the low-income households analyzed in Section 3.3.6 of the EA and as shown on Figure 2 (P. 33).

CREDA appreciates the opportunity of providing comments on the BA, EA and related documents and processes and looks forward to receiving responses to these questions and comments. We appreciate the challenges Interior faces in balancing the competing resource needs with the requirements of the Law of the River. We urge timely completion and implementation of this process.

Sincerely,

/s/ Leslie James

Leslie James
Executive Director

Cc: CREDA Board
Brenda Burman

Government-to-Government Consultation Re: BHBF EA, GCDAMP Treatment Plan for FY08 and Glen Canyon NAGPRA Affiliation Study.

Pipe Springs, AZ February 21, 2008

Participants:

Mike Berry	Reclamation	801-524-3816
Charley Bulletts	Southern Paiute Consortium	928-645-8313
LeAnn Skrzynski	Kaibab Paiute Environmental Director	928-643-8311
Selena Benson	Kaibab Paiute Tribal Member	928-643-7245
Gale Stanfield	Kaibab Paiute Tribal Council Member	928-643-7245
Valencia Castro	Kaibab Paiute Tribal Council Treasurer	928-643-7245
Teyawanna Pickayviett	Kaibab Paiute Tribal Council Member	928-643-7245
Laura Rae Savala	Kaibab Paiute Tribal Council Member	928-643-7245
LeAnn Shearer	Kaibab Paiute Tribal Council Member	928-643-7245

Approximately a dozen tribal audience members were present for parts of the presentation.

EA Issues

I submitted a copy of the EA to the Council's secretary and summarized the action.

What will be the impact on the Hopi salt mine? Kaibab and Moapa Paiute gathered salt samples during the Tribal Consultation river trip and consider the salt source a sacred site. -1

What will be the effect on critical resources in the Palisades area?

Council and audience members expressed concern that Reclamation did not consult earlier in the process. They expressed the belief that, at this point, the high flow is a done deal regardless of tribal concerns. Charley Bullets will be leading a monitoring river trip on March 6 but probably will not be involved in the March 5 ceremony. One audience member asked why any tribal member would participate in the ceremony since the high flow could damage sacred sites. -2

Valencia Castro wanted to know what kind of monitoring was planned. I explained that monitoring would be accomplished by GCMRC and I had no details on what would be monitored. I noted that the GCMRC science plan made no reference to cultural monitoring and suggested that significant tribal resources will best be monitored by the tribes using the GCDAMP participation funding.

V. Castro asked how long Reclamation had known about the high flow and, again, why Reclamation was only now requesting consultation. Audience members expressed the

same concerns. I apologized for the delay and said I would do my utmost to see that it didn't happen in the future. I requested that V. Castro submit a written summary of the Council's concerns and she agreed.

Treatment Plan Issues

I submitted a copy of the FY08 work plan to the Council's secretary and summarized the data recovery plan.

The Council agreed with the concept that data recovery was appropriate in cases where sites would be destroyed by erosion.

However, some audience members wanted to know why we had to excavate and especially why White people were "grave robbers." I explained that we didn't believe there would be any burials encountered at the FY08 sites but that we likely would discover human remains in the future. I explained that the treatment and disposition of human remains would be done in compliance with NAGPRA and that NPS, as land managing agency, would have compliance responsibility. This information was not well-received.

The Council raised the issue of tribal monitoring of excavations. I indicated that the RFP specifically noted that tribes had indicated an interest in data recovery monitoring and that the cultural consultants should expect to have Native Americans visit the sites during excavation. I further noted that Native American perspectives were to be incorporated in the site report interpretive sections where appropriate. However, I also noted that no funds had been specifically allocated for this task. I suggested two funding sources. The first was the commitment made by NPS at a multi-tribe consultation meeting at the Grand Canyon south rim facility. V. Castro attended that meeting and recalled the NPS commitment. The second was the $27+K line item in the GCDAMP budget for implementation of the tribal monitoring protocols that were developed under contract last year. I recommended that Kaibab Paiute build data recovery monitoring into the scope of work. Charley Bullets is working on the SOW and will get it to me soon. The Council had been unaware of this funding source.

V. Castro asked for the Glen Canyon site number and why we had to excavate prior to the high flow. I gave her a brief history of high flow damage to the site and also noted that it was being excavated now. She asked if there would be any tribal monitoring at the site. I told her that Hualapai and Hopi had expressed an interest but I did not know if they were actually going to visit the site. It would be possible because NPS is shuttling the crews to the site on a daily basis and could accommodate visitors.

Glen Canyon NAGPRA Issues

I submitted a copy of the four available lines-of-evidence studies to the Council's secretary. I also distributed a summary of the studies' tentative conclusions and a dendrogram of Southwestern modern and archaeological mtDNA.

I asked the Council to verify the status of their claim to the human remains and associated funerary objects from the 1950s, 1960s Glen Canyon excavations. I noted that they had expressed an interest several years ago and asked V. Castro to discuss this issue with the tribal chair and tribal elders and send us written confirmation of the claim. She agreed.

I explained the difference between pre- and post-1990 NAGPRA and then summarized the current lines-of-evidence recommendations, noting that the archaeological line of evidence was not yet available. I indicated that a Kaibab Paiute affiliation had not yet been rejected but was classified as inclusive due to lack of evidence,

Council member Pickayviett asked why Kaibab Paiute was not represented in the dendrogram. I indicated that we had no modern Kaibab Paiute samples to include in the analysis and described that such data were typically recovered through cheek swabs. I explained that I did not know if Kaibab Paiute had been approached for samples and also that we had no data for Uintah Ouray, Ute Mountain or Southern Ute populations. I suggested Reclamation could assist in the analysis if Kaibab Paiute was interested.

An audience member asked why we couldn't just put the human remains back where we found them. I explained that most of them were recovered from what is now Lake Powell. He said that if we could put a man on the moon, we could figure out a way to put the bodies under water. Another audience member asked why if White people dug the bodies up, why should we make it the responsibility of Indians to rebury them. Another member of the audience said that he didn't understand why White people were "grave robbers." He offered that he was going to be cremated so that my grand children couldn't dig him up. There was some humor in all this, but clearly an underlying feeling of mistrust.

Summary

I concluded with a brief question-and-answer session and promised to keep the tribe informed on the progress of all studies, actions and undertakings. Council member Shearer asked why she should believe me given the late notification on the EA. I apologized for the agency again and indicated I would do everything within my power to keep them informed. The Council and several audience members acknowledged that they understood I was merely the messenger of bad news and probably not the perpetrator.

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From: "Brandon Jolley" <bjolley@cox.net>
To: <GCexpReleases@uc.usbr.gov>
Date: Mon, Feb 25, 2008 7:53 PM
Subject: Lees Ferry Flood

To Whom it may concern:

I am curious how we can make the same mistake again. The Ferry is finally rebounding from the last experimental flood and we are deciding to do it once again? I sometimes wonder if the powers that be, give these ideas any thought whatsoever! I have friends that are finally starting to go there again after a several year hiatus, the guides and lodges are starting to make a little money again, this will be the death knoll for most of the businesses in the area. Is this the master plan? Are we trying to destroy the fishing and the fishing industry once again? I know many of the past and present guides on the river and in talking with most of them, a big downturn in the fishing will end their livelihood on the Colorado River.

Brandon Jolley

Late 85

From: Doug Hendrix
To: Coulam, Nancy; Kelleher, Jayne
Date: 2/27/2008 2:02:33 PM
Subject: Fwd: Fw: March, 2008 High Flows below Glen Canyon

fyi...

>>> <nbryant@usgs.gov> 02/27/08 12:22 PM >>>
Gentlemen

Could you respond please.

Nora Bryant
Secretary
SBSC-GCMRC
2255 N. Gemini Dr.
Flagstaff, AZ 86001
(928) 556-7217
(928) 556-7092 (FAX)
nbryant@usgs.gov

----- Forwarded by Nora Bryant/BRD/USGS/DOI on 02/27/2008 12:20 PM -----

"Dick Hile" <dhile@enterprise-lakepowell.com>
02/27/2008 12:12 PM

To
<nbryant@usgs.gov>
cc

Subject
March, 2008 High Flows below Glen Canyon

Not having found am address for public comment, I would appreciate it if you
could forward my comments to the appropriate authority.

I do not feel that the high flows scheduled are in anyone's lasting benefit.
You may push some sand around but you are not replacing it. I believe BuRec
should seriously undertake efforts to re-introduce up-lake sand to the Colorado below Glen Canyon and initiate a program to direct surface water through the penstocks to raise the temperature of the water.

The high flow should be abandoned. It's a waste of water, power, time and money.

Regards,

Dick Hile
Page, AZ