

5.e. - Colorado River Environmental Issues

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News Release

February 2, 2010

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Grand Canyon National Park Resources Benefit from 2008 High-Flow Experiment at Glen Canyon Dam

SHARE

Flagstaff, Ariz. —Resources along the Colorado River in Glen Canyon National Recreation Area and Grand Canyon National Park generally benefited from a high-flow experiment conducted in March 2008 from Glen Canyon Dam, near Page, Ariz., according to research findings released today by the U.S. Geological Survey.

The 2008 experiment, designed to mimic natural pre-dam flooding, tested the ability of high flows to rebuild eroded Grand Canyon sandbars, create habitat for the endangered humpback chub, and benefit other resources such as archaeological sites, rainbow trout, aquatic food for fish, and riverside vegetation.

Before the dam's completion in 1963, spring snowmelt produced floods that carried large quantities of sand that created and maintained Grand Canyon Sandbars. Today, because Glen Canyon Dam, which provides hydropower to customers in six States, traps approximately 90 percent of the sand once available to maintain Grand Canyon sandbars, high flows are the only way to rebuild these important resources.

The studies' key findings follow:

- The 2008 experiment resulted in widespread increases in the area and volume of sandbars, expansions of camping areas, and increases in the number and size of backwater habitats (areas of low-velocity flow thought to be used as rearing habitat by native fish).
- Six months after the experiment, the new sandbars had been largely eroded by typical fluctuating flow dam operations driven by electrical energy demand; however, median sandbar elevation was still slightly higher and backwater habitats still slightly more abundant than before the experiment. Although stable and relatively lower monthly volume releases are the most effective at limiting sandbar erosion, the volume of water that must be released from Glen Canyon Dam annually is determined by basin hydrology and legal requirements to deliver water from the upper to lower Colorado River Basin.
- Timing the 2008 experiment in March likely reduced successful nonnative seedling germination and created new sandbars during the spring windy season, which allowed for the greatest transport of windblown sand to archeological sites where it protects sites from weathering and erosion.

- In the Lees Ferry rainbow trout fishery, high flows reduced the New Zealand mud snail population by about 80 percent. This nonnative species is considered a nuisance species because the snails cannot be digested when eaten by trout. In contrast, midges and black flies, high-quality food items for fish, increased.
- Young rainbow trout in the Lees Ferry river reach had better survival and growth rates following the experiment, which scientist think may have resulted from improved habitat conditions and better food quality. Additionally, data show that rainbow trout did not move downstream in significant numbers as the result of the high flows.

“Insights gained about the effects of the 2008 experiment will be invaluable in helping decision makers determine the best frequency, timing, duration, and magnitude for future high flows to benefit resources in Glen Canyon National Recreational Area and Grand Canyon National Park,” noted John Hamill, Chief of the USGS Grand Canyon Monitoring and Research Center.

On March 5, 2008, the Bureau of Reclamation began a 60-hour high-flow experiment at Glen Canyon Dam. Water was released through the dam’s powerplant and bypass tubes to a peak of about 41,500 cubic feet per second, about twice the normal peak. Two previous experiments were conducted in 1996 and 2004.

Research completed by the U.S. Geological Survey and cooperating scientists about the effects of the 2008 high-flow experiment will be discussed at the Glen Canyon Dam Adaptive Management Program meeting February 3–4, 2010, in Phoenix, Ariz. The findings will also be taken into consideration in development of a new protocol for conducting additional high-flow experiments, announced by Secretary Salazar in December 2009.

The USGS Southwest Biological Science Center's Grand Canyon Monitoring and Research Center is responsible for scientific research and monitoring activities for the Glen Canyon Dam Adaptive Management Program, which is administered by the U.S. Department of the Interior. Research activities are undertaken in close cooperation with a wide range of federal, State, and tribal resource management agencies; academic institutions; and private consultants.

A [USGS Fact Sheet \(http://pubs.usgs.gov/fs/2010/3009/\)](http://pubs.usgs.gov/fs/2010/3009/) summarizing the results of the 2008 high-flow experiment is available online.

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United States Department of the Interior



BUREAU OF RECLAMATION
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

IN REPLY REFER TO:

LC-8060
ADM-1.10

JAN 12 2010

Mr. Jerry Zimmerman
Executive Director
Colorado River Board of California
770 Fairmont Avenue, Suite 100
Glendale, CA 91203

Subject: Execution-Ready Copies of the Lower Colorado River Multi-Species Conservation Program (LCR MSCP) Water Accounting Agreement for LCR MSCP Purposes

Dear Mr. Zimmerman:

I am pleased to transmit for signature, five execution-ready copies of the LCR MSCP Water Accounting Agreement.

As you know, earlier this year Congress recognized the importance of the LCR MSCP and adopted federal legislation addressing this essential program as part of the Omnibus Public Land Management Act of 2009 (Pub. L. No. 111-11, Tit. IX, Subtit. E, 123 Stat. 991, 1327-29). Among other provisions, with enactment of this legislation on March 30, 2009, Congress specifically authorized the execution of the Water Accounting Agreement that was shared with and pending before Congress at the time of passage of the Act. The Water Accounting Agreement that was before Congress was the product of significant effort on the part of many of the LCR MSCP participants, and we appreciate your efforts in that process.

According to the legislative history of the consideration of the LCR MSCP legislation, Congress anticipated that the Water Accounting Agreement would be executed after enactment of the bill. *See e.g.*, S. Rep. No. 110-387, at 4 (2008). In accord with these provisions, we are forwarding the Water Accounting Agreement that Congress authorized for signature.

We view this agreement as an important step in the implementation of the LCR MSCP. This Water Accounting Agreement memorializes key provisions set forth in the LCR MSCP legislation and will facilitate the effective and timely implementation of the LCR MSCP in accordance with the legislation and the Program Documents.

While we recognize the importance of this legislation and the Water Accounting Agreement in the context of the implementation of the LCR MSCP, we believe that it is also important to note that neither this legislation, nor this Water Accounting Agreement provides for any expansion of the Bureau of Reclamation's authority to deliver water for purposes beyond the limited scope of

the LCR MSCP, as described in the Program Documents. Reclamation's authority is clearly described in the Program Documents and the Secretary's Record of Decision dated April 2, 2005. We recognize that the LCR MSCP is a program for a limited term (50 years) and accordingly, this Water Accounting Agreement only applies to the remaining term of the LCR MSCP, unless and until the LCR MSCP is modified or extended and a new or extended Water Accounting Agreement is approved by Congress.

Reclamation, as Program Manager on behalf of the Secretary, recognizes that current processes and procedures regarding consideration, documentation, and approval of habitat sites and other program activities for the LCR MSCP will be carried out through the LCR MSCP processes established and set forth in the Program Documents and other implementing protocols for the LCR MSCP during the term of the LCR MSCP. It is important to also note that neither these LCR MSCP processes nor the LCR MSCP legislation modifies Reclamation's independent commitment to consult with the appropriate Lower Basin State about the use of Colorado River water within that State.

We also recognize that in accordance with the LCR MSCP legislation, paragraphs 13 and 14 of the Water Accounting Agreement recognize a specific and limited authorization to utilize Lower Colorado River water for habitat creation and maintenance (i.e., "for Program purposes"), and we also recognize that this limited authorization does not otherwise modify or amend any of the existing processes and procedures that Reclamation employs in the administration of section 5 contracts and other entitlements. In addition, under the legislation and the Water Accounting Agreement, in appropriate circumstances, Reclamation will not require amendments to section 5 contracts solely for changes in purpose of use when the new use is solely for the purpose of LCR MSCP purposes.

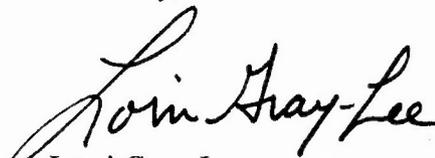
We appreciate your partnership and participation in this program, which provides innovative mechanisms for the protection and conservation of threatened and endangered species on the Colorado River, while also allowing Reclamation to continue its ongoing actions related to the conservation, management, and utilization of the waters of the Colorado River.

Please return all of the signed agreements to:

Ms. Laura Vecerina, LC-8060
Deputy Program Manager
Bureau of Reclamation
Lower Colorado River
Multi-Species Conservation Program
P.O. Box 61470
Boulder City, NV 89006-1470

A fully signed, executed copy will be returned to you once all signatures have been obtained. If you have questions, please contact Ms. Laura Vecerina at 702-293-8540.

Sincerely,



Lorri Gray-Lee
Regional Director

Enclosures - 5

Identical Letter Sent To:

Ms. Patricia Mulroy
General Manager
Southern Nevada Water Authority
100 City Parkway, Suite 700
Las Vegas, NV 89106

Mr. George Caan
Executive Director
Colorado River Commission of Nevada
555 E. Washington Avenue, Suite 3100
Las Vegas, NV 89101

Mr. Herbert R. Guenther
Director
Arizona Department of Water Resources
3550 North Central Avenue
Phoenix, AZ 85012

**LOWER COLORADO RIVER MULTI-SPECIES CONSERVATION PROGRAM
WATER ACCOUNTING AGREEMENT**

THIS AGREEMENT is made and entered into as of this ___ day of _____, 2010, by and among the United States, represented by the United States Bureau of Reclamation ("Reclamation"), the State of Arizona, represented by the Arizona Department of Water Resources, the State of Nevada, represented by the Colorado River Commission of Nevada and the Southern Nevada Water Authority, and the State of California, represented by the Colorado River Board of California (collectively, "Parties").

RECITALS

A. The United States and the Non-Federal Participants have entered into agreements to implement the Lower Colorado River Multi-Species Conservation Program ("Program").

B. Reclamation serves as the Program Manager for the Program.

C. The Program provides for securing, creating, and managing habitat for the species covered by the Program. The Parties anticipate that most, if not all, of such habitat will be situated within the Program planning area, and may require Colorado River water for its creation and maintenance. Reclamation, as Program Manager, will secure, or coordinate with Program participants in securing, the land and water necessary to carry out Program purposes.

D. The Parties anticipate the use of Colorado River water to establish and maintain most, if not all, of such habitat and further anticipate that, in order to meet Program requirements, Reclamation may develop a portion of the habitat by the removal and replacement of existing non-irrigated phreatophyte vegetation. Reclamation, as Program Manager, may also manage Colorado River water for other Program purposes, including providing marsh, backwater and other habitat. The purpose of this Agreement is to address the use of Colorado River water for these purposes.

E. Reclamation accounts for the diversion and consumptive use of water from the Lower Colorado River. Reclamation does not report as a diversion or consumptive use the natural depletion of Colorado River water by non-irrigated phreatophyte vegetation.

F. Reclamation, in accordance with Section 5 of the Boulder Canyon Project Act, enters into contracts for the delivery of Colorado River water from Lake Mead. Reclamation does not enter into contracts relating to the natural depletion of Colorado River water by non-irrigated phreatophyte vegetation.

G. Reclamation, in furtherance of its responsibilities under the Boulder Canyon Project Act, manages the flow of the Lower Colorado River. Reclamation does not report the evaporation or percolation resulting from Reclamation's management of the flow of the Lower Colorado River as a diversion or consumptive use of Colorado River water.

H. To clarify the manner in which the Program will be implemented, the Parties now desire to memorialize their understanding with respect to Reclamation's accounting, contracting, and Program management procedures in securing, creating and managing Program habitat.

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the Parties agree as follows:

DEFINITIONS

For purposes of this Agreement:

1. "Conservation Area(s)" shall mean the habitat to be secured, created and managed for Covered Species pursuant to the Program Documents.
2. "Consolidated Decree" shall mean the Consolidated Decree of the United States Supreme Court in *Arizona v. California*, 547 U.S. _____ (2006).
3. "Covered Species" shall mean the species covered by the Program.
4. "Lower Colorado River" shall mean the Colorado River within the Planning Area as provided in Section 2(B) of the Implementing Agreement, a Program Document.
5. "Lower Colorado River Multi-Species Conservation Program" or "Program" shall mean the cooperative effort between Federal and Non-Federal Participants in Arizona, California, and Nevada approved by a Record of Decision of the Secretary of the Interior on April 2, 2005.
6. "Non-Federal Participants" shall mean the non-Federal entities covered by the Section 10(a)(1)(B) Permit issued by the United States Fish and Wildlife Service in connection with the Program.
7. "Program Documents" shall mean the Habitat Conservation Plan, Biological Assessment and Biological and Conference Opinion, Environmental Impact Statement/Environmental Impact Report, Funding and Management Agreement, Implementing Agreement, and Section 10(a)(1)(B) Permit issued and, as applicable, executed in connection with the Program.
8. "Reclamation" shall mean the United States Bureau of Reclamation.

9. "Section 5 Contract" shall mean a contract entered into pursuant to Section 5 of the Boulder Canyon Project Act, 43 U.S.C. § 617d.

PROCEDURES

10. To the extent that the natural depletion of Lower Colorado River water is reduced as a result of the removal of non-irrigated phreatophyte vegetation from a parcel of land within a Conservation Area for Program purposes and Lower Colorado River water is thereafter applied to replacement vegetation on that parcel for Program purposes for the benefit of Covered Species, Reclamation shall:

- (a) consider the amount of Lower Colorado River water saved by the removal of such vegetation to be equivalent to the amount applied to replacement vegetation of each such parcel of land; and
- (b) not report the application of Lower Colorado River water to such replacement vegetation as a diversion or consumptive use of Lower Colorado River water in the annual report filed pursuant to Article V of the Consolidated Decree.

11. To the extent that Reclamation manages Lower Colorado River water to meet Program performance requirements for marsh, backwater or other habitat in Conservation Areas, Reclamation shall:

- (a) not consider any resulting increase in evaporation or percolation of Lower Colorado River water to be a diversion or consumptive use; and
- (b) not report any such increase as a diversion or consumptive use in the annual report filed pursuant to Article V of the Consolidated Decree.

12. No right to water from the Lower Colorado River shall be acquired by any person solely by virtue of the actions described in paragraphs 10 or 11 of this Agreement. Reclamation shall not enter into a Section 5 Contract or otherwise recognize any entitlement to the diversion or consumptive use of Lower Colorado River water arising solely by virtue of (a) the reduction in the depletion of Colorado River water caused by the removal of non-irrigated phreatophyte vegetation from Conservation Areas for Program purposes; or (b) the application of the water saved thereby to replacement vegetation in those Conservation Areas for Program purposes.

13. Reclamation may deliver Lower Colorado River water under a Section 5 Contract or other existing right for use on lands within Conservation Areas for Program purposes notwithstanding any limitations or characterizations in such contract or such right on the purposes to which such water may be applied and without requiring an amendment of such contract or of such existing right. Nothing in this Agreement shall modify or limit in any fashion the provisions of any Section 5 Contract or of any existing

right relating to the contractor's or right holder's use of water from the Lower Colorado River.

14. If a Conservation Area is established on lands that have a right to water from the Lower Colorado River, Reclamation shall deliver water from the Lower Colorado River for use on such lands for Program purposes, in accordance with the entitlement. To the extent a Conservation Area is established on lands which either have no water entitlement or which have an entitlement insufficient for Program purposes, Reclamation shall acquire, or assist Program participants in acquiring, water for use on these lands to meet Program purposes. Such water shall only be acquired through voluntary arrangements and only in accordance with applicable law from either:

- (a) existing Lower Colorado River entitlements with a place of use within the same State as the lands requiring water are situated, provided the existing entitlement holder agrees to reduce consumptive use in an amount equivalent to that leased, assigned or transferred for Program purposes; or
- (b) sources of water other than the Lower Colorado River but from within the same State as the lands requiring water are situated.

15. To the extent, in Reclamation's determination as Program Manager, use of water from sources other than the Lower Colorado River on land within Conservation Areas is reasonable for Program purposes, whether directly or by exchange, Reclamation shall use water from sources other than the Lower Colorado River rather than water from the Lower Colorado River for Program purposes.

16. Reclamation may approve assignments and enter into contracts or amend existing contracts as appropriate under this Agreement and applicable law to permit the transfer of existing rights to Lower Colorado River or other water for use on lands within Conservation Areas for Program purposes.

17. The use for Program purposes of a portion of a Lower Colorado River water entitlement within a Conservation Area shall not affect the ability of the remainder of the entitlement to be used for non-Program purposes on such land or to be transferred to other lands to the extent permitted by applicable law.

18. This Agreement shall not be construed or implemented so as to impair any right to the delivery or beneficial consumptive use of Colorado River water under any compact, treaty, law, decree, or contract in effect on the date of this Agreement.

19. This Agreement shall become effective upon the execution of the Agreement by all Parties. No amendment to this Agreement shall be effective unless it is in writing and executed by all Parties.

20. This Agreement may be executed in counterparts each of which shall constitute an original.

UNITED STATES BUREAU
OF RECLAMATION

By _____
Lorri Gray-Lee
Regional Director

Date _____

ARIZONA DEPARTMENT
OF WATER RESOURCES

By _____
Herbert R. Guenther
Director

Date _____

COLORADO RIVER COMMISSION
OF NEVADA

By _____
George Ogilvie III
Chairman

Date _____

SOUTHERN NEVADA WATER
AUTHORITY

By _____
Patricia Mulroy
General Manager

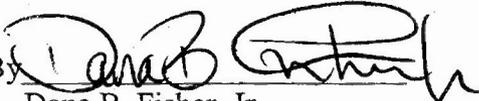
Date _____

Approved as to form:

By _____
John J. Entsminger
Deputy General Counsel

Date _____

COLORADO RIVER BOARD OF
CALIFORNIA

By 
Dana B. Fisher, Jr.
Chairman

Date January 22, 2010