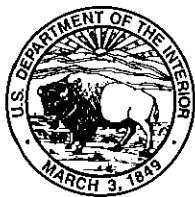


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## United States Department of the Interior

BUREAU OF RECLAMATION  
Upper Colorado Regional Office  
125 South State Street, Room 6107  
Salt Lake City, UT 84138-1102

IN REPLY REFER TO:  
ENV-3.00  
UC-720

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7/5/11

Mr. James Garrison  
State Historic Preservation Officer  
Arizona State Parks  
1300 West Washington  
Phoenix, AZ 85007

Subject: Determination of Eligibility and Effect on Historic Properties Regarding Proposed Adoption of a High Flow Protocol for Glen Canyon Dam, Coconino and Mohave Counties, AZ

Dear Mr. Garrison:

As agency official for purposes of compliance with Section 106 of the National Historic Preservation Act of 1966, I wish to consult your office regarding the Bureau of Reclamation, Upper Colorado Region's proposed undertaking, which is consideration and adoption of a high flow protocol for experimental releases from Glen Canyon Dam (Dam) with the potential to affect the Colorado River in both Glen Canyon National Recreation Area (GCNRA) and Grand Canyon National Park (GCNP). While a programmatic agreement (PA) has been in effect since 1994 for operations of the Dam, concerns of the Pueblo of Zuni and other Indian tribes regarding the proposed undertaking are such that I have elected to follow the 36 CFR 800 process.

The proposed undertaking is to develop and implement a protocol for high flow experimental releases (HFEs) from the Dam to better determine whether and how sand conservation can be improved in the Colorado River corridor within GCNP. This protocol would evaluate short-duration, high volume Dam releases during sediment-enriched conditions for a 10-year period of experimentation, 2011-2020, to determine how multiple HFEs can be used to better build sandbars and conserve sand over a long time period. Under the concept of HFEs, sand stored in the river channel is suspended by these Dam releases and a portion of the sand is redeposited downstream as sandbars and beaches, rebuilding these features that are continually lost from erosion. These sand features and associated backwater habitats can provide key wildlife habitat, potentially reduce erosion of archaeological sites, enhance riparian vegetation, and provide camping opportunities along the Colorado River in GCNP.

For this undertaking, the area of potential effects (APE) within which historic properties might be affected is defined in lineal distance as following the Colorado River from below the Dam downstream as far as Pearce Ferry. The lateral extent is defined by the high water mark of the Colorado River at 45,000 cubic feet per second. The area measures about 10 square miles.

In compliance with 36 CFR 800.2 and 800.4, Reclamation has reviewed existing information on historic properties within this APE and has sought new information from consulting parties, including the National Park Service, the federal agency that administers GCNRA and GCNP, and has consulted with Indian tribes likely to have knowledge of, or concerns with, historic properties in the APE. Based on NPS review of relevant documentation, the APE includes all or portions of approximately 19 sites listed in Table 1.

The APE includes two historic districts; one a National Register listed district at Lees Ferry in GCNRA, the other an historic district in GCNP that has been determined eligible for listing on the National Register through a consensus determination.

**Table 1. Sites and districts potentially affected by the action. The sites labeled “GLCA” are located on lands managed by GCNRA. Those labeled NN are on Navajo Nation lands. Those labeled “GRCA” are on lands managed by GCNP. These Grand Canyon properties are considered contributing elements in an historic district previously determined eligible by the AZ SHPO. The tribal names indicate which tribe has identified the site as a contributing element in their traditional cultural property.**

<i>Site#</i>	<i>Stage, Date</i>	<i>Type</i>	<i>Hopi</i>	<i>Hualapai</i>	<i>Paiute</i>	<i>Navajo</i>	<i>Zuni</i>	<i>Eligibility *</i>
AZ B:15:124 (GRCA)	Historic	Inscription USGS						E
AZ B:16:262 (GRCA)	Historic	Gauging Station						E
AZ C:2:11 (GLCA/NN)	Historic	District	x				x	L
AZ C:2:32 (GLCA)	unknown	Feature	x				x	E
AZ C:2:35 (GLCA)	PII	Campsite Cableways &	x				x	E
AZ C:2:58 (GLCA/NN)	1920's- 1930's	associated materials USGS						E
AZ C:2:59 (GLCA/NN)	1930's	gauging station						E
AZ C:2:75 (GLCA)	unknown	lithic scatter				x	x	E
AZ C:2:77 (GLCA)	unknown	lithic scatter				x	x	E
AZ C:2:98 (GRCA)	Archaic – Historic	Campsite					x	E
AZ C:6:2 (GRCA)	1889	Inscription						E
AZ C:6:4 (GRCA)	1923	Inscription						E
AZ C:6:5 (GRCA)	unknown	Petroglyph	x			x	x	E

AZ C:9:88 (GRCA)	1950's	Dam site				E
AZ C:13:9 (GRCA)	PII	Masonry rooms	x		x	E
AZ C:13:10 (GRCA)	PI-III	Masonry rooms	x	x	x	E
AZ C:13:291 (GRCA)	PII	Masonry rooms	x		x	E
AZ C:13:347 (GRCA)	PII	Feature		x	x	E
AZ C:13:371 (GRCA)	PII	Masonry rooms	x		x	E

\*E=Eligible for purposes of Reclamation's 106 compliance with this undertaking; NE=Not Eligible; L-Listed.

In addition, Reclamation has been consulting with Indian tribes that may attach traditional religious or cultural significance to the Colorado River and adjacent properties below Glen Canyon Dam as traditional cultural properties. While these identification efforts are not yet complete, as documented in the enclosed site forms and reports, I have determined that the National Register Criteria for Evaluation are met as follows:

Site	Criteria for Evaluation	Eligibility
Hopi traditional cultural property	a,b,c,d	Eligible
Hualapai traditional cultural property	a,b,c,d	Eligible
Navajo traditional cultural property	a,b,c,d	Eligible
Zuni traditional cultural property	a,b,c,d	Eligible
Southern Paiute	a,b,c,d	Eligible

Historic properties that could be affected by 45,000 cfs flows were considered prior to the 1996, 2004, and 2008 high flow experiments conducted by Reclamation in coordination with Glen Canyon Adaptive Management Program participants. Based on these prior undertakings, I believe one HFE would not be expected to result in loss of integrity for any of the sites or contributing elements to the historic districts and would result in a finding of "no historic properties affected." However, with the probability of multiple HFEs occurring sequentially over the next 10 years, historic properties may be affected and the effect would be adverse per 36 CFR 800.5(2)(iv). Reclamation's finding is therefore adverse effect for the proposed undertaking.

The rationale for this finding of adverse effect stems primarily from the level of uncertainty associated with the experimental nature of the undertaking over a ten year period. The uses of certain properties by the tribes could be altered due to inundation in the area of direct effect and there is some unknown potential for changes in the patterns of visitation and use in the area of indirect effect. For the contributing elements to the historic district that are eligible under criterion d, the potential frequency of inundation over the next 10 years and the altered visitation patterns could result in loss of integrity and information value. The repeated inundation of the contributing elements to the districts could result in a loss of site structure as artifacts or features are entrained in currents. Furthermore, one of the purposes of the proposed action is to determine

how sediment might be moved downstream by high flows. An alteration in the deposition or removal of sediment from sites or contributing elements would constitute changes in the character of the eligible properties or possible changes in essential physical features that contribute to the property's significance.

Conversely, there is the possibility of some benefit to individual sites as a result of the undertaking. There is potential benefit in protecting some sites eligible under criterion d due to stabilization of terrain through sediment deposits and potential improvements to riparian vegetation, for example. Nevertheless, because of the uncertainties discussed above, we believe that an overall determination of adverse effect is appropriate for this undertaking.

As indicated above, Reclamation has coordinated with the NPS in determining eligibility and effects information for this undertaking, and we are continuing to consult with them. I understand that they will correspond with your office directly in the next few days.

I am seeking your concurrence on these determinations of eligibility and effect for Reclamation's section 106 compliance purposes. If I do not hear from you within 30 days, I shall assume your concurrence and proceed to the next step in the section 106 process which is resolution of effects pursuant to 36 CFR 800.6. If you have any questions, please contact Beverley Heffernan at 801-524-3712 or by email, bheffernan@usbr.gov.

Sincerely,

*ja* **CONCUR**  
*Ann G. Howard*  
 ARIZONA STATE HISTORIC PRESERVATION OFFICER  
 ARIZONA STATE PARKS BOARD  
 7-28-11

*Larry Walkoviak*

Larry Walkoviak  
 Regional Director

Enclosure (CD containing 5 files)

IDENTICAL LETTER TO:

Dr. Alan Downer  
 Navajo Tribal Historic Preservation Officer  
 P.O. Box 4950  
 Window Rock, AZ 86515

Mr. Todd Brindle, Superintendent  
 Glen Canyon National Recreation Area  
 P.O. Box 1507  
 691 Scenic View Dr.  
 Page, AZ 86040-1507

Mr. David Uberuaga, Superintendent  
 Grand Canyon National Park  
 PO Box 129  
 Grand Canyon, AZ 86023