

1  
2 **Glen Canyon Environmental Studies**  
3

4 The GCES were initiated with a memorandum dated December 6, 1982, from  
5 Reclamation Commissioner Broadbent to the Regional Director of the Upper Colorado  
6 Region. The stated purpose was to “. . . see how the present flow patterns impact the  
7 total riverine environment in the Grand Canyon and how various low-flow periods affect  
8 rafting and the fishery resources in the river.” In addition, the memorandum calls for  
9 “[e]nvironmental studies of the effects of the present and historic operation of Glen  
10 Canyon Dam on the vegetation, wildlife, fishery, recreation, and other environmental  
11 resources of the Grand Canyon.” (Broadbent, 1982)  
12

13 ~~Glen Canyon National Recreation Area Proposed General Management Plan (GMP)~~  
14

15 ~~The purpose of the plan comes from the enabling legislation. The plan states that the~~  
16 ~~Glen Canyon National Recreation Area is “. . . to provide for public outdoor recreation~~  
17 ~~use and enjoyment . . . and to preserve scenic, scientific, and historic features~~  
18 ~~contributing to public enjoyment of the area.” (National Park Service, 1979)~~  
19

20 **Grand Canyon Protection Act**  
21

22 The GCPA was enacted on October 30, 1992. It states that “The Secretary shall operate  
23 Glen Canyon Dam in accordance with the additional criteria and operating plans  
24 specified in Section 1804 and exercise other authorities under existing law in such a  
25 manner as to protect, mitigate adverse impacts to, and improve the values for which  
26 Grand Canyon National Park and Glen Canyon National Recreation Area were  
27 established, including, but not limited to natural and cultural resources and visitor use.  
28 The Secretary shall implement this section in a manner fully consistent with and subject  
29 to the Colorado River Compact, the Upper Colorado River Basin Compact, the Water  
30 Treaty of 1944 with Mexico, the decree of the Supreme Court in Arizona vs. California,  
31 and the provisions of the Colorado River Storage Project Act of 1956 and the Colorado  
32 River Basin Project Act of 1968 that govern allocation, appropriation, development, and  
33 exportation of the waters of the Colorado River Basin.” (GCPA of 1992)  
34

35 **Biological Opinion (BO) on the Operation of Glen Canyon Dam**  
36

37 The BO is dated December 21, 1994. It states that the “biological opinion is in response  
38 to . . . Reclamation’s . . . request . . . for formal Section 7 consultation, under the  
39 Endangered Species Act . . . , on the proposed action to operate Glen Canyon Dam  
40 according to operating and other criteria of the Modified Low Fluctuating Flow  
41 Alternative . . . modified by a memorandum dated June 17, 1994. . . .” (United States  
42 Fish and Wildlife Service (FWS), 1994)  
43

44 **Operation of Glen Canyon Dam Final Environmental Impact Statement**  
45

1 The Glen Canyon Dam Final EIS is dated March 1995. The purpose of the EIS was to  
2 “determine specific options that could be implemented to minimize—consistent with  
3 law—adverse impacts on the downstream environmental and cultural resources and  
4 Native American interests in Glen and Grand Canyons.” The ROD elaborated by stating  
5 that an “[A]nalysis of an array of reasonable alternatives was needed to allow the  
6 Secretary to balance competing interests and to meet statutory responsibilities for  
7 protecting downstream resources and producing hydropower, and to protect affected  
8 Native American interests.” (United States Department of the Interior, 1996)

#### 10 ~~Grand Canyon National Park General Management Plan~~

11  
12 ~~The GMP is dated August 1995. The primary purpose of the plan is to provide a  
13 foundation from which to protect park resources while providing for meaningful visitor  
14 experiences. The GMP identifies the “values for which Grand Canyon National Park was  
15 established.” The GMP was developed from several other park plans of relevance to the  
16 AMP including the 1988 Backcountry Management Plan, 1989 Colorado River  
17 Management Plan, and 1994 Resource Management Plan. Other plans subsequent to the  
18 GMP include the 1997 Resource Management Plan and the 1998 Draft Wilderness  
19 Management Plan.~~

#### 21 Grand Canyon Monitoring and Research Center (GCMRC)

22  
23 The purpose of the GCMRC is to fulfill the directive in the GCPA for the “establishment  
24 and implementation of a long-term monitoring and research program to ensure that Glen  
25 Canyon Dam is operated in a manner that protects the values for which the Grand  
26 Canyon National Park and the Glen Canyon National Recreation Area were created.”  
27 (Deputy Assistant Secretary for Water and Power, 1995)

#### 29 Record of Decision on the Operation of Glen Canyon Dam

30  
31 The ROD acknowledged that the Secretary must operate Glen Canyon Dam in  
32 compliance with the GCPA. “This Record of Decision . . . documents the selection of  
33 operating criteria . . . as analyzed in the final Environmental Impact Statement.”  
34 “Analysis of an array of reasonable alternatives was needed to allow the Secretary to  
35 balance competing interests and to meet the statutory responsibilities for protecting  
36 downstream resources and producing hydropower, and to protect affected Native  
37 American interests.” “The goal of selecting a preferred alternative was not to maximize  
38 benefits for the most resources but rather to find an alternative dam operating plan that  
39 would permit recovery and long-term sustainability of downstream resources while  
40 limiting hydropower capability and flexibility only to the extent necessary to achieve  
41 recovery and long-term sustainability.” (United States Department of the Interior, 1996)

#### 43 National Park Service (NPS) 2001 Management Policies

44  
45 The 2001 Management Policies is the “basic Service-wide policy document of the  
46 National Park Service.” These policies define how “the National Park Service will meet

1  
2 Of great importance are the NPS Organic Act of 1916, the General Authorities Act of  
3 1970 and the 1978 amendments to this Act (the Redwoods Amendment). Although the  
4 Organic Act and the Redwoods Amendment use different language, they define a single  
5 standard for the management of the national park system. ~~National Parks-~~ **All National**  
6 **Park Service areas** have two primary purposes; first, to conserve park resources and  
7 values, and second, to provide for the enjoyment of park resources and values by the  
8 people of the United States. By enjoyment, it is meant to encompass all the people of the  
9 United States not just those who visit parks. It also includes benefits such as scientific  
10 knowledge and inspiration as well as other forms of enjoyment.

11  
12 The NPS has three levels of guidance documents: (1) Management Policies 2001, the  
13 basic policy document of the NPS, (2) interim updates or amendments accomplished  
14 through Director's Orders, and (3) detailed and comprehensive handbooks or reference  
15 manuals issued by associate directors. These documents provide NPS field employees  
16 with sufficient guidance to carry out Management Policies and Director's Orders.

17  
18 The primary responsibility of NPS managers is to preserve park resources and values  
19 without impairment. The NPS cannot conduct or allow activities in parks that would  
20 impact park resources and values to a level that would constitute impairment, unless  
21 directly and specifically provided for by legislation or by the proclamation establishing  
22 the park. In cases of doubt as to the impact of activities on park resources, the NPS will  
23 decide in favor of protecting the resources.

24  
25 Impairment is defined as impact that would harm the integrity of park resources or  
26 values. Whether an impact meets this definition depends on the specific resources or  
27 values affected; the severity, duration, and timing of the influence; the direct and indirect  
28 effects of the influence; and the values and purposes for which a particular park unit was  
29 established. However, the laws do give the NPS the management discretion to allow  
30 impacts to park resources and values when necessary and appropriate to fulfill the  
31 purposes of a park, so long as the impact does not constitute impairment.

32  
33 The NPS has established a tiered process for planning and decision making. General  
34 management plans (GMP) are the highest of these tiers. ~~The GMP focuses on why the~~  
35 ~~park was established, and what management should be achieved and maintained over~~  
36 ~~time.~~ **The GMPs for Grand Canyon National Park and Glen Canyon National**  
37 **Recreation Area reflect the service-wide guidance that applies to all NPS areas, as**  
38 **well as the specific authorizing legislation that established these areas. They focus**  
39 **on what management should be achieved and maintained over time to provide a**  
40 **foundation from which to protect park resources while providing for meaningful**  
41 **visitor experiences. For example, the Glen Canyon National Recreation Area**  
42 **Proposed General Management Plan (National Park Service, 1979) explains that the**  
43 **Glen Canyon National Recreation Area is “. . . to provide for public outdoor**  
44 **recreation use and enjoyment . . . and to preserve scenic, scientific, and historic**  
45 **features contributing to public enjoyment of the area.”**

1 ~~Action plans for dealing with complex, technical, and sometimes controversial issues are~~  
2 ~~a level of detail and analysis beyond that appropriate at the GMP or strategic plan level.~~  
3 ~~Implementation planning provides this level of detail and analysis. Park resource~~  
4 ~~management plans, river management plans, and wilderness management plans are~~  
5 ~~examples of implementation plans.~~

6  
7 **The next tier of park planning is implementation plans. These deal with complex,**  
8 **technical, and sometimes controversial issues with a level of detail and analysis**  
9 **beyond that appropriate at the GMP or strategic plan level. The Grand Canyon**  
10 **National Park General Management Plan (National Park Service, 1995) builds upon**  
11 **several implementation plans relevant to the AMP, including the 1988 Backcountry**  
12 **Management Plan, 1989 Colorado River Management Plan, and 1994 Resource**  
13 **Management Plan. Other relevant implementation plans subsequent to the GRCA**  
14 **GMP include the 1997 Resource Management Plan and the 1998 Draft Wilderness**  
15 **Management Plan.**

### 16 17 18 **Operation of the CRSP Power System**

19  
20 The Glen Canyon Dam powerplant is tied to a vast system of generators, transmission  
21 lines and delivery points in the western United States, Canada, and Mexico. It is legally  
22 obligated to provide electricity to wholesale electrical customers and others in the West.  
23 Reclamation operates Glen Canyon Dam in close coordination with Western. Western  
24 markets the electrical power produced and owns and operates the federal transmission  
25 system which delivers the electricity.

### 26 27 **Long-Term Firm Electrical Power**

28  
29 Under the authorizing legislation for the CRSP, federal dam operators are required to  
30 produce “the greatest practicable” amount of long-term firm power at Glen Canyon Dam,  
31 integrating the operation of Glen Canyon Dam with the other CRSP powerplants and  
32 other federally-owned electrical powerplants.

33  
34 Western’s long-term contracts for electricity are with small municipalities, rural electrical  
35 cooperatives, federal defense facilities and other federal and state institutions, and Indian  
36 tribes. This power is sold strictly in the CRSP market area which includes Colorado,  
37 Wyoming, Utah, Arizona, New Mexico, and Nevada. Revenue from these sales is placed  
38 into the Basin Fund, a fund which repays to the U.S. Treasury the capital costs of the  
39 CRSP mainstem dams and the irrigation assistance portion of the Upper Basin  
40 participating projects.

41  
42 Long-term firm electrical power has been marketed according to a marketing plan  
43 established by Western. The contracts for electricity made possible under this plan end in  
44 2024. Western is obliged to deliver electricity in the amounts specified in these contracts.  
45 This can be supplied by the CRSP generators or Western may purchase some of this

## Trust Responsibilities

Within this AMP the federal government's trust responsibility to the affected Native American tribes (Havasupai, Hopi, Hualapai, Kaibab Band of Paiute Indians, Navajo Nation, San Juan Southern Paiute Tribe, Paiute Indian Tribe of Utah, and the Pueblo of Zuni) is realized through various levels of consultation. Section 1805(c)(3) of the GCPA requires the Secretary to consult with Indian tribes regarding the implementation of the long-term monitoring program and activities to ensure that Glen Canyon Dam is operated in a manner consistent with that of Section 1802 of the Act.

Tribal participation and representation at the Adaptive Management Work Group and Technical Work Group levels is considered one aspect of the Secretary's consultative requirement under the GCPA. However, given the nature and management of Native American traditional knowledge and concerns, it may be necessary for the GCMRC, Reclamation, and the NPS, and any other federal agency involved in long-term monitoring, research, and or other associated activities, to engage in more specific consultation with each of the identified Native American tribes. This is especially true for those tribes (Havasupai, San Juan Southern Paiute) that are not actively engaged in the AMP. This more specific form of consultation may require the GCMRC, Reclamation, and NPS to engage in a face-to-face consultation with each tribe, their tribal representatives, and identified traditional leaders regarding monitoring and research activities, proposed management actions, and any other related AMP activities.

The result of this consultation effort is to fully and meaningfully engage the appropriate tribes in the decision-making process regarding activities that may affect resources of tribal concern.

## National Historic Preservation Act (NHPA), Section 106 Compliance

The Programmatic Agreement (PA) represents alternate procedures by which Reclamation will achieve compliance with Section 106 of the National Historic Preservation Act (NHPA) for the continued operation of Glen Canyon Dam. The PA is a legally binding document among the Advisory Council on Historic Preservation, Arizona State Historic Preservation Officer, NPS, Reclamation, Hopi Tribe, Hualapai Tribe, Paiute Indian Tribe of Utah, Kaibab Band of Paiute Indians, Pueblo of Zuni, and Navajo Nation. With proposed amendments to the PA, Western, possibly the Havasupai Tribe and San Juan Southern Paiute Tribe will become signatories.

The PA is a process whereby all the signatories agree to specific actions relative to management of National Register eligible historic properties affected by Glen Canyon Dam. The PA has stipulations which include: 1) identification and evaluation of all historic properties within the area of potential effects of dam operations; 2) development of a plan for monitoring the effects of Glen Canyon Dam operations on historic properties and for carrying out remedial actions to address the effects of ongoing damage to historic properties; and 3) preparation of an historic preservation plan.

In the AMP, PA signatories and GCMRC staff and associated scientists provide input to AMWG and TWG members on cultural resource issues. TWG and AMWG are considered interested parties to the Section 106 compliance process. Since the PA is a component of the AMP, the TWG and AMWG have input to the PA program through their review and recommendations to the Secretary. As lead agency, Reclamation has primary responsibility for ensuring that the stipulations of the PA are implemented.

## Desired Future Conditions: Cultural Resources

Version of May 31, 2001

Cultural resources of the CRE refer to those parts of the environment, including the natural environment and the built environment, that have cultural value of some kind to some sociocultural group. The particular groups with identified concerns with CRE cultural resources include members of Indian tribes, the hikers and boaters who explore the CRE within Grand, Glen, and Marble canyons, and those professional archeologists, architectural historians, historians, engineers and others interested in the past physical remains of traditional cultural places, archeological sites, historic structures, historic shipwrecks, and other resources within the CRE. The term cultural resources includes Native American cultural items as defined in the Native American Graves Protection and Repatriation Act; archeological resources which are discrete and interpretable remains of past human activities dating over 100 years old as defined by the Archaeological Resources Protection Act and its regulations; historic properties defined by the National Historic Preservation Act and its regulations; and other tangible or intangible resources not defined in statute or regulation, but that are valued by a particular group.

Cultural resources are important because their continued existence and use is integral to the cultural identity and existence of the tribes that are connected with the CRE. Cultural resources serve to connect people and groups to the CRE in time and space. We envision an environment where cultural resources are preserved in place and where contemporary values and associations with the canyon and specific places within it are maintained for present and future enjoyment and education.

Based on consultation, a wide range of management actions and strategies are implemented. For example, visitor access is managed and controlled through informed disclosure policies and tribal concerns, some structures and places are stabilized and conserved through planning and on-going maintenance, and others are left to the on-going natural processes which have formed and continue to form the canyons.