



# Foundation Document

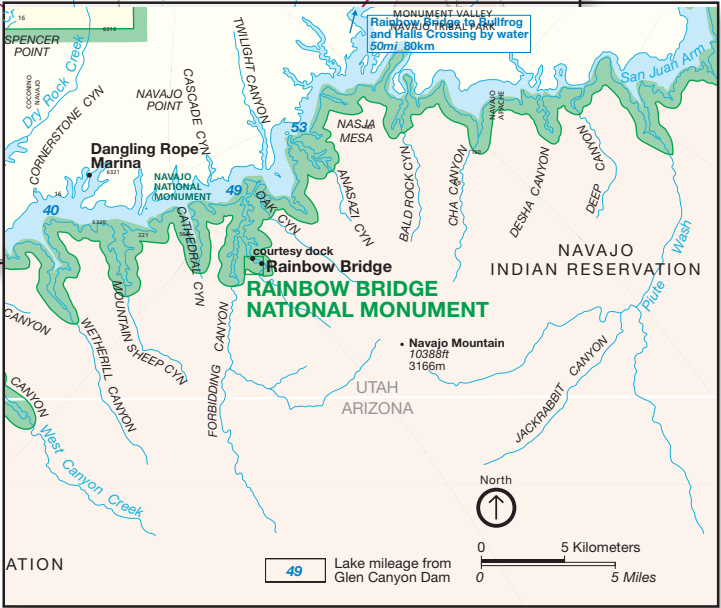
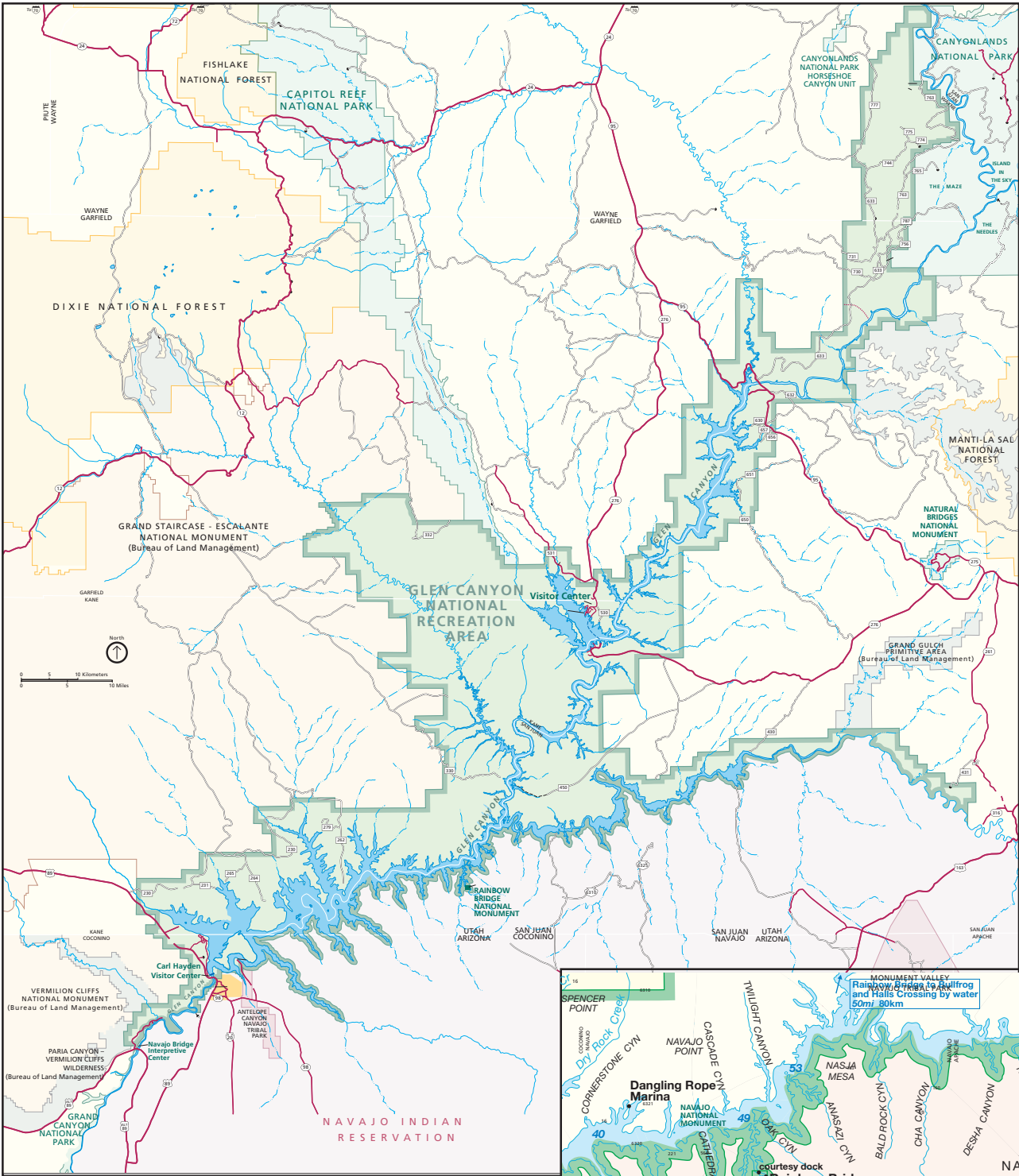
## Glen Canyon National Recreation Area

## Rainbow Bridge National Monument

Arizona and Utah

September 2014

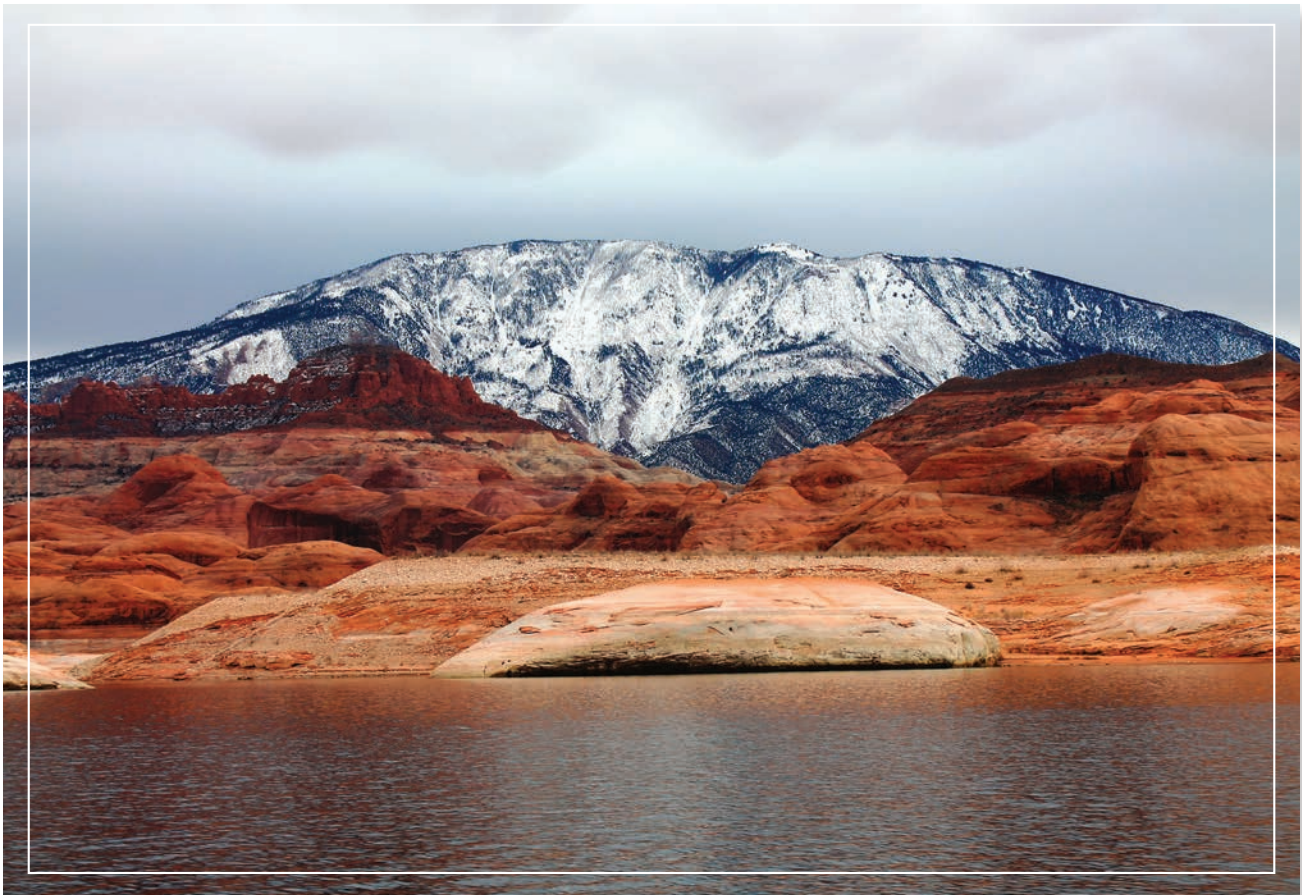




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## Mission of the National Park Service

The National Park Service (NPS) preserves unimpaired the natural and cultural resources and values of the national park system for the enjoyment, education, and inspiration of this and future generations. The National Park Service cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

The NPS core values are a framework in which the National Park Service accomplishes its mission. They express the manner in which, both individually and collectively, the National Park Service pursues its mission. The NPS core values are:

- **Shared stewardship:** We share a commitment to resource stewardship with the global preservation community.
- **Excellence:** We strive continually to learn and improve so that we may achieve the highest ideals of public service.
- **Integrity:** We deal honestly and fairly with the public and one another.
- **Tradition:** We are proud of it; we learn from it; we are not bound by it.
- **Respect:** We embrace each other's differences so that we may enrich the well-being of everyone.

The National Park Service is a bureau within the Department of the Interior. While numerous national park system units were created prior to 1916, it was not until August 25, 1916, that President Woodrow Wilson signed the National Park Service Organic Act formally establishing the National Park Service.

The national park system continues to grow and comprises 401 park units covering more than 84 million acres in every state, the District of Columbia, American Samoa, Guam, Puerto Rico, and the Virgin Islands. These units include, but are not limited to, national parks, monuments, battlefields, military parks, historical parks, historic sites, lakeshores, seashores, recreation areas, scenic rivers and trails, and the White House. The variety and diversity of park units throughout the nation require a strong commitment to resource stewardship and management to ensure both the protection and enjoyment of these resources for future generations.



*The arrowhead was authorized as the official National Park Service emblem by the Secretary of the Interior on July 20, 1951. The sequoia tree and bison represent vegetation and wildlife, the mountains and water represent scenic and recreational values, and the arrowhead represents historical and archeological values.*

## Introduction

Every unit of the national park system will have a foundational document to provide basic guidance for planning and management decisions—a foundation for planning and management. The core components of a foundation document include a brief description of the park as well as the park’s purpose, significance, fundamental resources and values, other important resources and values, and interpretive themes. The foundation document also includes special mandates and administrative commitments, an assessment of planning and data needs that identifies planning issues, planning products to be developed, and the associated studies and data required for park planning. Along with the core components, the assessment provides a focus for park planning activities and establishes a baseline from which planning documents are developed.

A primary benefit of developing a foundation document is the opportunity to integrate and coordinate all kinds and levels of planning from a single, shared understanding of what is most important about the park. The process of developing a foundation document begins with gathering and integrating information about the park. Next, this information is refined and focused to determine what the most important attributes of the park are. The process of preparing a foundation document aids park managers, staff, and the public in identifying and clearly stating in one document the essential information that is necessary for park management to consider when determining future planning efforts, outlining key planning issues, and protecting resources and values that are integral to park purpose and identity.

While not included in this document, a park atlas is also part of a foundation project. The atlas is a series of maps compiled from available geographic information system (GIS) data on natural and cultural resources, visitor use patterns, facilities, and other topics. It serves as a GIS-based support tool for planning and park operations. The atlas is published as a (hard copy) paper product and as geospatial data for use in a web mapping environment. The park atlas for Glen Canyon National Recreation Area and Rainbow Bridge National Monument can be accessed online at: <http://insideparkatlas.nps.gov/>.



*Photo by Gary Ladd*



## Part 1: Core Components

The core components of a foundation document include a brief description of the park, park purpose, significance statements, fundamental resources and values, other important resources and values, and interpretive themes. These components are core because they typically do not change over time. Core components are expected to be used in future planning and management efforts.

### Brief Description of the Parks

Glen Canyon National Recreation Area encompasses more than 1.25 million acres in northern Arizona and southeastern Utah. The recreation area includes portions of Garfield, Kane, San Juan, and Wayne counties in Utah and Coconino County in Arizona. The park's southern boundary runs contiguous to lands of the Navajo Nation for almost 500 miles. Glen Canyon National Recreation Area shares boundaries with other national park system units, including Grand Canyon National Park, Capitol Reef National Park, Canyonlands National Park, and Rainbow Bridge National Monument. Glen Canyon National Recreation Area adjoins approximately 9.3 million acres of other federal lands administered by the Bureau of Land Management (BLM), including the Grand Staircase-Escalante National Monument, Vermilion Cliffs National Monument, and the Paria Canyon-Vermilion Cliffs Wilderness. The park staff consults regularly with the Hopi Tribe, Kaibab Paiute Tribe, Navajo Nation, Paiute Indian Tribe of Utah, Pueblo of Zuni, San Juan Southern Paiute, and Ute Mountain Ute in areas of mutual interest.

Rainbow Bridge National Monument was established in 1910 to protect a large and exceptionally scenic natural bridge and its surrounding area. At 160 acres, the monument is bounded by Glen Canyon National Recreation Area and the Navajo Nation lands. Rainbow Bridge is sacred to several American Indian tribes, including the Hopi Tribe, Kaibab Paiute Tribe, Navajo Nation, San Juan Southern Paiute Tribe, Pueblo of Zuni, and the Ute Mountain Ute Tribe (White Mesa Band). The stone arc of Rainbow Bridge is composed of Navajo sandstone on a base of Kayenta sandstone. Rainbow Bridge spans 275 feet, reaching a height of 290 feet above Bridge Creek and ranging from 33 to 42 feet thick. Glen Canyon National Recreation Area and Rainbow Bridge National Monument are managed as one unit; therefore, they are both included in this foundation document.



Glen Canyon National Recreation Area and Rainbow Bridge National Monument are both units of the national park system. While they are designated a national recreation area and a national monument respectively, both are equal units within the diverse park system. Individual units of the park system are commonly referred to as “parks” even if their designation is something other than national park. In 1970, Congress elaborated on the 1916 National Park Service Organic Act, saying that all units of the system possess equal legal standing in a national system. Consequently Glen Canyon National Recreation Area and Rainbow Bridge National Monument are managed consistent with the law and policies that apply to all national park units.

Glen Canyon and Rainbow Bridge are located in a geographic area commonly referred to as the Colorado Plateau. This desert region is characterized by expansive areas of exposed and uplifted rocks that have been carved by the Colorado River and several tributaries. Lake Powell, formed by the impounded waters of the Colorado River above the Glen Canyon Dam, is the best known and most visited feature at Glen Canyon National Recreation Area. The Bureau of Reclamation (BOR) manages the Glen Canyon Dam. The surrounding desert landscape and river corridors also provide a wide range of recreational opportunities and provide habitat for a diverse assemblage of terrestrial and aquatic species.





## Park Purpose

The purpose statement identifies the specific reason(s) for establishment of a particular park unit. The purpose statements for Glen Canyon National Recreation Area and Rainbow Bridge National Monument were drafted through a careful analysis of enabling legislation and the legislative history that influenced development of each park unit. Glen Canyon National Recreation Area was established when the enabling legislation adopted by Congress was signed into law on October 27, 1972. Rainbow Bridge National Monument was established by presidential proclamation on May 30, 1910. (see appendix A for enabling legislation and presidential proclamation). The purpose statement lays the foundation for understanding what is most important about the parks.

The purpose statement for Glen Canyon National Recreation Area is:

*GLEN CANYON NATIONAL RECREATION AREA, located at the center of the Colorado Plateau, provides for public enjoyment through diverse land- and water-based recreational opportunities, and protects scenic, scientific, natural, and cultural resources on Lake Powell, the Colorado River, its tributaries, and surrounding lands.*



The purpose statement for Rainbow Bridge National Monument is:

*RAINBOW BRIDGE NATIONAL MONUMENT  
protects an extraordinary natural bridge  
that captures public and scientific interest  
with its rainbow form and appearance.*



*Photo by Gary Ladd*



## Park Significance

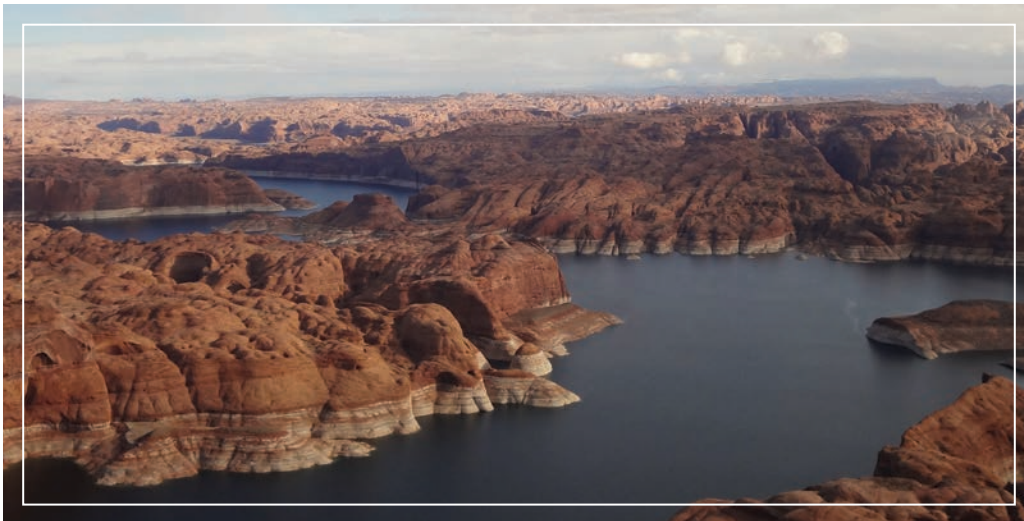
Significance statements express why a park's resources and values are important enough to merit designation as a unit of the national park system. These statements are linked to the purpose of Glen Canyon National Recreation Area and Rainbow Bridge National Monument and are supported by data, research, and consensus. Statements of significance describe the distinctive nature of each park and why an area is important within a global, national, regional, and systemwide context. They focus on the most important resources and values that will assist in park planning and management.

The following significance statements have been identified for Glen Canyon National Recreation Area. (Please note that the sequence of the statements do not reflect the level of significance.)

1. The Colorado River and its many tributaries, including the Dirty Devil, Paria, Escalante, and San Juan rivers, carve through the Colorado Plateau to form a landscape of dynamic and complex desert and water environments.
2. The vast, rugged landscapes of Glen Canyon National Recreation Area provide an unparalleled spectrum of diverse land- and water-based recreational opportunities for visitors of wide-ranging interests and abilities.
3. Glen Canyon National Recreation Area preserves a record of more than 10,000 years of human presence, adaptation, and exploration. This place remains significant for many descendant communities, providing opportunities for people to connect with cultural values and associations that are both ancient and contemporary.
4. The deep, 15-mile-long, narrow gorge below the dam provides a glimpse of the high canyon walls, ancient rock art, and a vestige of the riparian and beach terrace environments that were seen by John Wesley Powell's Colorado River expedition in 1869, providing a stark contrast to the impounded canyons of Lake Powell.

The following significance statements have been identified for Rainbow Bridge National Monument. (Please note that the sequence of the statements do not reflect the level of significance.)

1. Rainbow Bridge is one of the world's largest natural bridges and is a premier example of eccentric stream erosion in a remote area of the Colorado Plateau.
2. For many indigenous peoples in the Four Corners region, Rainbow Bridge is a spiritually occupied landscape that is inseparable from their cultural identities and traditional beliefs.

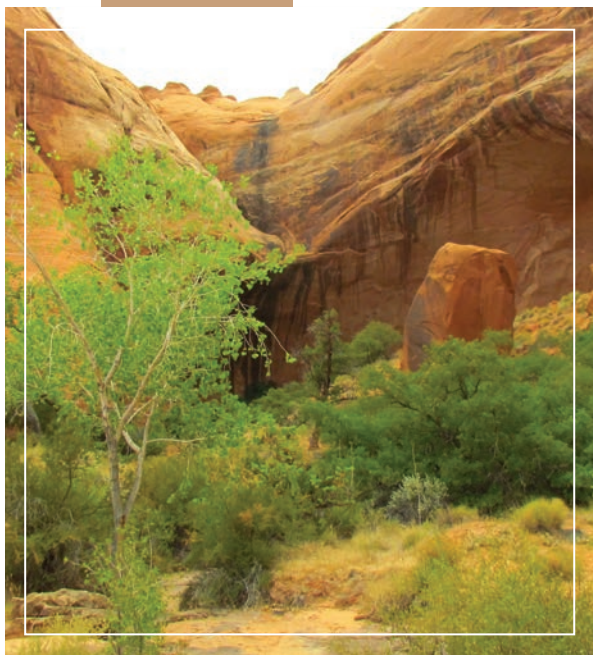


## Fundamental Resources and Values

Fundamental resources and values (FRVs) are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to warrant primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining its significance. Fundamental resources and values are closely related to a park's legislative purpose and are more specific than significance statements.

Fundamental resources and values help focus planning and management efforts on what is truly significant about the park. One of the most important responsibilities of NPS managers is to ensure the conservation and public enjoyment of those qualities that are essential (fundamental) to achieving the purpose of the park and maintaining its significance. If fundamental resources and values are allowed to deteriorate, the park purpose and/or significance could be jeopardized.

The following fundamental resources and values have been identified for Glen Canyon National Recreation Area. (Please note that the sequence of the statements does not reflect the level of significance.)



- **Heritage Resources:** Glen Canyon National Recreation Area is the steward of heritage resources exemplified by the archeological and historic sites, cultural landscapes, and traditional cultural properties that illustrate the connection of people with the landscape of the Glen Canyon region.
- **Lake Powell:** Lake Powell, set dramatically against a backdrop of eroded red rock canyons and mesas, is the largest man-made lake in North America and is widely recognized by boating enthusiasts as one of the premier water-based recreation destinations in the world.
- **Landscape:** The vast landscape of Glen Canyon contains rugged water- and wind-carved canyons, buttes, mesas, rivers, seeps, springs, and hanging gardens where diverse habitats sustain an array of endemic, rare, and relict plant and animal communities.
- **Paleontology:** Glen Canyon National Recreation Area preserves one of the most complete sections of Mesozoic strata in the world; new discoveries continuously add to our scientific understanding of the past.

- **Water:** Water quality and quantity is essential for public outdoor recreational use and enjoyment and for sustaining terrestrial and aquatic life in the high desert.

The following fundamental resources and values have been identified for Rainbow Bridge National Monument. (Please note that the sequence of the statements does not reflect the level of significance.)

- **Rainbow Bridge:** The bridge itself is a fundamental resource.
- **Traditional Cultural Property and Values:** Rainbow Bridge and the immediately surrounding landscape are considered sacred by, and are vitally linked with the histories, cultural practices, ceremonial activities, and oral traditions of associated American Indian tribes.



## Other Important Resources and Values

Glen Canyon National Recreation Area contains other resources and values that are not fundamental to the purpose of the park and may be unrelated to its significance, but are important to consider in planning processes. These are referred to as “other important resources and values” (OIRV). These resources and values have been selected because they are important in the operation and management of the park and warrant special consideration in park planning.

The following other important resources and values have been identified for Glen Canyon National Recreation Area:

- **Wilderness:** Glen Canyon National Recreation Area includes 588,855 acres of proposed wilderness and 48,955 acres of potential wilderness. Together this represents 51% of the total land area of Glen Canyon National Recreation Area, containing a variety of culturally and ecologically unique landscapes where visitors can experience the character and solitude of wilderness within a recreation area.



## Interpretive Themes

Interpretive themes are often described as the key stories or concepts that visitors should understand after visiting a park—they define the most important ideas or concepts communicated to visitors about a park unit. Themes are derived from, and should reflect, park purpose, significance, resources, and values. The set of interpretive themes is complete when it provides the structure necessary for park staff to develop opportunities for visitors to explore and relate to all park significance statements and fundamental and other important resources and values.

Interpretive themes are an organizational tool that reveal and clarify meaning, concepts, contexts, and values represented by park resources. Sound themes are accurate and reflect current scholarship and science. They encourage exploration of the context in which events or natural processes occurred and the effects of those events and processes. Interpretive themes go beyond a mere description of the event or process to foster multiple opportunities to experience and consider the park and its resources. These themes help explain why a park story is relevant to people who may otherwise be unaware of connections they have to an event, time, or place associated with the park.

The following interpretive themes have been identified for Glen Canyon National Recreation Area:

- The land and water features of Glen Canyon National Recreation Area provide a remarkable variety of opportunities to satisfy our hunger for adventure, discovery, and recreation.
- The dramatic landscape of Glen Canyon lays bare the geological portrait of Earth, which reveals the ancient history of rock, water, and life on the Colorado Plateau with nearly limitless opportunities for research and personal revelation.
- From the first native peoples to contemporary societies, thousands of years of human history along the Colorado River illuminates the intricate web of relationships between peoples, their interaction with the landscape, and the results that shape cultural exchange, create conflict, achieve progress, command choice, and deliver consequences.
- Environments within Glen Canyon remind us that much of life is hidden to casual observation—and entice us to slow our pace and more intimately observe the subtle intricacies and adaptations of both plant and animal communities.

The following interpretive themes have been identified for Rainbow Bridge National Monument:

- Rainbow Bridge is one of the largest known natural bridges in the world, a symbol of strength, balance, and change that spans geologic time.
- For many indigenous peoples in the Four Corners region, Rainbow Bridge is a spiritually occupied landscape that is inseparable from their cultural identities and traditional beliefs.
- Even in a landscape of dramatic and distinctive features, the immense presence of Rainbow Bridge often inspires the strong desire to both see and protect it.
- Though remote and in some ways difficult to access, the uniqueness of Rainbow Bridge has inspired many people over time to make the journey and experience its grandeur.



## Part 2: Dynamic Components

The dynamic components of a foundation document include special mandates and administrative commitments and an assessment of planning and data needs. These components are dynamic because they will change over time. New special mandates can be established and new administrative commitments made. As conditions and trends of fundamental and other important resources and values change over time, the analysis of planning and data needs will need to be revisited and revised, along with key issues. Therefore, this part of the foundation document will be updated accordingly.

### Special Mandates and Administrative Commitments

Many management decisions for a park unit are directed or influenced by special mandates and administrative commitments with other federal agencies, state and local governments, utility companies, partnering organizations, and other entities. Special mandates are requirements specific to a park that must be fulfilled. Mandates can be expressed in enabling legislation, in separate legislation following the establishment of the park, or through a judicial process. They may expand on park purpose or introduce elements unrelated to the purpose of the park. Administrative commitments are, in general, agreements that have been reached through formal, documented processes, often through memoranda of agreement. Examples include, but are not limited to, easements, rights-of-way, and arrangements for emergency service responses. Special mandates and administrative commitments support a network of partnerships that help fulfill the objectives of the park and facilitate working relationships with other organizations. They are an essential component of managing and planning for Glen Canyon National Recreation Area and Rainbow Bridge National Monument.

Special mandates and administrative commitments have been identified for Glen Canyon National Recreation Area and Rainbow Bridge National Monument. Please refer to appendix B for lists of the administrative commitments and special mandates for both units.



## Assessment of Planning and Data Needs

Once the core components of part 1 of the foundation document have been identified, it is important to gather and evaluate existing information about the park's fundamental and other important resources and values, and develop a full assessment of the park's planning and data needs. The assessment of planning and data needs section presents planning issues, the planning projects that will address these issues, and the associated information requirements for planning, such as resource inventories and data collection, including GIS data.

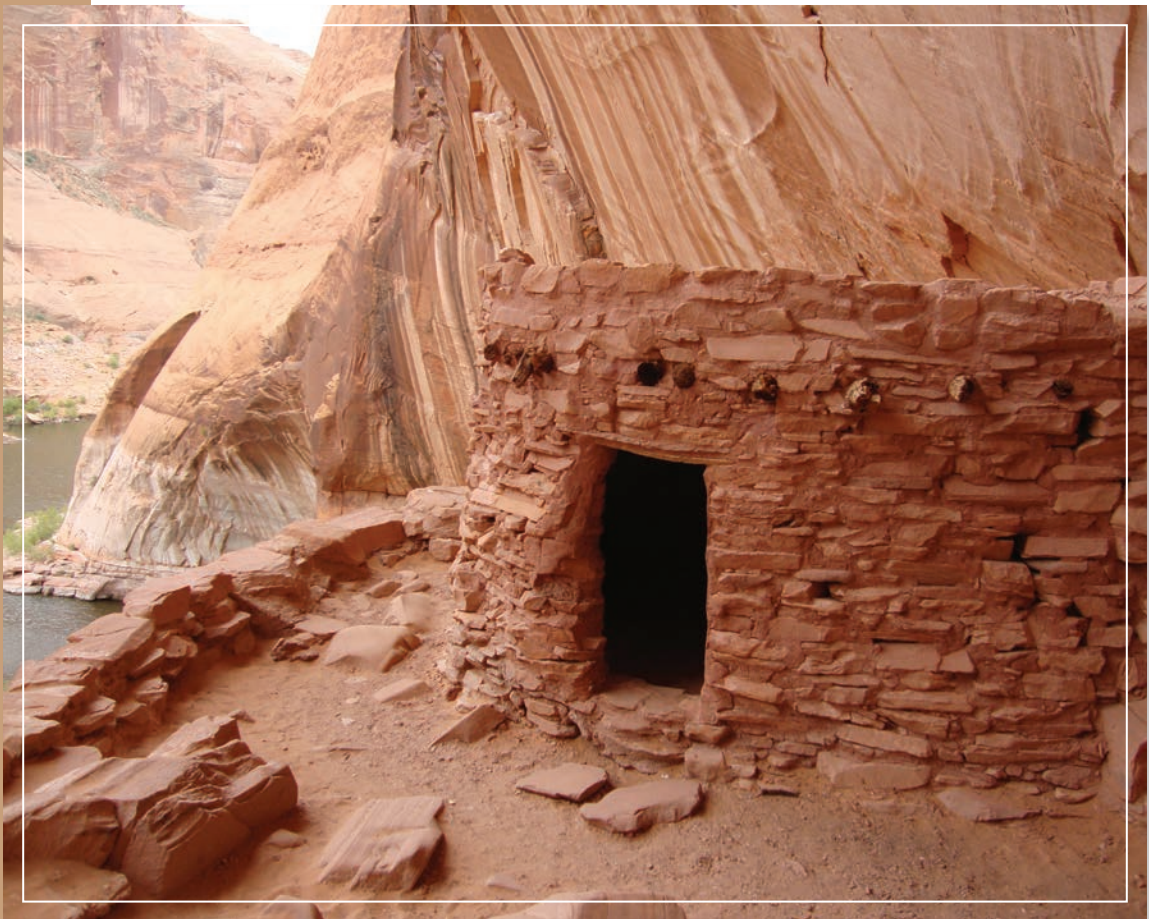
There are three sections in the assessment of planning and data needs:

1. analysis of fundamental and other important resources and values
2. identification of key issues and associated planning and data needs
3. identification of planning and data needs (including spatial mapping activities or GIS maps)

The analysis of fundamental and other important resources and values and identification of key issues leads up to and supports the identification of planning and data collection needs.

### Analysis of Fundamental Resources and Values

The fundamental resource or value analysis table includes current conditions, potential threats and opportunities, planning and data needs, and selected laws and NPS policies related to management of the identified resource or value.





## Glen Canyon National Recreation Area

Fundamental Resource or Value	Heritage Resources
<b>Related Significance Statements</b>	<p>Glen Canyon National Recreation Area preserves a record of more than 10,000 years of human presence, adaptation, and exploration. This place remains significant for many descendant communities, providing opportunities for people to connect with cultural values and associations that are both ancient and contemporary.</p> <p>The deep, 15-mile-long, narrow gorge below the dam provides a glimpse of the high canyon walls, ancient rock art, and a vestige of the riparian and beach terrace environments that were seen by John Wesley Powell's Colorado River expedition, providing a stark contrast to the impounded canyons of Lake Powell.</p>
<b>Current Conditions and Trends</b>	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Three percent of Glen Canyon National Recreation Area has been surveyed for cultural sites. Approximately 2,500 cultural sites have been recorded.</li> <li>• Cultural sites along the Lake Powell shoreline, including National Register of Historic Places-eligible sites, are impacted by the actions of some members of the boating public. Impacts include the destruction of features, unauthorized excavations, collection of artifacts, and pervasive graffiti.</li> <li>• Cultural sites in grazing allotments associated with springs and alcoves may be impacted by grazing. Damage may include destruction of masonry walls, trampling, and dung accumulation. Installation of water developments also has the potential to impact archeological sites.</li> <li>• Approximately 1,500 historic and pre-contact structures in varying condition exist in the park. They include Ancestral Puebloan architecture, hogans, brush structures, and cabins, and are associated with the tribes and bands of the Hopi, Paiute, Navajo, Ute, and Zuni, as well as members of The Church of Jesus Christ of Latter Day Saints, cattle ranchers, miners, and others.</li> <li>• Glen Canyon National Recreation Area contains several historic properties that are listed in the National Register of Historic Places. These include the Davis Gulch pictograph panel, the Hole-in-the-Rock and Hole-in-the-Rock Trail, Defiance House, the Lees Ferry/Lonely Dell Ranch National Historic District, and the Charles H. Spencer hulk (steamboat).</li> <li>• Three traditional cultural properties exist within Glen Canyon National Recreation Area that may be eligible for the National Register of Historic Places, including the Hole-in-the-Rock corridor associated with the Church of Jesus Christ of Latter Day Saints.</li> <li>• Two cultural landscapes have been identified in Glen Canyon National Recreation Area. They are the Lees Ferry/Lonely Dell Ranch Historic District (listed in the National Register of Historic Places) and Robber's Roost/Under the Ledge Ranches.</li> <li>• Almost 900,000 objects and archival records in the Glen Canyon National Recreation Area museum collection are in good condition and housed in two repositories.</li> <li>• Nineteen American Indian tribes and bands are associated with Glen Canyon National Recreation Area and are the contemporary descendants of those American Indians who left behind what we call "archeological" or cultural sites.</li> </ul> <p><b>Trends</b></p> <ul style="list-style-type: none"> <li>• Increased visitation, especially by the boating public, has resulted in both intentional and inadvertent vandalism to cultural sites and remains an ongoing concern.</li> <li>• Cattle-grazing has resulted in the inadvertent damage to cultural sites and remains an ongoing concern.</li> <li>• Fluctuating water levels from climate and seasonal change and water demands repeatedly cover and expose cultural sites, accelerating their deterioration.</li> <li>• Cultural resources are popular destinations, increasing the risk of intentional or inadvertent damage.</li> </ul>

Fundamental Resource or Value	Heritage Resources
<b>Challenges and Opportunities</b>	<p><b>Challenges</b></p> <ul style="list-style-type: none"> <li>• Ninety-seven percent of Glen Canyon National Recreation Area has not been surveyed for cultural resources</li> <li>• National register significance evaluations have only been completed for six sites, although many more may be eligible for inclusion in the national register</li> <li>• National register-eligible cultural resources on grazing allotments are monitored infrequently. Treatment plans for site preservation are not fully developed and applied. This contributes to potential degradation of cultural resources on grazing allotments</li> <li>• Historic structures, including indigenous architecture, may be eligible for listing in the National Register of Historic Places</li> </ul> <p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Seek funding or partnerships to help educate and provide interpretation to visitors about cultural resources in order to foster appreciation and stewardship of park resources and to prevent vandalism</li> <li>• Work in partnership with adjacent federal land managers to ensure management, protection, and interpretation of cultural resources</li> <li>• Seek the development of a park friends' funding group to help support the preservation and protection of cultural resources</li> <li>• Continue to work with various partners, including universities, to foster the protection and preservation of cultural resources</li> <li>• Continue to build relationships with traditionally associated peoples, including American Indian tribes, Church of Jesus Christ of Latter Day Saints members, and cattle ranchers to inform park management of heritage sites and landscapes</li> </ul>
<b>Existing Data and Plans Related to the FRV</b>	<ul style="list-style-type: none"> <li>• Cultural resource management plan (1987)</li> <li>• Archeological resources protection plan (1997)</li> <li>• Ruins preservation plan (2005)</li> </ul>
<b>Data and/or GIS Needs</b>	<ul style="list-style-type: none"> <li>• Complete the lakeshore cultural sites protection strategy</li> <li>• Complete cultural landscape inventories and reports for the two national register-eligible cultural landscapes (Hole-in-the-Rock and Robbers Roost/Under the Ledge Ranches)</li> <li>• Visitor use data as related to visitor experience and crowding and visitor use demographics and statistics</li> <li>• Additional study and monitoring of the effects of flow levels on sediment resources below the Glen Canyon Dam</li> <li>• Archeological and rock art surveys / overview and assessment</li> <li>• Traditional ecological knowledge assessment</li> <li>• Wilderness character monitoring / baseline data collection</li> <li>• Visitor use data in proposed wilderness areas where resource impacts are occurring</li> <li>• A complete baseline inventory and assessment for national register eligibility is needed for cultural resources in grazing allotments</li> <li>• Complete historic structure reports for eligible structures</li> </ul>
<b>Planning Needs</b>	<ul style="list-style-type: none"> <li>• Revise the cultural resources management plan</li> <li>• Shoreline cultural resource protection plan</li> <li>• Complete historic structure preservation plans</li> <li>• River resources stewardship plans for the Colorado River and tributaries (e.g., Escalante River, San Juan River)</li> <li>• Backcountry/wilderness management plans (e.g., Coyote Gulch management plan, Hole-in-the-Rock management plan)</li> </ul>



Fundamental Resource or Value	Heritage Resources
<p><b>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</b></p>	<p><b>Laws, Executive Orders, and Regulations That Apply to the FRV</b></p> <ul style="list-style-type: none"> <li>• Glen Canyon National Recreation Area enabling legislation</li> <li>• Grand Canyon Protection Act</li> <li>• American Indian Religious Freedom Act</li> <li>• Native American Graves Protection and Repatriation Act of 1990</li> <li>• National Historic Preservation Act of 1966, as amended (16 USC 470)</li> <li>• Archeological and Historic Preservation Act of 1974</li> <li>• Archaeological Resources Protection Act of 1979</li> <li>• 36 CFR 800 “Protection of Historic Properties”</li> <li>• 36 CFR 79 – Curation of Archeological Collections</li> <li>• Executive Order 13007, “Indian Sacred Sites”</li> <li>• Executive order 11593, “Protection and Enhancement of the Cultural Environment”</li> <li>• Executive Order 13175, “Consultation and Coordination with Indian Tribal Governments”</li> <li>• Presidential Memorandum on Tribal Consultation, November 2009</li> </ul> <p><b>NPS Policy-level Guidance (NPS <i>Management Policies</i> 2006 and Director’s Orders)</b></p> <ul style="list-style-type: none"> <li>• <i>The Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation</i></li> <li>• 2008 Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers</li> <li>• “Department of the Interior Policy on Consultation with Indian Tribes”</li> <li>• <i>NPS Management Policies 2006</i></li> <li>• Director’s Order 28: <i>Cultural Resource Management</i> (1998)</li> <li>• Director’s Order 28A: <i>Archeology</i> (2004)</li> </ul>





Fundamental Resource or Value	Lake Powell
Related Significance Statements	<p>The vast, rugged landscapes of Glen Canyon National Recreation Area provide an unparalleled spectrum of diverse land- and water-based recreational opportunities for visitors of wide-ranging interests and abilities</p>
Current Conditions and Trends	<p><b>Conditions</b></p> <ul style="list-style-type: none"><li>• Overall water quality at Lake Powell is good. Some beaches experience decreased water quality when waste is improperly disposed of or in response to other site-specific impacts associated with recreational use or the presence of livestock.</li><li>• Water levels at Lake Powell fluctuate dramatically in response to river flows and dam operations.</li><li>• Adult quagga mussels have been found in Lake Powell. The states of Arizona and Utah have listed Lake Powell as an affected/infested water body.</li></ul> <p><b>Trends</b></p> <ul style="list-style-type: none"><li>• Visitor use levels peaked during the late 1980s and early 1990s and have decreased over time with minor changes in trend on a year-to-year basis.</li></ul>



Fundamental Resource or Value	Lake Powell
Challenges and Opportunities	<p><b>Challenges</b></p> <ul style="list-style-type: none"> <li>• Air and water quality is affected by emission sources within and outside of Glen Canyon National Recreation Area, including the adjacent Navajo Generating Station</li> <li>• Glen Canyon National Recreation Area has some of the darkest night skies in the area. Light pollution from developed areas has the potential to affect the ability of people to experience the dark night sky from Lake Powell</li> <li>• Lake Powell is affected by shoreline terrestrial invasive species, quagga mussels and other aquatic invasive species, water quantity, and improper waste disposal</li> <li>• Mercury and other contaminants impact aquatic species and can make some game species dangerous for human consumption</li> <li>• Noise effects of loud boats, excessive volume from stereos and generators, vehicle use, and aircraft affect visitor experience on and around Lake Powell</li> <li>• High levels of trash, litter, graffiti, and human waste have resulted in impacts at several high-use areas</li> <li>• Shoreline and lake-accessed cultural resources are deteriorating in several locations</li> <li>• New visitor activities and recreational uses may affect visitor experience and park resources at Lake Powell</li> <li>• Sediment deposition is affecting several locations in Lake Powell, including where rivers enter the lake. In some locations visitor access is impacted or precluded at low lake levels</li> <li>• Maintaining visitor access to Lake Powell is an operational challenge due to fluctuating lake levels and the need to frequently move marina infrastructure. At very low lake levels park launch ramps may become unusable</li> <li>• The size of boats on Lake Powell is increasing. This is resulting in new challenges regarding the adequacy of park infrastructure, including the size of rental slips</li> <li>• Maintaining year-round commercial services to visitors on Lake Powell can be economically challenging</li> <li>• Park utility infrastructure that supports visitor use at Lake Powell is challenging to maintain, particularly standalone systems to supply power where no utility grid is present: Hite, Hall's Crossing, Bullfrog, Dangling Rope, and remote locations such as Lees Ferry and Lone Rock</li> <li>• Maintaining extensive marina- and lake-based infrastructure is a challenge that is expected to increase with the presence of quagga mussels</li> <li>• Avoiding new aquatic invasive species introductions and preventing the spread of aquatic invasive species (such as quagga mussels) both within and from Lake Powell is difficult given the size of Lake Powell and the numerous areas where remote access occurs</li> <li>• Water-based recreation at Lake Powell can result in visitor injuries and fatalities</li> <li>• Climate change models project higher temperatures, no increase in precipitation, reduced run-off, and reduced storage in Lake Powell by 2021</li> </ul> <p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Increase opportunities for low-cost, non-boat-related water-based recreation, including swimming</li> <li>• Consider nonmotorized areas to provide broader range of lake-based recreation opportunities</li> <li>• Develop and enhance off-season recreational activities</li> <li>• Develop and expand partnerships to support ongoing use, management, and protection of Lake Powell</li> <li>• Quagga mussels have established in Lake Powell and are spreading within the lake. Containment is now the focus of the park's quagga mussel management activities</li> </ul>

Fundamental Resource or Value	Lake Powell
<b>Existing Data and Plans Related to the FRV</b>	<ul style="list-style-type: none"> <li>• Visitor study (2007)</li> <li>• Fire management plan (2004)</li> <li>• Strategic plan (1997)</li> <li>• Resource management plan (1995)</li> <li>• Backcountry management plan (1992)</li> <li>• General management plan (1979)</li> <li>• Cultural resource management plan (1987)</li> </ul>
<b>Data and/or GIS Needs</b>	<ul style="list-style-type: none"> <li>• Improved visitor use data and statistics</li> <li>• Uplake boater access feasibility study</li> <li>• Effects of Navajo Generating Station emissions on Lake Powell</li> </ul>
<b>Planning Needs</b>	<ul style="list-style-type: none"> <li>• Updated general management plan</li> <li>• Lake use and access plan</li> <li>• Commercial services strategy</li> <li>• Updated operations strategy to address the effects of aquatic invasive species, particularly quagga mussels</li> <li>• Shoreline cultural resources protection plan</li> <li>• River resources stewardship plans for the Colorado River and tributaries (e g , Escalante River, San Juan River)</li> <li>• Communications improvement plan</li> <li>• Sustainable energy strategy and climate friendly parks plan</li> <li>• Forced sewer main emergency action plan / emergency protection plan</li> </ul>
<b>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</b>	<p><b>Laws, Executive Orders, and Regulations That Apply to the FRV</b></p> <ul style="list-style-type: none"> <li>• Glen Canyon National Recreation Area enabling legislation states that the National Park Service will provide for public outdoor recreation use and enjoyment of Lake Powell and adjacent lands in Arizona and Utah</li> <li>• Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources"</li> <li>• NPS Concessions Management Improvement Act of 1998</li> </ul> <p><b>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</b></p> <ul style="list-style-type: none"> <li>• NPS Management Policies 2006</li> <li>• Director's Order 4: <i>Diving Management</i></li> <li>• Director's Order 6: <i>Interpretation and Education</i></li> <li>• Director's Order 9: <i>Law Enforcement Program</i></li> <li>• Director's Order 17: <i>National Park Service Tourism</i></li> <li>• Director's Order 28: <i>Cultural Resource Management</i></li> <li>• Director's Order 42: <i>Accessibility for Visitors with Disabilities in National Park Service Programs and Services</i></li> <li>• Director's Order 48B: <i>Commercial Use Authorizations</i></li> <li>• Director's Order 53: <i>Special Park Uses</i></li> <li>• Director's Order 83: <i>Public Health</i></li> <li>• NPS Natural Resource Management Reference Manual #77</li> <li>• NPS Transportation Planning Guidebook</li> </ul>



Fundamental Resource or Value	Landscape
<b>Related Significance Statements</b>	<p>The Colorado River and its many tributaries, including the Dirty Devil, Paria, Escalante, and San Juan rivers, carve through the Colorado Plateau to form a landscape of dynamic and complex desert and water environments</p> <p>The vast, rugged landscapes of Glen Canyon National Recreation Area provide an unparalleled spectrum of diverse land- and water-based recreational opportunities for visitors of wide-ranging interests and abilities</p> <p>Glen Canyon National Recreation Area preserves a record of more than 10,000 years of human presence, adaptation, and exploration. This place remains significant for many descendant communities, providing opportunities for people to connect with cultural values and associations that are both ancient and contemporary</p> <p>The deep, 15-mile-long, narrow gorge below the dam provides a glimpse of the high canyon walls, ancient rock art, and a vestige of the riparian and beach terrace environments that were seen by John Wesley Powell's Colorado River expedition, providing a stark contrast to the impounded canyons of Lake Powell</p>
<b>Current Conditions and Trends</b>	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• The presence and operation of the Glen Canyon Dam has significantly altered the river corridors in terms of the hydrologic processes, physical landscape, and biological community</li> <li>• The tailwater below the Glen Canyon Dam has been scoured, removing a large percentage of pre-dam sediments, including pre-dam beach terraces. Some pre-dam beach terraces persist but experience varying degrees of ongoing erosion in response to both natural processes and dam operations</li> <li>• Although significantly altered, the Glen Canyon reach below the dam is accessible and continues to provide high quality recreational experiences</li> <li>• Glen Canyon is known for the unique juxtaposition between Lake Powell and the surrounding natural terrain of arid Colorado Plateau</li> <li>• A risk assessment ranked park ecosystems as highly sensitive to nitrogen enrichment effects, relative to all I&amp;M parks. Certain vegetation communities in the park, including grassland plant communities, may be vulnerable to excess nitrogen deposition, which can change communities and reduce biodiversity</li> </ul> <p><b>Trends</b></p> <ul style="list-style-type: none"> <li>• Interest in land-based recreation appears to be increasing, particularly in the Escalante District</li> <li>• The presence of the Glen Canyon Dam is resulting in increased sediment deposition in Lake Powell and upstream tributaries and is resulting in sediment depletion below the Glen Canyon Dam</li> <li>• Site-specific soil disturbance has increased over time in response to recreational use and ongoing management of large portions of the recreation area to support livestock grazing</li> </ul>



Fundamental Resource or Value	Landscape
<b>Challenges and Opportunities</b>	<p><b>Challenges</b></p> <ul style="list-style-type: none"> <li>• Interagency management of resources and coordinating multipark management to determine resource condition and monitor change over time presents ongoing challenges</li> <li>• Climate change</li> <li>• Lack of inventory and monitoring data for many park resources make short- and long-term management difficult</li> <li>• Impacts of visitor use, cattle grazing, and remaining wild burros on vegetation, soils, water quality, and paleontological resources</li> <li>• Unpredictable hydrological conditions, including prolonged periods of drought</li> <li>• The size and remote nature of Glen Canyon National Recreation Area make it difficult to detect and respond to illegal activities. Providing sufficient patrol, monitoring, and oversight to understand and address effects is an ongoing challenge</li> <li>• Monitoring and responding to invasive species proliferation</li> <li>• Air quality is affected by emission sources inside and outside of Glen Canyon National Recreation Area, including the adjacent Navajo Generating Station</li> <li>• Glen Canyon National Recreation Area has some of the darkest night skies in the area. Light pollution from developed areas has the potential to affect the ability of people to experience the dark night sky in the park</li> <li>• Seasonal crowding at popular visitor use areas (accessible shorelines, Horseshoe Bend, and backcountry sites such as Coyote Gulch) can affect visitor experience.</li> </ul> <p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Seek additional funding and partnerships to improve resource inventory, monitoring, education, and management</li> <li>• Enhance opportunities for enjoying and protecting night sky resources</li> <li>• Glen Canyon National Recreation Area provides outstanding opportunities to experience solitude</li> <li>• Recreational opportunities abound</li> <li>• Business opportunities that are consistent with protecting and enjoying Glen Canyon National Recreation Area landscape could be further developed</li> <li>• Improved coordination with the Bureau of Land Management related to administration of grazing on Glen Canyon National Recreation Area lands in accordance with the enabling legislation</li> <li>• Improve monitoring and mitigation related to off-road vehicle use and shoreline access areas</li> <li>• Improve monitoring and mitigation for river resources, including the Colorado River and its tributaries</li> </ul>
<b>Existing Data and Plans Related to the FRV</b>	<ul style="list-style-type: none"> <li>• Visitor study (2007)</li> <li>• Fire management plan (2004)</li> <li>• Personal watercraft use plan (2001)</li> <li>• Strategic plan (1997)</li> <li>• Resource management plan (1995)</li> <li>• Backcountry management plan (1992)</li> <li>• General management plan (1979)</li> </ul>

Fundamental Resource or Value	Landscape
<b>Data and/or GIS Needs</b>	<ul style="list-style-type: none"> <li>• Improved paleontological resource inventory and monitoring efforts—Paleo Blitz (data)</li> <li>• Additional inventory and monitoring of relict communities and upland terrestrial communities</li> <li>• Geologic hazard analysis for the park</li> <li>• Uplake boater access feasibility study</li> <li>• Visitor use data related to visitor experience and crowding, visitor demographics, and statistics</li> <li>• Additional study and monitoring of the effects of flow levels on sediment resources below the Glen Canyon Dam</li> <li>• Cultural landscape and historic structures inventories and reports for Lees Ferry and Hole-in-the-Rock Road</li> <li>• Cultural resources condition assessment</li> <li>• Archeological and rock art surveys/overview and assessment</li> <li>• Wilderness character monitoring / baseline data collection</li> <li>• Visitor use data in proposed wilderness areas where resource impacts are occurring</li> <li>• Natural resources condition assessment and development of indicators and standards</li> <li>• Additional inventory and monitoring of both flora and fauna, including relict communities</li> </ul>
<b>Planning Needs</b>	<ul style="list-style-type: none"> <li>• Wilderness/backcountry management plan</li> <li>• River resources stewardship plans for the Colorado River and tributaries (e.g., Escalante River, San Juan River)</li> <li>• Paleontological resources stewardship plan</li> <li>• Invasive species management plan</li> <li>• Visitor use management plans (e.g., Coyote Gulch management plan, lake use and access plan, Hole-in-the-Rock management plan, frontcountry trail improvement plans)</li> <li>• Climate friendly parks plan</li> </ul>
<b>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</b>	<p><b>Laws, Executive Orders, and Regulations That Apply to the FRV</b></p> <ul style="list-style-type: none"> <li>• Glen Canyon National Recreation Area enabling legislation</li> <li>• Grand Canyon Protection Act</li> <li>• Wilderness Act, 1964</li> <li>• Wild and Scenic Rivers Act (1968)</li> <li>• Superintendent's Compendium</li> <li>• Executive Order 11990, "Protection of Wetlands"</li> <li>• Executive Order 11988, "Floodplain Management"</li> <li>• Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources"</li> </ul> <p><b>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</b></p> <ul style="list-style-type: none"> <li>• NPS Management Policies 2006</li> <li>• Director's Order 41: <i>Wilderness Stewardship</i></li> <li>• NPS Reference Manual 41: <i>Wilderness Stewardship</i></li> <li>• Director's Order 46: <i>Wild and Scenic Rivers</i></li> <li>• NPS Natural Resource Management Reference Manual #77</li> <li>• Director's Order 77-1: <i>Wetland Protection</i></li> <li>• NPS Procedural Manual 77-1: <i>Wetland Protection</i></li> <li>• Director's Order 77-2: <i>Floodplain Management</i></li> <li>• NPS Procedural Manual 77-2: <i>Floodplain Management</i></li> </ul>

Fundamental Resource or Value	Paleontology
<b>Related Significance Statements</b>	<p>The Colorado River and its many tributaries, including the Dirty Devil, Paria, Escalante, and San Juan rivers, carve through the Colorado Plateau to form a landscape of dynamic and complex desert and water environments</p> <p>The deep, 15-mile-long, narrow gorge below the dam provides a glimpse of the high canyon walls, ancient rock art, and a vestige of the riparian and beach terrace environments that were seen by John Wesley Powell's Colorado River expedition, providing a stark contrast to the impounded canyons of Lake Powell</p>
<b>Current Conditions and Trends</b>	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>Location data are available on approximately 350 paleontology sites; of these a small number (&lt;10%) have known condition and trend assessments. There are many additional sites that may be discovered with additional surveys and research</li> </ul> <p><b>Trends</b></p> <ul style="list-style-type: none"> <li>Unknown for &gt;90% of known sites. Sites may be affected by illegal collecting, vandalism, climate change, lake fluctuations, and background erosion</li> </ul>
<b>Challenges and Opportunities</b>	<p><b>Challenges</b></p> <ul style="list-style-type: none"> <li>Ongoing lake fluctuations (wetting/drying cycles) damaging sites</li> <li>Vandalism and illegal collecting, especially of known sites</li> <li>Lack of staff or funds to survey and monitor sites</li> <li>Ongoing effects of climate change including severe flooding and storms, accelerated erosion rates leading to loss of fossils and provenance</li> </ul> <p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>Support ongoing research and educational opportunities related to paleontological resources at Glen Canyon National Recreation Area</li> <li>Develop a site stewardship program for known or significant sites</li> <li>Develop cooperative relationships with Utah Geological Survey or other research groups with paleontological expertise and interests</li> <li>Develop an interdisciplinary team including Visitor and Resource Protection, Science and Resource Management, and Interpretation and Education to monitor, conserve, and interpret sites</li> <li>Work with adjacent parks and agencies (Grand Canyon, Petrified Forest, Zion, Grand Staircase-Escalante) to develop a shared paleontology position</li> </ul>
<b>Existing Data and Plans Related to the FRV</b>	<ul style="list-style-type: none"> <li>Resource management plan (1995)</li> <li>Cultural resource management plan (1987)</li> </ul>
<b>Data and/or GIS Needs</b>	<ul style="list-style-type: none"> <li>Inventory and monitoring of paleontological resources</li> </ul>
<b>Planning Needs</b>	<ul style="list-style-type: none"> <li>Paleontology resource stewardship plan</li> <li>Backcountry/wilderness management plan</li> <li>River resources stewardship plans for the Colorado River and tributaries</li> <li>Frontcountry trail improvement plans</li> </ul>
<b>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</b>	<p><b>Laws, Executive Orders, and Regulations That Apply to the FRV</b></p> <ul style="list-style-type: none"> <li>Paleontological Resources Preservation Act 2009</li> <li>Glen Canyon National Recreation Area enabling legislation (reference to protection of scientific features)</li> </ul> <p><b>NPS Policy-level Guidance (NPS <i>Management Policies</i> 2006 and Director's Orders)</b></p> <ul style="list-style-type: none"> <li>NPS <i>Management Policies</i> 2006</li> </ul>





Fundamental Resource or Value	Water
<b>Related Significance Statements</b>	<p>The Colorado River and its many tributaries, including the Dirty Devil, Paria, Escalante, and San Juan rivers, carve through the Colorado Plateau to form a landscape of dynamic and complex desert and water environments</p> <p>The vast, rugged landscapes of Glen Canyon National Recreation Area provide an unparalleled spectrum of diverse land- and water-based recreational opportunities for visitors of wide-ranging interests and abilities</p> <p>Glen Canyon National Recreation Area preserves a record of more than 10,000 years of human presence, adaptation, and exploration. This place remains significant for many descendant communities, providing opportunities for people to connect with cultural values and associations that are both ancient and contemporary</p> <p>The deep, 15-mile-long, narrow gorge below the dam provides a glimpse of the high canyon walls, ancient rock art, and a vestige of the riparian and beach terrace environments that were seen by John Wesley Powell's Colorado River expedition, providing a stark contrast to the impounded canyons of Lake Powell</p>
<b>Current Conditions and Trends</b>	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Overall water quality at Lake Powell is good. Some beaches experience decreased water quality when waste is improperly disposed of or in response to other site-specific impacts associated with recreational use or the presence of livestock</li> <li>• Water levels at Lake Powell fluctuate dramatically in response to river flows and dam operations. Water levels depend on winter snowpack in the Colorado Mountains and to a lesser extent on monsoon rains and intermittent precipitation</li> <li>• Glen Canyon National Recreation Area includes a variety of aquatic habitats: wetlands, hanging gardens, springs and seeps, ephemeral or perennial streams, water holes, wet shorelines, woody riparian areas, and the reservoir of Lake Powell</li> <li>• All species are dependent on water: fish and wildlife endemic and rare plants, aquatic species such as insects and macroinvertebrates, endangered species, and state special status species</li> <li>• Glen Canyon comprises a series of tributaries to the Colorado River and the Colorado River itself. Several river segments are relatively free from the influence of dams and may be eligible for designation under the Wild and Scenic Rivers Act</li> <li>• Groundwater is the source for springs and hanging gardens</li> <li>• Water in an arid environment: more than 40 rare and endemic plant and animal species are supported by this water; resources and visitor experiences are dependent on the presence of water. Water provides recreational use in and around Lake Powell</li> </ul> <p><b>Trends</b></p> <ul style="list-style-type: none"> <li>• Lake levels fluctuate widely and projections indicate that there may be longer or more frequent drought conditions</li> <li>• As drought conditions persist in the face of increased development pressure outside the park, parties with water rights are seeking to install pipelines to pull water from Lake Powell</li> </ul>

Fundamental Resource or Value	Water
Challenges and Opportunities	<p><b>Challenges</b></p> <ul style="list-style-type: none"> <li>• Lake Powell has been infested by quagga mussels, an aquatic invasive species. Effects on water quality as mussels continue to spread are unknown</li> <li>• The Colorado River segment in Glen Canyon below the dam has been significantly altered in terms of water temperature, turbidity, and the composition and structure of the aquatic ecosystem due to the presence and operation of the Glen Canyon Dam</li> <li>• Aquatic invasive species are present in Lake Powell and to varying degrees in other water bodies in the park</li> <li>• Riparian invasive species are present in many areas and affect the biological community and visitor experience</li> <li>• The effects of climate change remain uncertain but are expected to influence the hydrological cycle and associated systems</li> <li>• The presence of humans and cattle can introduce contaminants if measures to protect water quality are not effectively implemented</li> <li>• Development of surface and groundwaters within, adjacent to, and/or upstream or upgradient from park boundaries, for example: those associated with the operation of the Navajo Generating Station and associated coal mining complex and the proposed North Central Arizona Water Supply Project. Such developments are likely to affect natural and cultural resources because of impacts on water</li> <li>• Maintaining access to water for recreational purposes in response to fluctuating lake levels</li> </ul> <p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Opportunities to educate people about water resources and the consequences of drought, desertification, and climate change</li> <li>• The National Park Service has the opportunity to be more actively engaged in water resource planning efforts associated with the development of water rights and the ongoing operation of the Glen Canyon Dam</li> <li>• Opportunity to become more active in managing resource condition and visitor use of river resources within the recreation area</li> <li>• Seek partners to assist with ongoing monitoring and management of water resources within Glen Canyon National Recreation Area and the surrounding area</li> <li>• Improve administration of grazing, off-road vehicles, and visitor use to protect and improve water quality within Glen Canyon</li> </ul>
Data and/or GIS Needs	<ul style="list-style-type: none"> <li>• Water condition and title assessment (NPS water rights assessment)</li> <li>• Inventory and monitoring of groundwater, seeps, springs, and tributaries</li> <li>• Natural resources condition assessment and development of indicators and standards</li> <li>• Wilderness character monitoring / baseline data collection</li> <li>• Visitor use data in proposed wilderness areas where resource impacts are occurring</li> <li>• Additional inventory and monitoring of both flora and fauna including relict communities</li> </ul>
Planning Needs	<ul style="list-style-type: none"> <li>• River resources stewardship plans for the Colorado River and tributaries (e.g., Escalante River, San Juan River, Glen Canyon reach below the dam)</li> <li>• Lake use and access plan (including uplake boater access plan)</li> <li>• Frontcountry trail improvement plans</li> <li>• Climate friendly parks plan</li> <li>• Forced sewer main emergency action plan / emergency protection plan</li> </ul>

Fundamental Resource or Value	Water
<p><b>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</b></p>	<p><b>Laws, Executive Orders, and Regulations That Apply to the FRV</b></p> <ul style="list-style-type: none"> <li>• PL 93-493 Reclamation Development Act (1974) 88 Stat 1486, section 104</li> <li>• Glen Canyon National Recreation Area enabling legislation</li> <li>• Grand Canyon Protection Act</li> <li>• Executive Order 11990, "Protection of Wetlands"</li> <li>• Executive Order 11988, "Floodplain Management"</li> <li>• Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources"</li> </ul> <p><b>NPS Policy-level Guidance (NPS <i>Management Policies 2006</i> and Director's Orders)</b></p> <ul style="list-style-type: none"> <li>• NPS <i>Management Policies 2006</i></li> <li>• NPS <i>Natural Resource Management Reference Manual 77</i></li> <li>• Director's Order 77-1: <i>Wetland Protection</i></li> <li>• NPS <i>Procedural Manual 77-1: Wetland Protection</i></li> <li>• Director's Order 77-2: <i>Floodplain Management</i></li> <li>• NPS <i>Procedural Manual 77-2: Floodplain Management</i></li> <li>• Director's Order 83: <i>Public Health</i></li> <li>• Reference manuals 83A1, 83A2, 83D1, and 83G3</li> </ul>







## Rainbow Bridge National Monument

Fundamental Resource or Value	Rainbow Bridge
<b>Related Significance Statements</b>	<p>Rainbow Bridge is one of the world's largest natural bridges and is a premier example of eccentric stream erosion in a remote area of the Colorado Plateau</p> <p>For many indigenous peoples in the Four Corners region, Rainbow Bridge is a spiritually occupied landscape that is inseparable from their cultural identities and traditional beliefs</p>
<b>Current Conditions and Trends</b>	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• Rainbow Bridge is a stable landscape feature formed by geological and hydrological processes, including the presence and location of Navajo Mountain and the flow of Bridge Creek through and around Jurassic age sediments</li> <li>• The bedrock below Rainbow Bridge is Kayenta sandstone that supports the upper layers of Navajo sandstone</li> <li>• At lower reservoir levels, lake water does not exist under the bridge but may inundate portions of the lower creek</li> <li>• Access to the site is available to those who own their own boats, those who take air or boat tours, and those who hike to the bridge from the Navajo Reservation.</li> </ul> <p><b>Trends</b></p> <ul style="list-style-type: none"> <li>• Rainbow Bridge appears to be geologically stable. The same geological processes that formed it will eventually bring it down</li> </ul>
<b>Challenges</b>	<ul style="list-style-type: none"> <li>• Providing visitor access to, and around, Rainbow Bridge while avoiding or minimizing potential impacts on the site, particularly in response to fluctuating lake levels</li> <li>• Providing sustainable access to Rainbow Bridge from Lake Powell in response to periodic flooding of Bridge Creek</li> <li>• Preventing graffiti</li> <li>• Maintaining current quality and condition of the area springs and seeps in response to fluctuating lake levels and area development to support visitor use</li> <li>• Rainbow Bridge is a popular destination for boat and air tours, sometimes resulting in visual and noise-related impacts</li> <li>• The existing access to Rainbow Bridge does not meet outdoor accessibility guidelines due to the rugged terrain and effects of fluctuating lake levels.</li> </ul>

Fundamental Resource or Value	Rainbow Bridge
<b>Opportunities</b>	<ul style="list-style-type: none"> <li>• Continue Rainbow Bridge Native American Consultation Committee</li> <li>• Improve relationship with Navajo Nation related to access on both sides of the bridge and the development of trails for tribal and non-native access</li> <li>• Refine and fully implement the long-range interpretive plan</li> <li>• Work with tribes on service projects (i.e., Native Conservation Corps)</li> <li>• Work with air tour operators to help protect Rainbow Bridge and visitor experience both on the ground and in the air</li> </ul>
<b>Existing Data and Plans Related to the FRV</b>	<ul style="list-style-type: none"> <li>• Visitor study (2007)</li> <li>• Fire management plan (2004)</li> <li>• Strategic plan (1997)</li> <li>• Resource management plan (1995)</li> <li>• Backcountry management plan (1992)</li> <li>• General management plan, development concept plan, interpretive prospectus (1993)</li> <li>• Cultural resource management plan (1987)</li> <li>• <i>Rainbow Bridge National Monument General Management Plan, Development Concept Plan, Interpretive Prospectus</i> (1993)</li> </ul>
<b>Data and/or GIS Needs</b>	<ul style="list-style-type: none"> <li>• High-resolution mapping of Rainbow Bridge (LiDar) to inventory existing features (geologic, cultural) associated with the bridge itself to allow for high-quality long-term monitoring</li> <li>• Visitor use data related to quality of visitor experience and visitor use impacts, visitor use patterns, and preferences</li> <li>• Historic structures report</li> <li>• Floodplain analysis</li> </ul>
<b>Planning Needs</b>	<ul style="list-style-type: none"> <li>• Updated site plan (stewardship plan/development concept plan) to address kinds and amounts of visitor use and management actions to protect Rainbow Bridge while providing appropriate visitor use and enjoyment (Addressed in the context of a general management plan)</li> <li>• Air tour management plan or voluntary agreement to address commercial air tours</li> <li>• Comprehensive interpretive plan</li> <li>• Commercial visitor services plan</li> <li>• Vegetation management plan</li> </ul>
<b>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</b>	<p><b>Laws, Executive Orders, and Regulations That Apply to the FRV</b></p> <ul style="list-style-type: none"> <li>• Rainbow Bridge Proclamation</li> <li>• Superintendent's Compendium</li> <li>• NPS Concessions Management Improvement Act of 1998</li> </ul> <p><b>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</b></p> <ul style="list-style-type: none"> <li>• NPS Management Policies 2006</li> <li>• Executive Order 11988, "Floodplain Protection"</li> <li>• Director's Order 48B: <i>Commercial Use Authorizations</i></li> <li>• NPS Natural Resource Management Reference Manual #77</li> <li>• Director's Order 77-2: <i>Floodplain Management</i></li> <li>• NPS Procedural Manual 77-2: <i>Floodplain Management</i></li> </ul>





Fundamental Resource or Value	Traditional Cultural Properties and Values
Related Significance Statements	<p>Rainbow Bridge is one of the world’s largest natural bridges and is a premier example of eccentric stream erosion in a remote area of the Colorado Plateau</p> <p>For many indigenous peoples in the Four Corners region, Rainbow Bridge is a spiritually occupied landscape that is inseparable from their cultural identities and traditional beliefs</p>
Current Conditions	<p><b>Conditions</b></p> <ul style="list-style-type: none"><li>• Rainbow Bridge and the surrounding landscape are considered sacred and still vital to the histories and cultures of five associated American Indian tribes (Hopi Tribe, Kaibab Paiute Tribe, Navajo Nation, San Juan Southern Paiute Tribe, and the Ute Mountain Ute Tribe [White Mesa Band]) These tribes consider Rainbow Bridge and the surrounding land to be both a sacred site and a traditional cultural property</li><li>• From the perspectives of the five associated tribes, the integrity of Rainbow Bridge as a sacred site and traditional cultural property is compromised by partial inundation of the associated landscape and the high number of annual visitors (90,000) to Rainbow Bridge</li><li>• Shrines have been inundated by water</li><li>• Seeps and springs have been inundated or otherwise impacted by visitors</li><li>• The presence and timing of overflights is considered problematic by associated tribes</li><li>• The relationship between the National Park Service (Glen Canyon National Recreation Area and Rainbow Bridge National Monument) and the associated tribes is respectful and productive</li><li>• Intensive management of the docks due to frequently changing lake levels</li><li>• The NPS concessioner operates regular boat tours to Rainbow Bridge</li><li>• Extensive nonnative plant control has occurred over the last 10 years</li></ul>

Fundamental Resource or Value	Traditional Cultural Properties and Values
<b>Trends</b>	<p><b>Trends</b></p> <ul style="list-style-type: none"> <li>• Rainbow Bridge continues to increase in popularity as a visitor destination, both on the ground and as an air tour destination</li> <li>• The National Park Service anticipates that the associated tribes will continue to express concern about the impacts of increased visitation</li> </ul>
<b>Challenges and Opportunities</b>	<p><b>Challenges</b></p> <ul style="list-style-type: none"> <li>• Mediating the sometimes conflicting interests of preservation for traditional living communities and enjoyment by visitors</li> <li>• Logistical and infrastructure challenges continue in the management of Rainbow Bridge National Monument. These challenges may be increasing with climate change-related impacts and the unpredictable nature of stream flows and lake levels</li> <li>• Voluntary compliance with the expressed tribal preference that visitors not walk under Rainbow Bridge</li> </ul> <p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Improve relationships with associated tribes, including the Navajo Nation related to access on both sides of the bridge and the development of trails for tribal and public access</li> <li>• Inform visitors on the sensitivity and sacredness of the site</li> <li>• Seek designation as a World Heritage Site</li> <li>• Work collaboratively with Facilities staff and the Rainbow Bridge National Monument Native American Consultation Committee to use mutually agreeable materials associated with infrastructure, e.g., the trail and the ramada building</li> <li>• Refine and fully implement the long-range interpretive plan</li> <li>• Work with tribes on service projects (i.e., Native Conservation Corps)</li> <li>• More fully engage tribes in visitor education associated with Rainbow Bridge</li> <li>• Increase opportunities for native peoples to visit the site</li> <li>• Increase access and interpretive/educational programming for students</li> <li>• Work with air tour operators to avoid or reduce adverse effects on the traditional cultural property</li> </ul>
<b>Existing Data and Plans Related to the FRV</b>	<ul style="list-style-type: none"> <li>• <i>Rainbow Bridge National Monument General Management Plan, Development Concept Plan, Resource Management Plan, Interpretive Prospectus</i> (1993)</li> <li>• Resource management plan (1995)</li> <li>• Cultural resource management plan (1987)</li> </ul>
<b>Data and/or GIS Needs</b>	<ul style="list-style-type: none"> <li>• Complete documentation for the traditional cultural property and the national register nomination</li> <li>• Complete archeological inventory</li> <li>• Soundscape/sound baseline and monitoring data</li> <li>• Historic structures report</li> <li>• Traditional ecological knowledge assessment</li> </ul>
<b>Planning Needs</b>	<ul style="list-style-type: none"> <li>• Air tour management plan or voluntary agreement to address commercial air tours</li> <li>• General management plan</li> <li>• Comprehensive interpretive plan</li> <li>• Commercial visitor services plan</li> <li>• Vegetation management plan</li> </ul>

Fundamental Resource or Value	Traditional Cultural Properties and Values
<p><b>Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance</b></p>	<p><b>Laws, Executive Orders, and Regulations That Apply to the FRV</b></p> <ul style="list-style-type: none"><li>• Rainbow Bridge Proclamation</li><li>• Programmatic Agreement with Native American Consultation Committee</li><li>• American Indian Religious Freedom Act</li><li>• Archaeological Resources Protection Act of 1979</li><li>• Native American Graves Protection and Repatriation Act of 1990</li><li>• Executive Order 11593, "Protection and Enhancement of the Cultural Environment"</li><li>• Executive Order 13007, "Indian Sacred Sites"</li><li>• Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments"</li><li>• Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources"</li><li>• 36 CFR 800 "Protection of Historic Properties"</li><li>• Presidential Memorandum on Tribal Consultation, November 2009</li></ul> <p><b>NPS Policy-level Guidance (<i>NPS Management Policies 2006</i> and <i>Director's Orders</i>)</b></p> <ul style="list-style-type: none"><li>• 2008 Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference on State Historic Preservation Officers</li><li>• <i>NPS Management Policies 2006</i></li><li>• <i>Director's Order 28: Cultural Resource Management</i></li><li>• <i>Director's Order 28A: Archeology</i></li><li>• <i>The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i></li></ul>





## Analysis of Other Important Resources and Values

### Glen Canyon National Recreation Area

Other Important Resource or Value	Wilderness
<b>Related Significance Statements</b>	<p>The Colorado River and its many tributaries, including the Dirty Devil, Paria, Escalante, and San Juan rivers, carve through the Colorado Plateau to form a landscape of dynamic and complex desert and water environments</p> <p>The vast, rugged landscapes of Glen Canyon National Recreation Area provide an unparalleled spectrum of diverse land- and water-based recreational opportunities for visitors of wide-ranging interests and abilities</p> <p>Glen Canyon National Recreation Area preserves a record of more than 10,000 years of human presence, adaptation, and exploration. This place remains significant for many descendant communities, providing opportunities for people to connect with cultural values and associations that are both ancient and contemporary</p> <p>The deep, 15-mile-long, narrow gorge below the dam provides a glimpse of the high canyon walls, ancient rock art, and a vestige of the riparian and beach terrace environments that were seen by John Wesley Powell's Colorado River expedition, providing a stark contrast to the impounded canyons of Lake Powell</p>
<b>Current Conditions and Trends</b>	<p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>Limited developed access to many areas</li> <li>Damage to some archeological sites due to increased visitation</li> <li>Large area, much unvisited although some popular areas receive intense use and visitation (Coyote Gulch)</li> <li>Currently no visitor use limits in place within proposed wilderness areas</li> </ul> <p><b>Trends</b></p> <ul style="list-style-type: none"> <li>Increase in people accessing wilderness areas</li> <li>Increased visitor use-related impacts in popular areas such as Coyote Gulch.</li> </ul>
<b>Challenges and Opportunities</b>	<p><b>Challenges</b></p> <ul style="list-style-type: none"> <li>Off-road vehicle use / requests from counties to open roads adjacent to or within proposed wilderness</li> <li>Grazing-related impacts on water quality, vegetation, soils, visitor experience, and cultural sites</li> <li>Air quality is affected by sources inside and outside park boundaries. Resources impacted by air quality include plant communities and wildlife</li> <li>Climate change and associated effects on ecological processes, including hydrologic patterns and biological communities</li> <li>Challenges associated with protecting wilderness character</li> <li>Managing air tours to avoid or minimize noise and visual impacts on proposed wilderness areas</li> <li>Lack of staff to adequately manage wilderness resources and visitor use</li> <li>Protection of night sky resources as development outside proposed wilderness increases over time</li> <li>Differing land management perspectives among federal, state, and local agencies and elected officials, including potential claims under R S 2477</li> <li>BOR right-of-way / jurisdictional area adjacent to or overlapping proposed wilderness area</li> <li>Extent of management within proposed wilderness that requires administrative use of installations, motorized or mechanical access, motorized equipment, and landing of aircraft</li> </ul>

Other Important Resource or Value	Wilderness
<b>Challenges and Opportunities</b>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Incredible visitor opportunities to experience solitude, primitive recreation, undeveloped desert landscapes, night skies, and open vistas within wilderness areas</li> <li>• Opportunity to attract or cultivate visitors with a wilderness ethic not traditionally associated with recreation areas</li> <li>• Opportunity to provide increased range of recreation opportunities, including hiking and backpacking opportunities that are different from dominant lake-based recreation at Glen Canyon</li> <li>• Develop partnerships for promoting wilderness stewardship and education</li> <li>• Develop partnerships in monitoring and restoring wilderness resources</li> <li>• Wilderness character monitoring framework recently developed, needs implementation</li> <li>• Opportunity to increase use of minimum requirement decision guidelines to inform park decisions and management actions.</li> </ul>
<b>Existing Data and Plans Related to the FRV</b>	<ul style="list-style-type: none"> <li>• Wilderness character narrative</li> <li>• Visitor study (2007)</li> <li>• Fire management plan (2004)</li> <li>• Strategic plan (1997)</li> <li>• Resource management plan (1995)</li> <li>• Backcountry management plan (1992)</li> <li>• General management plan (1979)</li> <li>• Cultural resource management plan (1987)</li> </ul>
<b>Data and/or GIS Needs</b>	<ul style="list-style-type: none"> <li>• Visitor use data are needed, but limited or nonexistent for much of the proposed wilderness area, including but not limited to visitor demographics and kinds and amounts of visitor use</li> <li>• Collection of baseline data through implementation of wilderness character monitoring program</li> <li>• Uplake boater access feasibility study</li> <li>• Inventory and monitoring of paleontological resources</li> <li>• Inventory and monitoring of tributaries, groundwater, seeps, springs, and water pockets</li> <li>• Natural resources condition assessment and development of indicators and standards</li> <li>• Cultural landscape and historic structures inventories and reports for Lees Ferry and Hole-in-the-Rock Road</li> <li>• Cultural resources condition assessment</li> <li>• Archeological and rock art surveys / overview and assessment</li> </ul>
<b>Planning Needs</b>	<ul style="list-style-type: none"> <li>• Backcountry/wilderness management plan</li> <li>• Coyote Gulch visitor use management plan needed to address visitor use-related adverse impacts on park resources and values</li> <li>• River resources stewardship plans for the Colorado River and tributaries (e.g., Escalante River, San Juan River, and Glen Canyon reach)</li> <li>• Air tour management plan or voluntary agreement pursuant to the National Parks Air Tour Management Act</li> <li>• Lake use and access plan</li> <li>• Paleontological resources stewardship plan</li> </ul>

Other Important Resource or Value	Wilderness
<p><b>Laws, Executive Orders, and Regulations That Apply to the OIRV, and NPS Policy-level Guidance</b></p>	<p><b>Laws, Executive Orders, and Regulations That Apply to the OIRV</b></p> <ul style="list-style-type: none"> <li>• Wilderness Act, 1964;</li> <li>• Paleontological Resources Preservation Act (pending, Senate Bill S 263), USC Title 9, Chapter 79, 5937</li> <li>• Glen Canyon Wilderness Recommendation (1980)</li> <li>• Glen Canyon National Recreation Area wilderness character monitoring framework</li> <li>• Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources"</li> </ul> <p><b>NPS Policy-level Guidance (NPS <i>Management Policies 2006</i> and Director's Orders)</b></p> <ul style="list-style-type: none"> <li>• NPS <i>Management Policies 2006</i>, chapter 6</li> <li>• Director's Order 41: <i>Wilderness Stewardship</i></li> <li>• NPS <i>Reference Manual 41: Wilderness Stewardship</i></li> </ul>



## Identification of Key Issues and Associated Planning and Data Needs

This section considers key issues to be addressed in planning and management and therefore takes a broader view over the primary focus of part 1. A key issue focuses on a question that is important for a park. Key issues often raise questions regarding park purpose and significance and fundamental and other important resources and values. For example, a key issue may pertain to the potential for a fundamental or other important resource or value in a park to be detrimentally affected by discretionary management decisions. A key issue may also address crucial questions not directly related to purpose and significance, but still indirectly affects them. Usually, a key issue is one that a future planning effort or data collection needs to address and requires a decision by NPS managers.

The following are key issues for Glen Canyon National Recreation Area and the associated planning and data needs to address them:

- The 1979 general management plan is outdated and a new long-term general management plan is needed.
- Development and resource management priorities identified in the 1979 general management plan do not adequately reflect updated legal guidance and existing conditions of park resource protection and visitor use management needs. Zoning designations are geographically ambiguous in some key locations that contribute to management and visitor use conflicts.
- Several long-term agreements between the park and the Navajo Nation describing coordination and cooperation to further economic development will be expiring beginning in 2020. The park should begin to revisit these agreements prior to, or as part of developing an updated general management plan or commercial services strategy.
- The park and the City of Page need to develop a joint implementation strategy regarding frontcountry trail development (e.g., Horseshoe Bend and the Rim Trail).
- The operation of the Glen Canyon Dam has effects on Glen Canyon National Recreation Area resources and values both above and below the dam. Management needs to continue to participate in interagency efforts to influence dam operations, such as the DOI Adaptive Management Program and DOI Long-Term Experimental and Management Plan (in process). Improved monitoring and mitigation are also needed. Data needs are covered in the prioritized table (e.g., study to assess flow impacts on sediment in Glen Canyon reach).
- Fluctuating lake levels and sedimentation in key areas have eliminated or complicated visitor access to the lake in multiple locations. An updated strategy to provide and maintain visitor access and commercial services is needed. Examples include lake access and commercial visitor services plan.
- Visitor use in some areas is resulting in substantial resource impacts and seasonal crowding. This includes, but is not limited to, Coyote Gulch in the Escalante Canyons area and at heritage resources that may be accessed from Lake Powell. Additional data are needed to support planning.
- Natural resources inventory and monitoring data is lacking for several key resources and locations within Glen Canyon National Recreation Area. These data are needed to inform management decisions related to resource protection and visitor use management. Examples from the table: Natural resources condition assessment, development of indicators and standards and associated monitoring plan.



- Aquatic invasive species threaten aquatic ecosystems, recreational use, and key infrastructure in Lake Powell and adjacent river habitats. Park management needs to develop a long-term sustainable strategy to address this concern. Examples include development of river management plans and lake-based operation and management plans.
- Glen Canyon National Recreation Area's enabling legislation designates the Bureau of Land Management as the administering agency for grazing and mineral leases within the park while requiring that the National Park Service ensure that the administration of these leases is consistent with the 1916 Organic Act and other requirements in the Glen Canyon National Recreation Area enabling legislation related to resource protection. Closer interagency coordination of this effort is needed as well as data. Example from the table: natural resource condition assessment, development of indicators and standards, and associated monitoring plan.
- Visitor and employee safety / risk management and quality of life are ongoing priorities at Glen Canyon National Recreation Area. Planning and data needs will be identified as appropriate.
- Air tours over Glen Canyon National Recreation Area have the potential to affect park resources and values. An air tour management plan or voluntary agreement is needed to manage air tours in a manner that protects or improves resource conditions in compliance with the National Parks Air Tour Management Act, as amended.
- Many river segments contained within Glen Canyon National Recreation Area are listed on the National River Inventory and have been assigned potential classifications under the wild and scenic rivers criteria. The park may want to pursue wild and scenic river status in the future. In addition, the National Park Service cooperates with the Bureau of Land Management to manage recreational use on tributary rivers such as the San Juan River.
- Glen Canyon National Recreation Area has the third largest concession operation in the National Park Service. Business partners (concessioners) operate all marinas, lodging, restaurant, retail, and many other visitor services at the recreation area. New contracts are needed to update existing concession operations. Several commercial services that are provided by commercial use authorizations may be more appropriately managed via concession contract. An updated strategy is needed to conform with the NPS Concessions Management Improvement Act of 1998, and to make informed decisions that continue a high level of visitor service in accordance with applicable law and policy.
- Climate change models project an increase in average annual temperature between 5.2°F and 8.6°F (2.9°C–4.8°C) with almost no change in precipitation by 2100. This would result in a dryer landscape, impacting water levels in Lake Powell and associated municipal and recreational uses. Climate change models project a decrease in run-off of 10%–30% by 2100 and half of the live storage in Lake Powell could be gone by 2021 from human use and climate change. Climate change will be considered as part of scenario planning and in other park planning efforts as necessary.

The following are key issues for Rainbow Bridge National Monument and the associated planning and data needs to address them:

- Maintaining visitor access and visitor experience is especially challenging due to fluctuating lake levels that require frequent management actions to maintain access from Lake Powell. This includes adjusting the location of the public dock and associated infrastructure and the rehabilitation or rebuilding of affected segments of the public access trail from the lake.
- Primary access to Rainbow Bridge requires travel on a trail that exists primarily on a terrace above the Bridge Creek floodplain. Floods in this drainage periodically damage or obliterate portions of the trail.
- Seasonal crowding may occur at Rainbow Bridge, occasionally exceeding visitor capacity as described in the Rainbow Bridge general management plan. Visitor use impacts may also occur due to high levels of air tour activity over Rainbow Bridge. Similar to Glen Canyon National Recreation Area, the development of an air tour management plan or voluntary agreement is needed to comply with the National Parks Air Tour Management Act, as amended.
- Providing universal accessibility has not been possible due to geologic and topographic challenges and the presence of sensitive resources. A more thorough assessment of the potential to improve accessibility is needed.
- Invasive nonnative plants require active management to prevent displacement of native plants, including species that are listed at the Utah state level.





## Planning and Data Needs

The planning and data needs listed here are directly related to protecting fundamental resources and values, park significance, and park purpose, as well as addressing key issues. To successfully undertake a planning effort, information from sources such as inventories, studies, research activities, and analyses may be required to provide adequate knowledge of park resources and visitor information. Such information sources have been identified as data needs. Geospatial mapping tasks and products are included in data needs.

Items considered of the utmost importance were identified as high priority, and other items identified, but not rising to the level of high priority, were listed as either medium- or low-priority needs. These priorities inform park management efforts to secure funding and support for planning projects.

Prioritization Criteria (as defined and agreed upon by park staff):

- High Priority = imminent threat to FRV (approaching unacceptable impacts); imminent life / health / safety concerns; significant impact on visitor experience, 1–2 year need / immediate
- Medium Priority = imminent threat to a park resource or value that is not an FRV; modest impact on visitor experience; 3–4 year need
- Low Priority = nice to know/do, but not need to know/do; unconfirmed, not well-understood threat; may resolve itself over time; 5 year and out need

The following are planning and data needs for Glen Canyon National Recreation Area:

Planning Needs – Where A Decision-making Process Is Needed			
Related to an FRV or OIRV?	Planning Needs	Priority (H, M, L)	Notes
<b>Visitor Use-related Plans</b>			
Y	General management plan (Lake Powell)	H	Updated guidance related to zoning, resource management, and visitor use is needed across the park. Need to determine if best approach is through a general management plan process or through multiple separate planning efforts.
Y	Lake use and access plan (water, Lake Powell, landscape, wilderness)	H	Maintaining visitor access to Lake Powell is complicated by fluctuating water levels and sediment deposition in some key areas. An updated strategy is needed to provide access for boaters and shoreline use areas. Could tie into other issues: visitor use, carrying capacity, monitoring indicators and standards, zoning, the effects of aquatic invasive species. The 1995 visitor use study includes zoning, protection of natural and cultural resources. Would also address lake access to Rainbow Bridge.
Y	Coyote Gulch visitor use management plan – proposed (heritage resources, water, landscape, wilderness)	H	Coyote Gulch is an area of high visitor use that requires attention prior to the development of a parkwide backcountry/wilderness management plan due to substantial ongoing resource impacts.
Y	Backcountry/wilderness management plan (heritage resources, water, landscape, wilderness, paleontology)	H	High due to effect /impact on park resources and visitor experience. Visitor use-related resource impacts require attention. Strategies to be considered include improved visitor outreach and use allocation (permit requirements) for both overnight and day use. Ties into visitor data needs.

Planning Needs – Where A Decision-making Process Is Needed			
Related to an FRV or OIRV?	Planning Needs	Priority (H, M, L)	Notes
<b>Visitor Use-related Plans</b>			
Parkwide issue	Commercial services strategy	H	Business partners operate all marinas, lodging, restaurant, retail, and many other visitor services at Glen Canyon National Recreation Area and Rainbow Bridge National Monument. New contracts are needed to update existing concession operations and several commercial services that are provided by commercial use authorizations may be more appropriately managed via concession contract. An updated strategy is needed to conform to the NPS Concessions Management Improvement Act of 1998 and to make informed decisions that continue a high level of visitor service in accordance with applicable law and policy.
Parkwide Issue	Comprehensive interpretive plan	H	During development of the foundation document the interpretive themes were updated for the park. The current plan is outdated and does not reflect current priorities, visitor use patterns, and demographic needs.
Y	Lees Ferry / Glen Canyon reach visitor use plan (heritage resources, water, landscape, wilderness)	L	The Lees Ferry / Glen Canyon area below the dam receive substantial visitor use. Currently there are no permits required for river use or camping. Guidance is needed to ensure that resources are protected while providing for a high-quality visitor experience. This plan may be most timely after the Glen Canyon Dam long-term experimental and management plan is complete.
Y	Hole-in-the-Rock Road visitor use management plan (heritage resources, Lake Powell, landscape)	L	The Hole-in-the-Rock Road is a popular destination and key access point for many backcountry trails. The site has cultural significance to The Church of Latter-day Saints and is seen as a potential economic development opportunity by local communities. A plan is needed to inform management decisions related to proposed development, visitor use, and resource protection.
Y	Frontcountry trail improvement plan(s) (heritage resources, Lake Powell, water, landscape, paleontology)	L	Visitor use at several key sites has been increasing and would benefit from updated site planning. Key sites near Page, Arizona, include the existing Rim Trail (partially within Glen Canyon), Horseshoe Bend overlook, the Dam Overlook, and the Hanging Garden Trail. There is interest in partnering with the City of Page to improve the existing trail network to provide bicycle and pedestrian access from the City of Page to these key sites and to Lakeshore Drive.
<b>Water and Geological Resources-related Plans</b>			
Y	River resources stewardship plans for the Colorado River and tributaries (e.g., Escalante River, San Juan River) (heritage resources, Lake Powell, water, landscape, wilderness, paleontology)	M	Potential imminent threats due to dwindling native fish populations, risk of aquatic invasive species. Plans would inform visitor use management related to river recreation as well.
Y	Paleontological resources stewardship plan (landscape, wilderness, paleontology)	M	Linked to paleontological inventory. Need inventory first preferably but already getting requests for new excavation and improved visitor info. Would also develop a site stewardship plan.

Planning Needs – Where A Decision-making Process Is Needed			
Related to an FRV or OIRV?	Planning Needs	Priority (H, M, L)	Notes
<b>Cultural Resources-related Plans</b>			
Y	Shoreline cultural resources protection plan (heritage resources, Lake Powell)	M	Data gathering to be completed first Will require funding response
Y	Revise cultural resource management plan (heritage resources)	L	3–4 years: after the inventories and reports are complete Existing plan was developed in the 1980s
Y	Historic structure preservation plans (heritage resources)	L	Site-specific implementation plans
<b>Vegetation-related Plans</b>			
Y	Invasive plant management plan (landscape)	L	Critical to natural resource protection Ties to recreation and safety Current management may be ad hoc/ reactionary rather than strategic
<b>Facilities and Asset-related Plans</b>			
Y	Forced sewer main emergency action plan / emergency protection plan (Lake Powell, water, landscape)	H	Wahweap to City of Page A strategy is needed to plan for responses should the sewage pipe fail
Y	Updated operations strategy to address the effects of aquatic invasive species, particularly quagga mussels	H	A long-term strategy to address the effects of aquatic invasive species, particularly quagga mussels in Lake Powell, is needed
Y	Sustainable energy strategy	L	Continue to look for sustainable energy solutions Currently, many facilities run on diesel While a strategy for supplying energy is currently in place, a long-term sustainable energy solution is needed
<b>Administration and Operations-related Plans</b>			
Y	Communications improvement plan (Lake Powell, landscape, wilderness)	M	Site-by- site now, health safety concerns are modest Glen Canyon National Recreation Area has some pending requests to install new infrastructure to provide improved cellular and radio communications
Y	Climate friendly parks plan (Lake Powell, water, landscape)	L	This is a goal established in the park environmental management system document



Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or OIRV?	Data and GIS Needs	Priority (H, M, L)	Notes, Including Which Planning Need This Data Need Relates To
<b>Visitor Use Data</b>			
Y	Uplake boater access feasibility study (heritage resources, Lake Powell, water, landscape, wilderness)	H	Utah proposal for uplake marina development to support visitor access in response to low lake levels and loss of Hite due to low water and increased sedimentation
Y	Visitor use data as related to visitor experience and crowding, visitor demographics and statistics (heritage resources, Lake Powell, water, landscape, wilderness)	M	Statistical information regarding visitor use patterns and issues related to crowding / carrying capacity are needed to inform management actions related to proposed development and resource management actions
<b>Geologic and Water Resources Data</b>			
Y	Paleontological data – inventory and monitoring of paleontological resources (heritage resources, landscape, wilderness, paleontology)	H	Inventory what paleontological data we currently have and identify what types of knowledge are missing Improve GIS data support for paleontological resources.
Y	Water condition and title assessment (water)	H	Inventory and conduct risk assessment of known water resources, compare to existing state water right tabulation, and determine administrative action to be taken
Y	Geologic hazards assessment (landscape)	M	Identify the risks associated with geologic hazards and identify high-risk zones
Y	Study to assess flow impact on sediment in Glen Canyon reach (heritage resources, landscape)	M	Ongoing risk to remaining resources below the dam Little understanding of the response of remaining pre-dam beach terraces to more frequent high flow releases from the dam
Y	Inventory and monitoring of tributaries, groundwater, seeps, springs, and water pockets (water, landscape, wilderness)	M	Critical resources in arid environment Many species dependent on these resources, data needed to inform management decisions related to grazing, off-road vehicle use, and visitor use management
<b>Terrestrial Resources Data</b>			
Y	Natural resource condition assessment and development of indicators and standards (water, landscape, wilderness)	H	Data needed to inform management decisions related to resource protection and visitor use Data are needed parkwide, including river corridors, grazing allotments, recreational use areas, and in proposed wilderness
Y	Additional inventory and monitoring of both flora and fauna, including relict communities (landscape, heritage resources, water)	M	Data are needed to inform park management regarding many plant and animal species and communities (including desert bighorn sheep, spotted owls)
<b>Cultural Resource Data</b>			
Y	Cultural sites protection strategy (heritage resources)	H	Cultural sites that are accessible by lake are being affected in many areas by visitor use that has resulted in both intentional and inadvertent damage to cultural sites A strategy is needed to inform management decisions, including in the proposed lake use and access plan

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or OIRV?	Data and GIS Needs	Priority (H, M, L)	Notes, Including Which Planning Need This Data Need Relates To
<b>Cultural Resource Data</b>			
Y	Complete baseline inventory and assessment of the national register eligibility of cultural resources in grazing allotments (heritage resources)	H	Glen Canyon is working with the Bureau of Land Management to improve coordination of grazing activities in the park and apply an adaptive management approach to ensure the protection of park resources and values. Improved baseline information is needed to allow future monitoring efforts to determine if resource condition is stable or changing in response to range management actions.
Y	Cultural landscape and historic structures inventories and reports for Lees Ferry, and Hole-in-the-Rock Road, and other areas (heritage resources, landscape, wilderness)	M	Inventory happens first followed by report, 3–4 years for both inventory and report.
Y	Cultural resource condition assessment (heritage resources, landscape, wilderness)	M	Assessment of extent and effects of off-road vehicle use, grazing, and related activities.
Y	Archeological and rock art surveys/overview and assessment (heritage resources, landscape, wilderness)	L	Connected to site-specific management plans, this overview deals with the baseline data, capturing broad parkwide categories and site-specific plans.
Y	Traditional ecological knowledge assessment (heritage resources)	L	The focus of the assessment would involve consultation with associated tribes to identify the traditional ecological knowledge they may hold regarding their association with the Colorado River within the Glen Canyon National Recreation Area jurisdiction. In various consultation venues associated with the adaptive management plan and the long-term experimental management plan, tribes have articulated their desire to inform us about both their knowledge and practices related to vegetation, farming associated with river terraces, fish, and other natural resources in that river corridor. Further, their knowledge has a strong potential to inform current NPS and Glen Canyon Monitoring and Research Center management practices. The Assistant Secretary of the Interior is supportive of federal jurisdictions working in partnerships with these tribes to obtain and employ the traditional ecological knowledge of associated tribes.
<b>Wilderness Data</b>			
Y	Wilderness character monitoring / baseline data collection (heritage resources, water, landscape, wilderness)	M	Glen Canyon National Recreation Area needs to collect baseline data related to wilderness character to allow future monitoring efforts to detect change over time. Detecting evidence of an adverse trend would help determine when management action is needed.
Y	Visitor use data in proposed wilderness areas where resource impacts are occurring (heritage resources, water, landscape, wilderness)	M	Visitor use data are limited or nonexistent for much of the proposed wilderness area, including but not limited to visitor demographics and kinds and amounts of visitor use.



The following are planning and data needs for Rainbow Bridge National Monument:

Planning Needs – Where A Decision-making Process Is Needed			
Related to an FRV or OIRV?	Planning Needs	Priority (H, M, L)	Notes
<b>Visitor Use-related Plans</b>			
Y	Air tour management plan or voluntary agreement (Rainbow Bridge, traditional cultural property and values)	H	Informed by soundscape data, would comply with requirements of National Parks Air Tour Management Act, as amended. Would address challenges associated with providing for a high-quality visitor experience for ground- and air-based visitation to Rainbow Bridge while protecting park resources and values.
Y	General management plan (Rainbow Bridge, traditional cultural property and values)	M	The general management plan for Rainbow Bridge is more than 20 years old and needs to be revisited due to changing visitor use patterns. Linked to visitor use capacity study. Would establish desired conditions and indicators and standards for visitor experience and identify a range of management actions that may help achieve desired conditions related to visitor experience.
Y	Comprehensive interpretive plan (Rainbow Bridge, traditional cultural property and values)	M	Would be informed by visitor use capacity study and visitor use management plan.
Y	Commercial services strategy (Rainbow Bridge, traditional cultural property and values)	M	Would be informed by visitor use management plan and long-range interpretive plan and would conform to the NPS Concessions Management Improvement Act of 1998.
<b>Vegetation-related Plans</b>			
Y	Vegetation management plan (traditional cultural property and values)	L	Would evaluate and prioritize strategies for maintaining and restoring native plant communities, including various treatments to address high-priority nonnative plants.



<b>Data Needs – Where Information Is Needed Before Decisions Can Be Made</b>			
<b>Related to an FRV or OIRV?</b>	<b>Data and GIS Needs</b>	<b>Priority (H, M, L)</b>	<b>Notes, Including Which Planning Need This Data Need Relates To</b>
<b>Visitor Use Data</b>			
Y	Soundscape/sound baseline and monitoring data (traditional cultural property and values)	H	Include boats and air tours This will inform visitor use management plan and air tour management plan or voluntary agreement with air tour operators
Y	Visitor use data related to quality of visitor experience and carrying capacity; visitor use patterns and preferences (Rainbow Bridge, traditional cultural property and values)	M	Data needed to inform area planning decisions related to visitor use management (concession tour operations, air tours, interpretation, and facility design and maintenance)
<b>Cultural Resources Data</b>			
Y	Archeological inventory (traditional cultural property and values)	M	Needs to happen before historic structures report
Y	Visitor use data related to quality of visitor experience and visitor use impacts, visitor use patterns, and preferences (Rainbow Bridge, traditional cultural property and values)	M	For all cultural resources, not just structures Needed for archeological resources
Y	Complete documentation of traditional cultural property and national register nomination; includes ethnographic work (traditional cultural property and values)	L	Would help inform ongoing management and interpretation of the site
Y	Traditional ecological knowledge assessment (traditional cultural properties)	L	The focus of the assessment would involve consultation with associated tribes to identify the traditional ecological knowledge they may hold regarding their association with the Colorado River within the Glen Canyon National Recreation Area jurisdiction In various consultation venues associated with the adaptive management plan and the long-term experimental management plan tribes have articulated their desire to inform us about both their knowledge and practices related to vegetation, farming associated with river terraces, fish, and other natural resources in that river corridor Further, their knowledge has a strong potential to inform current NPS and Glen Canyon Monitoring and Research Center management practices The Assistant Secretary of the Interior is supportive of federal jurisdictions working in partnerships with these tribes to obtain and employ the traditional ecological knowledge of associated tribes
<b>Physical Resources Data</b>			
Y	Floodplain analysis (Rainbow Bridge)	H	Data needed to support future planning for visitor use, including trail development and the design and placement of infrastructure
Y	Detailed mapping of Rainbow Bridge (Rainbow Bridge)	L	Highly accurate mapping (LiDar) to allow for long-term monitoring of physical condition of Rainbow Bridge

## Part 3: Contributors

### Park

Mark Anderson, Aquatic Ecologist  
Thann Baker, Archeologist  
Todd W Brindle, Superintendent  
Brian Carey, Management Assistant  
Chris Cook, Facility Manager  
Katie Couch, Interpreter  
Julie Drugatz, Chief of Business Management  
Carl Elleard, Project Manager  
Rob Gordon, Administrative Officer  
Gayle Hartline, Uplake Program Assistant for Visitor and Resources Protection  
Garry Heinze, Buildings and Utilities Supervisor  
Steve Henry, Wilderness Program Coordinator  
Chris Hughes, Chief of Science and Resource Management  
Lindy Mihata, Chief Ranger  
Jeanne Roy, Interpreter  
Denise Shultz, Chief of Interpretation, Education, and Partnerships  
Chuck Smith, Interpreter (Rainbow Bridge)  
John Spence, Terrestrial Resources Branch Chief  
Erik Stanfield, Archeologist  
Rosemary Sucec, Cultural Resources Program Manager  
Tim Sveum, Park Ranger  
Christopher L Thompson, Uplake Supervisor for Facilities Management  
Teri Tucker, Chief of Planning & Compliance

### Region

Liza Ermeling, Community Planner, NPS Intermountain Regional Office  
Darcee Killpack, Regional GIS Coordinator, NPS Intermountain Regional Office

### Other NPS Staff

Melody Bentfield, Contract Librarian, Denver Service Center-Planning  
Ken Bingenheimer, Contract Editor, Denver Service Center-Planning  
Tamara Delaplane, Project Manager, Denver Service Center-Planning  
Erin Flanagan, Project Manager, Denver Service Center-Planning  
Pam Holtman, Quality Assurance Coordinator, WASO Park Planning and Special Studies  
Susan McPartland, Project Specialist, Denver Service Center-Planning  
Nancy Shock, Foundation Coordinator, Denver Service Center-Planning  
Phil Thys, Graphics, Denver Service Center-Planning  
Brenda Todd, Project Manager, Denver Service Center-Planning  
Mark Wondzell, Water Resources Division, Natural Resource Stewardship and Science

## Appendixes

### Appendix A: Enabling Legislation and Legislative Acts for Glen Canyon National Recreation Area and Presidential Proclamation for Rainbow Bridge National Monument

Public Law 92-593

AN ACT

To establish the Glen Canyon National Recreation Area in the States of Arizona and Utah.

October 27, 1972  
[S. 27]

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That in order to provide for public outdoor recreation use and enjoyment of Lake Powell and lands adjacent thereto in the States of Arizona and Utah and to preserve scenic, scientific, and historic features contributing to public enjoyment of the area, there is established the Glen Canyon National Recreation Area (hereafter referred to as the "recreation area") to comprise the area generally depicted on the drawing entitled "Boundary Map Glen Canyon National Recreation Area," numbered GLC-91,006 and dated August 1972, which is on file and available for public inspection in the office of the National Park Service, Department of the Interior. The Secretary of the Interior (hereafter referred to as the "Secretary") may revise the boundaries of the recreation area from time to time by publication in the Federal Register of a revised drawing or other boundary description, but the total acreage of the national recreation area may not exceed one million two hundred and thirty-six thousand eight hundred and eighty acres.

Glen Canyon  
National Recreation  
Area, Ariz.-  
Utah.  
Establishment.

Publication in  
Federal Register.

SEC. 2. (a) Within the boundaries of the recreation area, the Secretary may acquire lands and interests in lands by donation, purchase, or exchange. Any lands owned by the States of Utah or Arizona, or any State, political subdivisions thereof, may be acquired only by donation or exchange. No lands held in trust for any Indian tribe may be acquired except with the concurrence of the tribal council.

Land acquisition.

(b) Nothing in this Act shall be construed to affect the mineral rights reserved to the Navajo Indian Tribe under section 2 of the Act of September 2, 1958 (72 Stat. 1686), or the rights reserved to the Navajo Indian Tribal Council in said section 2 with respect to the use of the lands there described under the heading "PARCEL B".

Limitation.



Public lands,  
withdrawal.

64 Stat. 463.

41 Stat. 437;  
74 Stat. 790.

61 Stat. 913.

Funds, disposi-  
tion.

Administration.

70 Stat. 105.  
43 USC 620.

Hunting and  
fishing.

Leases.

Easements and  
rights-of-way.

Proposed road,  
study.

SEC. 3. (a) The lands within the recreation area, subject to valid existing rights, are withdrawn from location, entry, and patent under the United States mining laws. Under such regulations as he deems appropriate, the Secretary shall permit the removal of the nonleasable minerals from lands or interests in lands within the national recreation area in the manner prescribed by section 10 of the Act of August 4, 1939, as amended (53 Stat. 1196; 43 U.S.C. 387 et seq.), and he shall permit the removal of leasable minerals from lands or interests in lands within the recreation area in accordance with the Mineral Leasing Act of February 25, 1920, as amended (30 U.S.C. 181 et seq.), or the Acquired Lands Mineral Leasing Act of August 7, 1947 (30 U.S.C. 351 et seq.), if he finds that such disposition would not have significant adverse effects on the Glen Canyon project or on the administration of the national recreation area pursuant to this Act.

(b) All receipts derived from permits and leases issued on lands in the recreation area under the Mineral Leasing Act of February 25, 1920, as amended, or the Act of August 7, 1947, shall be disposed of as provided in the applicable Act; and receipts from the disposition of nonleasable minerals within the recreation area shall be disposed of in the same manner as moneys received from the sale of public lands.

SEC. 4. The Secretary shall administer, protect, and develop the recreation area in accordance with the provisions of the Act of August 25, 1916 (39 Stat. 535; 16 U.S.C. 1 et seq.), as amended and supplemented, and with any other statutory authority available to him for the conservation and management of natural resources to the extent he finds such authority will further the purposes of this Act: *Provided, however*, That nothing in this Act shall affect or interfere with the authority of the Secretary granted by Public Law 485, Eighty-fourth Congress, second session, to operate Glen Canyon Dam and Reservoir in accordance with the purposes of the Colorado River Storage Project Act for river regulation, irrigation, flood control, and generation of hydroelectric power.

SEC. 5. The Secretary shall permit hunting, fishing, and trapping on lands and waters under his jurisdiction within the boundaries of the recreation area in accordance with applicable laws of the United States and the States of Utah and Arizona, except that the Secretary may designate zones where, and establish periods when, no hunting, fishing, or trapping shall be permitted for reasons of public safety, administration, or public use and enjoyment. Except in emergencies, any regulation of the Secretary pursuant to this section shall be put into effect only after consultation with the appropriate State fish and game department.

SEC. 6. The administration of mineral and grazing leases within the recreation area shall be by the Bureau of Land Management. The same policies followed by the Bureau of Land Management in issuing and administering mineral and grazing leases on other lands under its jurisdiction shall be followed in regard to the lands within the boundaries of the recreation area, subject to the provisions of sections 3(a) and 4 of this Act.

SEC. 7. The Secretary shall grant easements and rights-of-way on a nondiscriminatory basis upon, over, under, across, or along any component of the recreation area unless he finds that the route of such easements and rights-of-way would have significant adverse effects on the administration of the recreation area.

SEC. 8. (a) The Secretary together with the Highway Department of the State of Utah, shall conduct a study of proposed road alignments within and adjacent to the recreation area. Such study shall locate the specific route of a scenic, low-speed road, hereby authorized, from Glen Canyon City to Bullfrog Basin, crossing the Escalante

River south of the point where the river has entered Lake Powell when the lake is at the three thousand seven hundred-foot level. In determining the route for this road, special care shall be taken to minimize any adverse environmental impact and said road is not required to meet ordinary secondary road standards as to grade, alinement, and curvature. Turnouts, overlooks, and scenic vistas may be included in the road plan. In no event shall said route cross the Escalante River north of Stephens Arch.

(b) The study shall include a reasonable timetable for the engineering, planning, and construction of the road authorized in section 8(a) and the Secretary of the Interior shall adhere to said timetable in every way feasible to him.

(c) The Secretary is authorized to construct and maintain markers and other interpretive devices consistent with highway safety standards.

(d) The study specified in section 8(a) hereof shall designate what additional roads are appropriate and necessary for full utilization of the area for the purposes of this Act and to connect with all roads of ingress to, and egress from the recreation area.

(e) The findings and conclusions of the Secretary and the Highway Department of the State of Utah, specified in section 8(a), shall be submitted to Congress within two years of the date of enactment of this Act, and shall include recommendations for any further legislation necessary to implement the findings and conclusions. It shall specify the funds necessary for appropriation in order to meet the timetable fixed in section 8(b).

SEC. 9. Within two years from the date of enactment of this Act, the Secretary shall report to the President, in accordance with subsections 3(c) and 3(d) of the Wilderness Act (78 Stat. 890; 16 U.S.C. 1132 (c) and (d)), his recommendations as to the suitability or non-suitability of any area within the recreation area for preservation as wilderness, and any designation of any such area as wilderness shall be in accordance with said Wilderness Act.

SEC. 10. There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this Act, not to exceed, however, \$400,000 for the acquisition of lands and interests in lands and not to exceed \$37,325,400 for development. The sums authorized in this section shall be available for acquisition and development undertaken subsequent to the approval of this Act.

Approved October 27, 1972.

Construction.

Markers.

Additional roads.

Report to Congress.

Report to President.

16 USC 1131 note.  
Appropriation.



Photo by Gary Ladd

## **TITLE XVIII -- GRAND CANYON PROTECTION**

### **SECTION 1801. SHORT TITLE.**

**This Act may be cited as the "Grand Canyon Protection Act of 1992".**

### **SEC. 1802. PROTECTION OF GRAND CANYON NATIONAL PARK.**

(a) In General. -- 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.

(b) Compliance With Existing Law. -- The Secretary shall implement this section 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.

(c) Rule of Construction. -- Nothing in this title alters the purposes for which the Grand Canyon National Park or the Glen Canyon National Recreation Area were established or affects the authority and responsibility of the Secretary with respect to the management and administration of the Grand Canyon National Park and Glen Canyon National Recreation Area, including natural and cultural resources and visitor use, under laws applicable to those areas, including, but not limited to, the Act of August 25, 1916 (39 Stat. 535) as amended and supplemented.

### **SEC. 1803. INTERIM PROTECTION OF GRAND CANYON NATIONAL PARK.**

(a) Interim Operations. -- Pending compliance by the Secretary with section 1804, the Secretary shall, on an interim basis, continue to operate Glen Canyon Dam under the Secretary's announced interim operating criteria and the Interagency Agreement between the Bureau of Reclamation and the Western Area Power Administration executed October 2, 1991 and exercise other authorities under existing law, in accordance with the standards set forth in Section 1802, utilizing the best and most recent scientific data available.

(b) Consultation. -- The Secretary shall continue to implement Interim Operations in consultation with--

(1) Appropriate agencies of the Department of the Interior, including the Bureau of Reclamation, United States Fish and Wildlife Service, and the National Park Service;

(2) The Secretary of Energy;



(3) The Governors of the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming;

(4) Indian Tribes; and

(5) The general public, including representatives of the academic and scientific communities, environmental organizations, the recreation industry, and contractors for the purchase of Federal power produced at Glen Canyon Dam.

(c) Deviation From Interim Operations. -- The Secretary may deviate from Interim Operations upon a finding that deviation is necessary and in the public interest to --

(1) comply with the requirements of Section 1804(a);

(2) respond to hydrologic extremes or power system operation emergencies;

(3) comply with the standards set forth in Section 1802;

(4) respond to advances in scientific data; or

(5) comply with the terms of the Interagency Agreement.

(d) Termination of Interim Operations. -- Interim operations described in this section shall terminate upon compliance by the Secretary with Section 1804.

**SEC. 1804. GLEN CANYON DAM ENVIRONMENTAL IMPACT STATEMENT; LONG-TERM OPERATION OF GLEN CANYON DAM.**

(a) Final Environmental Impact Statement. -- Not later than 2 years after the date of enactment of this Act, the Secretary shall complete a final Glen Canyon Dam environmental impact statement, in accordance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et. seq.).

(b) Audit. -- The Comptroller General shall--

(1) audit the costs and benefits to water and power users and to natural, recreational, and cultural resources resulting from management policies and dam operations identified pursuant to the environmental impact statement described in subsection (a); and

(2) report the results of the audit to the Secretary and the Congress.

(c) Adoption of Criteria and Plans. --

(1) Based on the findings, conclusions, and recommendations made in the environmental impact statement prepared pursuant to subsection (a) and the audit performed pursuant to subsection (b), the Secretary shall --

(A) adopt criteria and operating plans separate from and in addition to those specified in section 602(b) of the Colorado River Basin

Project Act of 1968 and

(B) exercise other authorities under existing law, so as to ensure that Glen Canyon Dam is operated in a manner consistent with section 1802.

(2) Each year after the date of the adoption of criteria and operating plans pursuant to paragraph (1), the Secretary shall transmit to the Congress and to the Governors of the Colorado River Basin States a report, separate from and in addition to the report specified in section 602(b) of the Colorado River Basin Project Act of 1968 on the preceding year and the projected year operations undertaken pursuant to this Act.

(3) In preparing the criteria and operating plans described in section 602(b) of the Colorado River Basin Project Act of 1968 and in this subsection, the Secretary shall consult with the Governors of the Colorado River Basin States and with the general public, including--

(A) representatives of academic and scientific communities;

(B) environmental organizations;

(C) the recreation industry; and

(D) contractors for the purchase of Federal power produced at Glen Canyon Dam.

(d) Report to Congress. --Upon implementation of long-term operations under subsection (c), the Secretary shall submit to the Congress the environmental impact statement described in subsection (a) and a report describing the long-term operations and other reasonable mitigation measures taken to protect, mitigate adverse impacts to, and improve the condition of the natural recreational, and cultural resources of the Colorado River downstream of Glen Canyon Dam.

(e) Allocation of Costs. --The Secretary of the Interior, in consultation with the Secretary of Energy, is directed to reallocate the costs of construction, operation, maintenance, replacement and emergency expenditures for Glen Canyon Dam among the purposes directed in section 1802 of this Act and the purposes established in the Colorado River Storage Project Act of April 11, 1956 (70 Stat. 170). Costs allocated to section 1802 purposes shall be nonreimbursable. Except that in Fiscal Year 1993 through 1997 such costs shall be nonreimbursable only to the extent to which the Secretary finds the effect of all provisions of this Act is to increase net offsetting receipts; Provided, further that if the Secretary finds in any such year that the enactment of this Act does cause a reduction net offsetting receipts generated by all provisions of this Act, the costs allocated to section 1802 purposes shall remain nonreimbursable. The Secretary shall determine the effect of all the provisions of this Act and submit a report to the appropriate House and Senate committees by January 31 of each fiscal year, and such report shall contain for that fiscal year a detailed accounting of expenditures incurred pursuant to this Act, offsetting receipts generated by this Act, and may increase or reduction in net offsetting receipts generated by this Act.

#### **SEC. 1805. LONG-TERM MONITORING**

(a) In General. --The Secretary shall establish and implement long-term monitoring programs and activities that will ensure that Glen Canyon Dam is operated in a manner consistent with that of section 1802.

(b) Research. -- Long-term monitoring of Glen Canyon Dam shall include any necessary research and studies to determine the effect of the Secretary's actions under section 1804(c) on the natural, recreational, and cultural resources of Grand Canyon National Park and Glen Canyon National Recreation Area.

(c) Consultation. -- The monitoring programs and activities conducted under subsection (a) shall be established and implemented in consultation with--

- (1) the Secretary of Energy;
- (2) the Governors of the States of Arizona, California, Colorado, Nevada, New Mexico, Utah, and Wyoming;
- (3) Indian tribes; and
- (4) the general public, including representatives of academic and scientific communities, environmental organizations, the recreation industry, and contractors for the purchase of Federal power produced at Glen Canyon Dam.

#### **SEC. 1806. RULES OF CONSTRUCTION.**

Nothing in this title is intended to affect in any way--

- (1) the allocations of water secured to the Colorado Basin States by any compact, law, or decree; or
- (2) any Federal environmental law, including the Endangered Species Act (16 U.S.C. 1531 et seq.).

#### **SEC. 1807. STUDIES NONREIMBURSABLE.**

All costs of preparing the environmental impact statement described in section 1804, including supporting studies, and the long-term monitoring programs and activities described in section 1805 shall be nonreimbursable. The Secretary is authorized to use funds received from the sale of electric power and energy from the Colorado River Storage Project to prepare the environmental impact statement described in section 1804, including supporting studies, and the long-term monitoring programs and activities described in section 1805, except that such funds will be treated as having been repaid and returned to the general fund of the Treasury as costs assigned to power for repayment under section 5 of the Act of April 11, 1956 (70 Stat. 170). Except that in Fiscal Year 1993 through 1997 such provisions shall take effect only to the extent to which the Secretary finds the effect of all the provisions of this Act is to increase net offsetting receipts; Provided, further that if the Secretary finds in any such year that the enactment of this Act does cause a reduction in net offsetting receipts generated by all provisions of this Act, all costs described in this section shall remain nonreimbursable. The Secretary shall determine the effect of all the provisions of this Act and submit a report to the appropriate House and Senate

committees by January 31 of each fiscal year, and such report shall contain for that fiscal year a detailed accounting of expenditures incurred pursuant to this Act, offsetting receipts generated by this Act, and any increase or reduction in net offsetting receipts generated by this Act.

#### **SEC. 1808. AUTHORIZATION OF APPROPRIATIONS.**

There are authorized to be appropriated such sums as are necessary to carry out this title.

#### **SEC. 1809. REPLACEMENT POWER.**

The Secretary of Energy in consultation with the Secretary of the Interior and with representatives of the Colorado River Storage Project power customers, environmental organizations and the States of Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming shall identify economically and technically feasible methods of replacing any power generation that is lost through adoption of long-term operational criteria for Glen Canyon Dam as required by Section 1804 of this title. The Secretary shall present a report of the findings, and implementing draft legislation, if necessary, not later than two years after adoption of long-term operating criteria. The Secretary shall include an investigation of the feasibility of adjusting operations at Hoover Dam to replace all or part of such lost generation. The Secretary shall include an investigation of the modifications or additions to the transmission system that may be required to acquire and deliver replacement power.



September 2, 1958  
[S. 3754]  
72 Stat. 1686

## PUBLIC LAW 85-868

## AN ACT

To provide for the exchange of lands between the United States and the Navajo Tribe, and for other purposes.

Indians.  
Navajo Tribe.  
Land exchange.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That (a) the Secretary of the Interior shall, in consideration of and as just compensation for the transfer made by section 2 of this Act as well as for the use and occupancy of the lands therein described under terms of the right-of-way granted March 22, 1957, by the Secretary pursuant to the Act of February 5, 1948 (62 Stat. 17), transfer to the Navajo Tribe so much of the block of public lands (exclusive of the minerals therein, but inclusive of all range improvements constructed thereon) described in subsection (c) of this section, as shall constitute a reasonably compact area equal in acreage to the lands transferred to the United States under section 2, and the lands so transferred shall constitute a part of the Navajo Reservation and shall be held by the United States in trust for the Navajo Tribe and shall be subject to all laws and regulations applicable to that reservation. The owners of range improvements of a permanent nature placed, under the authority of a permit from or agreement with the United States, on lands transferred pursuant to this section shall be compensated for the reasonable value of such improvements, as determined by the Secretary out of appropriations available for the construction of the Glen Canyon unit, Colorado River storage project. To the extent that the Secretary is unable to transfer, from the lands described in subsection (c), lands equal in acreage to the lands transferred to the United States under section 2, because of the existence of valid rights in other parties than the United States (other than the rights described in subsection (d) of this section), he shall transfer to the Navajo Tribe such other available public lands (exclusive of the minerals therein but inclusive of all range improvements thereon) in reasonable proximity to the Navajo Reservation and to the lands described in subsection (c) as the tribe, with the concurrence of the Secretary, may select and as may be necessary to transfer to the tribe equal acreage in exchange for the lands transferred under section 2, and those lands so transferred shall be treated in the same manner as other lands transferred pursuant to this section.

Mineral activities.

(b) Subject to valid, existing rights, in addition to other requirements under applicable laws and regulations, mineral activities affecting the land transferred pursuant to this section shall be subject to such regulations, which may include, among others, a requirement for the posting of bond or other undertaking, as the Secretary may prescribe for protection of the interests of the Indians. Patents issued with respect to mining claims on the lands transferred pursuant to this section shall be limited to the minerals only, and for a period of ten years after the effective date of this Act, none of the lands described in subsection (c) of this section shall be open to location and entry under the general mining laws.

(c) The block of public lands (which lies to the north and west of the portion of the present Navajo Reservation in San Juan County, Utah, and abuts the reservation's boundaries within the county) from which the transfer under this section is to be made, is described as follows:

11687

## 1 SALT LAKE MERIDIAN

Township 38 south, range 23 east: Sections 26, 33, 34, and 35.  
Township 38 south, range 24 east: Section 28; section 29, east half; sections 31, 33, 34, and 35.

Township 39 south, range 22 east: Sections 13, 24, 25, and 35, those portions lying east of Recapture Creek.

Township 39 south, range 23 east: Sections 1, 3, 4, and 5; sections 8 to 15, inclusive; section 17; sections 18 and 19, those portions lying east of Recapture Creek; sections 20 to 31, inclusive; sections 33, 34, and 35.

Township 39 south, range 24 east: Section 1; sections 3 to 15, inclusive; sections 17 to 24, inclusive; sections 26 and 27, those portions lying north and west of the present Navajo Indian Reservation; sections 28, 29, 30, 31, and 33; section 34, that portion lying north and west of the present Navajo Indian Reservation.

Township 39 south, range 25 east: Sections 5, 6, 7, 8, and 18.

Township 40 south, range 22 east: Section 1; sections 11, 12, 13, 23, 24, 25, and 26, those portions lying east of Recapture Creek and north of the present Navajo Indian Reservation.

Township 40 south, range 23 east: Section 1; sections 3 to 15, inclusive; sections 17 to 23, inclusive; section 26; sections 24, 25, 27, 28, 29, 30, 34, and 35, those portions lying north and west of the present Navajo Indian Reservation.

Township 40 south, range 24 east: Sections 3, 4, 5, those portions lying north and west of the present Navajo Indian Reservation; section 6; sections 7, 8, 18, and 19, those portions lying north and west of the present Navajo Indian Reservation.

(d) The transfer hereinabove provided for shall also be deemed to constitute full and complete satisfaction of any and all rights which are based solely upon Indian use and occupancy or possession claimed by or on behalf of any individual members of the Navajo Tribe in their individual capacities or any groups or identifiable bands thereof to any and all public lands in San Juan County, Utah, outside the exterior boundaries of the Navajo Indian Reservation as the same are described in:

(1) The Act of March 1, 1933 (ch. 160, 47 Stat. 1418);

(2) Executive Order 324A of May 15, 1905;

(3) Executive order of May 17, 1884; and

all such rights to such lands are hereby extinguished from and after January 1, 1963. Subject to the provision of section 2 of this Act, and subject to valid existing rights, all public lands of the United States within said exterior boundaries of said reservation are hereby declared to be held in trust for the benefit of the Navajo Tribe of Indians. The term "public lands" as used herein shall be deemed to include but in no way to be limited to lands and the mineral deposits which originally may have been excluded from said reservation by reason of settlement or occupancy or other valid rights then existing, but since relinquished, extinguished, or otherwise terminated. The tribe is hereby authorized to adopt such rules and regulations as it deems appropriate, with the approval of the Secretary, for residence and use of the lands transferred pursuant to this section: *Provided*, That the tribal council shall give preference until January 1, 1963, in granting residence and use rights to: (1) those Navajos who, prior to the effective date of this Act, have used or occupied the transferred lands and (2) those Navajos who, prior to the effective date of this Act, have used or occupied other public lands in San Juan County, Utah.

1(e) Upon application of the Navajo Tribe, the Secretary shall grant to the tribe, to be held in trust by the United States for use of tribal members grazing livestock upon the lands transferred under this section, a nonexclusive easement, of suitable width and location as he determines, for a livestock driveway across the public lands in sections 21, 22, 23, and 24, township 39 south, range 22 east, and in section 19, township 39 south, range 23 east, Salt Lake meridian, to connect with United States Highway Numbered 47. Use of said nonexclusive easement shall be in accordance with regulations prescribed by the

25 U. S. C. 337a.  
43 U. S. C. 190a.

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Highway rights-of-way.

Secretary, and future uses and dispositions of the public lands affected shall be subject to said easement.

(f) The transfer of lands to the Navajo Tribe, as provided in this section, shall not affect the status of rights-of-way for public highways traversing such lands, which rights-of-way shall remain available for public use, including the movement of livestock thereon.

(g) The Secretary of the Interior shall compensate persons whose grazing permits, licenses or leases covering lands transferred to the Navajo Tribe pursuant to this section are canceled because of such transfer. Such compensation shall be determined in accordance with the standard prescribed by the Act of July 9, 1942, as amended (43 U. S. C. 315q). Such compensation shall be paid from appropriations available for the construction of the Glen Canyon unit, Colorado River storage project.

71 Stat. 633,  
18 U. S. C. 115.

SEC. 2. (a) There is hereby transferred to the United States all the right, title, and interest of the Navajo Tribe in and to the lands (exclusive of the minerals therein) described in subsection (b) of this section. These lands shall no longer be "Indian country" within the meaning of title 18, United States Code, section 115, and they shall have the status of public lands withdrawn and being administered pursuant to the Federal reclamation laws and shall be subject to all laws and regulations governing the use and disposition of public lands in that status. The rights herein transferred shall not extend to the utilization of the lands hereinafter described under the heading "parcel B" for public recreational facilities without the approval of the Navajo Tribal Council. No permit, lease, license, or other right covering the exploration for or extraction of the minerals herein reserved to the tribe shall be granted or exercised by or on behalf of the tribe except under such conditions and with such restrictions, limitations, or stipulations as the Secretary deems appropriate, in connection with the Glen Canyon unit, to protect the interests of the United States and of its grantees, licensees, transferees, and permittees, and their heirs and assigns. Subject to the mineral rights herein reserved to the tribe as aforesaid, the Secretary may dispose of lots in townsites established on the lands transferred under this section, together with improvements thereon, under such terms and conditions as he determines to be appropriate, including provisions for payment for the furnishing of municipal facilities and services while such facilities and services are provided by the United States and for the establishment of liens in connection therewith, but no disposition shall be at less than the current fair market value, and he may dedicate portions of lands in such townsites, whether or not improved, for public purposes and transfer the land so dedicated to appropriate State or local public bodies and nonprofit corporations. He may also enter into contracts with State or local public bodies and nonprofit corporations whereby either party may undertake to render to the other such services in aid of the performance of activities and functions of a municipal, governmental, or public or quasi-public nature as will, in the Secretary's judgment, contribute substantially to the efficiency or the economy of the operations of the Department of the Interior in connection with the Glen Canyon unit.

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(b) The lands which are transferred under this section are described as follows:

#### PARCEL A

The following tract of unsurveyed land situated in Arizona: Beginning on the easterly bank of the Colorado River at a point where said easterly bank is intersected by the south line of section 9, township 40 north, range 8 east, Gila and Salt River base and meridian; thence upstream along the said easterly bank of the Colorado River to a point where said bank intersects the east line of section 16, township 41



north, range 9 east, Gila and Salt River base and meridian; thence south along the east line of sections 16, 21, 28, and 33 of said township 41 north, range 9 east, to the south line of said section 33; thence west along the south line of said section 33 to the east line of section 4, township 40 north, range 9 east, Gila and Salt River base and meridian; thence south along the east line of sections 4 and 9 of said township 40 north, range 9 east, to the south line of said section 9; thence west along the south line of sections 9, 8, and 7 of said township 40 north, range 9 east, and along the south line of sections 12, 11, 10, and 9 of said township 40 north, range 8 east, Gila and Salt River base and meridian to the point of beginning.

#### PARCEL B

The following tract of land in part unsurveyed situated in Arizona and Utah: Beginning at a point where the east line of section 16, township 41 north, range 9 east, Gila and Salt River base and meridian intersects the north boundary of the Navajo Indian Reservation in Arizona; thence upstream in Arizona and Utah along the north boundary of the reservation to a point where said north boundary intersects a contour line the elevation of which is 3,720 mean sea level (United States Coast and Geodetic Survey datum), said point being at approximate river mile 72.7 on the San Juan River above its confluence with the Colorado River, and also being near the east line of township 40 south, range 15 east, Salt Lake base and meridian; thence generally southwesterly within the Navajo Indian Reservation along said contour line the elevation of which is 3,720, to the point where said contour line intersects the east line of section 16, township 41 north, range 9 east, Gila and Salt River base and meridian; thence north along said east line to the point of beginning.

(c) The Secretary and the tribe may enter into such agreements as are appropriate for the utilization, under permits or easements, of such tribal lands, in the vicinity of Rainbow Bridge National Monument, as may be necessary in connection with the carrying out of any measures undertaken to preclude impairment of the monument as provided by section 1 of the Act of April 11, 1956 (70 Stat. 105).

43 U. S. C. 620.

(d) As used in this and in the preceding section of this Act, the term "minerals" shall not be construed to include sand, gravel, or other building or construction materials.

SEC. 3. (a) The State of Utah may convey to the United States title to any State-owned lands within the area described in subsection (b) of this section or subsection (c) of section 1 of this Act as base lands for indemnity selections under sections 2275 and 2276 of the Revised Statutes (43 U. S. C., secs. 851, 852). The Secretary of the Interior shall give priority to indemnity selection applications made pursuant to this subsection by the State of Utah. However, all conveyances made pursuant to this subsection, whether by the United States or by the State of Utah, shall contain a reservation of the minerals to the grantor. Lands conveyed to the United States under this section shall be subject to selection by the Secretary of the Interior, and transfer to, the Navajo Tribe in the same manner as, and under the same terms and conditions as, lands described in subsection (c) of section 1 of this Act. Notwithstanding a conveyance to the United States of State-owned lands in accordance with the provisions of this subsection, such conveyance shall not prevent the Navajo Tribe from asserting, in any manner that would have been available to the tribe if the conveyance had not been made, a claim of title, if any, to the lands conveyed by the State that the tribe asserts is superior to the title asserted by the State of Utah. If a claim of title so asserted by the Navajo Tribe determined to be superior to the title asserted by the State of Utah, and if the Navajo Tribe has selected such lands as a part of the transfer authorized by section 1 of this Act, the Navajo

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Tribe shall be permitted to select other lands described in subsection (c) of section 1 in lieu thereof.

(b) The lands referred to in subsection (a) of this section and not described in subsection (c) of section 1 of this Act are described as follows:

**SALT LAKE MERIDIAN**

Township 38 south, range 23 east: section 36.

Township 38 south, range 24 east: section 32.

Township 39 south, range 22 east: section 36.

Township 39 south, range 23 east: sections 2, 16, 32, and 36.

Township 39 south, range 24 east: sections 2, 16, and 32.

Township 40 south, range 22 east: section 2.

Township 40 south, range 23 east: sections 2, 16, and 36.

Indemnity selections.

(c) The right of the State of Utah to make indemnity selections under the terms of this section shall expire five years after the date of approval of this Act.

Approved, September 2, 1958.

**Federal Register / Vol. 44, No. 228 / Rules and Regulations 67383**

**DEPARTMENT OF THE INTERIOR**

**Bureau of Land Management**

**43 CFR Ch. II, Appendix**

**[Public Land Order 5687]**

**Restoration of Certain Lands To Navajo Tribe**

**AGENCY:** Bureau of Land Management,  
Department of the Interior.

**ACTION:** Public Land Order.

The above-described lands comprise what is known as the Navajo Tribe Antelope Creek Recreation Development Area and are shown on Bureau of Reclamation drawing No. 557-431-38, dated May 22, 1969, entitled "Navajo Tribe—Antelope Creek Recreation Development Area Survey Traverse," on file and available for public inspection in the office of the Bureau of Reclamation, Department of the Interior.

2. This transfer of title to the above-described lands is made in consideration of Navajo Tribal Council Resolution numbered CJN-50-69, dated June 3, 1969, which more specifically provides that the Navajo Tribe agrees that of the 50,000 acre-feet of water per year allocated to the State of Arizona, pursuant to Article III(a) of the Upper Colorado River Basin Compact, 34,100 acre-feet shall be used for a coal-fired powerplant, to be located on the Navajo Reservation, for the lifetime of the proposed powerplant or for 50 years, whichever occurs first; and an estimated 3,000 acre-feet of water per year may be used for the Glen Canyon Unit of the Colorado River Storage Project along with its associated community and recreation developments in Arizona.

Dated: November 14, 1979.

**Cecil D. Andrus,**  
*Secretary of the Interior.*

[FR Doc. 79-36214 Filed 11-23-79; 8:45 am]

**BILLING CODE 4310-09-M**

PROCLAMATIONS, 1910.

2703

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

## A PROCLAMATION

WHEREAS, an extraordinary natural bridge, having an arch which is in form and appearance much like a rainbow, and which is three hundred and nine feet high and two hundred and seventy-eight feet span, is of great scientific interest as an example of eccentric

stream erosion, and it appears that the public interest would be promoted by reserving this bridge as a National Monument, together with as much land as may be needed for its protection;

Now, therefore, I, William H. Taft, President of the United States of America, by virtue of Section two of the act of Congress approved June 8, 1906, entitled, "An Act for the Preservation of American Antiquities," do hereby set aside as the Rainbow Bridge National Monument, one surveyed tract of land, embracing said natural bridge, containing one hundred and sixty acres of land, in square form, the southeast corner of which bears from mile post No. 179 of the Utah-Arizona boundary line, north sixty degrees and twenty-five minutes West, seven miles and sixty-seven and eighty-seven one hundredths chains distant, as shown upon the diagram hereto attached and made a part of this proclamation.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure or destroy any object hereby included in a National Monument, nor to settle upon any of the lands reserved and made a part of said Monument by this proclamation.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the city of Washington this thirtieth day of May, in the year of our Lord one thousand nine hundred and ten and  
[SEAL.] the Independence of the United States the one hundred and thirty-fourth.

WM H TAFT

By the President:

P C KNOX

*Secretary of State.*



## Appendix B: Inventory of Special Mandates and Administrative Commitments

Special Mandates—Glen Canyon National Recreation Area					
Name	Agreement Type	Start Date / Expiration Date	Stakeholders	Purpose	Notes
Public Law 92-593, Sec 3: Permits for mineral extraction	Permits (multiple)	Ongoing	Park, permit holders	Allow the removal of leasable minerals from lands in the recreation area	Commits the park to monitoring mineral extraction  There are no valid claims, but 17 mineral lease offers are under review
Public Law 92-593, Sec 4: Dam operations		Ongoing	Park, BOR	States that nothing in the establishment of the recreation area shall affect or interfere with the authority of the Secretary of Interior to operate Glen Canyon Dam and Reservoir in accordance with the purposes of the Colorado River Storage Project Act for river regulation, irrigation, flood control, and generation of hydroelectric power	Further guidance provided by Grand Canyon Protection Act in 1992
Grand Canyon Protection Act		1992 / Ongoing	Park, Grand Canyon, BOR	Requires that the Glen Canyon Dam shall be operated in such a way as to protect, mitigate adverse impacts to, and improve the values for which ... Glen Canyon National Recreation Area was established	The National Park Service coordinates with the Bureau of Reclamation to develop and evaluate the effects of dam operations on park resources and values This includes but is not limited to natural and cultural resources and visitor use
Public Law 95-593, Sec 5: Permit hunting, fishing, and trapping	Permits (multiple)	Ongoing	Park, States of Utah and Arizona, permit holders	Allow hunting, fishing, trapping in accordance with applicable laws of the United States and the States of Utah and Arizona, except in designated zones or times where deemed necessary for public safety, administration, or public use and enjoyment	Except in emergencies, any federal regulation related to hunting, fishing, and trapping within the recreation area shall be put into effect only after consultation with the appropriate state fish and game department

Special Mandates—Glen Canyon National Recreation Area					
Name	Agreement Type	Start Date / Expiration Date	Stakeholders	Purpose	Notes
Public Law 95-593 Sec 6: BLM shall administer mineral and grazing leases	Leases (multiple)	Ongoing	Park, BLM, lease holders	Allows grazing; designates the Bureau of Land Management as the administering agency for mineral and grazing leases in the recreation area, subject to the provisions of the NPS Organic Act and other legal authorities for the conservation and management of natural resources	Commits the park to manage the recreation area in the context of grazing and mineral leases to ensure that there would be no significant adverse effects on the Glen Canyon project or the administration of the recreation area in accordance with the Glen Canyon National Recreation Area enabling legislation and the NPS Organic Act
Public Law 95-593 Sec 7: Easements and rights-of-way	Multiple	Ongoing	Park, easement / right-of-way holders	Mandates nondiscriminatory allowance of rights-of-way and easements on, over, under, across, or along any component of the recreation area unless the easement or right-of-way would have significant adverse effects on the administration of the recreation area	Commits park to evaluate requests for easements and rights-of-way and to approve such requests unless they would have significant adverse effects on the administration of the recreation area
1979 general management plan and wilderness suitability study		1979 / Perpetual	Park	NPS mandate to manage potential wilderness. Lands proposed for wilderness in the recreation area correspond with areas in the "natural" zone and account for more than 500,000 acres	Wilderness within Glen Canyon National Recreation Area has been "proposed" but not yet designated. Proposed and potential wilderness in the recreation area is managed in accordance with the 1964 Wilderness Act consistent with NPS management policies

Special Mandates—Glen Canyon National Recreation Area					
Name	Agreement Type	Start Date / Expiration Date	Stakeholders	Purpose	Notes
1980 wilderness recommendation		1980 / Pending action from Congress	Park, BOR	This wilderness recommendation updates the initial proposal following the environmental statement and public review process	The 1980 recommendation adds additional lands to the wilderness recommendation and removes others. The document also identifies a water and power resources service operation and maintenance zone to allow for routine and emergency operational and maintenance activities associated with the operation of the Glen Canyon Dam and reservoir.
72 Stat 1686 Navajo mineral rights (Parcel B lands)	Exchange Act	9/2/1958 / Perpetual	NPS and Navajo Tribal Council	Legislates that lands in Parcel B will not be used for public recreation activities without approval from the Navajo Tribal Council	Along that portion of Lake Powell extending from the City of Page eastward along the Colorado and San Juan Arm, lands below the 3,720 foot contour were acquired by the federal government. In relinquishing these lands (known as Parcel "B" lands), the tribe retained the mineral rights.

The Superintendent's Office maintains a complete list of current agreements. The content provided here highlights some of the key administrative commitments, but is not intended to be a complete record of all agreements. The complete list of agreements and current rights-of-way permits is available by request.

Administrative Commitments—Glen Canyon National Recreation Area					
Name	Agreement Type	Start Date / Expiration Date	Stakeholders	Purpose	Notes
Quadrilateral Agreement	Cooperative Agreement	5/13/1970 / 9/10/2020	NPS, BOR, BIA, Navajo Nation	This agreement relates to the use and development of Glen Canyon National Recreation Area and adjacent tribal lands	Previous records state the Navajo Tribal Council voted to terminate this agreement on 12/23/08. On 7/17/2013 the Navajo Tribal Council signed a resolution to uphold this agreement and its purpose.
Antelope Point Development	MOU	7/12/1994 / 9/10/2020	BIA, NPS, Navajo Nation	This MOU implements the Antelope Point project area with development concept plan/concession contract.	
Antelope Point Bridge Agreement		1/13/2003 / 12/31/2022	Navajo Nation and NPS	Purpose is to maintain the Navajo Nation business site lease and NPS concessions contract as one seamless operation to customers and corporate management.	This agreement supplements the Quadrilateral Agreement.
MOU and Interagency Agreement for Grazing in Glen Canyon National Recreation Area	MOU and IA	1984 /	NPS and BLM	Delineate agency roles and responsibilities regarding the administration of grazing leases by the Bureau of Land Management on lands managed by the National Park Service in Glen Canyon National Recreation Area.	The interagency agreement is due for revision and reauthorization.
Joint Operations MOU	MOU	2003 /	NPS and BOR	Delineate joint operations responsibilities.	NPS and BOR coordinate on dam operations as they relate to park resources and values.
Rights-of-Way	ROW	Varies	Multiple	Allow for right-of-way across lands within Glen Canyon National Recreation Area.	These data are being updated.
Public Land Order 5687		1979 /	NPS and Navajo Tribal Council	Restored Antelope Point to Navajo in exchange for additional water rights.	
Tribal Concessions MOA	MOA	1979 GMP /	NPS and Navajo Tribal Council	Tribal concession facilities may not be established without NPS approval.	NPS has studied six facilities and found each viable. Tribe is studying the matter further.



## Special Mandates—Rainbow Bridge National Monument

Special Mandates—Rainbow Bridge National Monument						
Name	Agreement Type	Start Date	Expiration Date	Stakeholders	Purpose	Notes
Presidential Proclamation 1043	Proclamation	1910	None	NPS	Established Rainbow Bridge National Monument pursuant to the Antiquities Act of 1906	
Colorado River Storage Project Act, Sec 1		1956	None	NPS and BOR	Authorizes the construction, operation, and maintenance of the Glen Canyon Dam as a component of the Colorado River Storage Project, and includes language regarding the protection of Rainbow Bridge, connection to Glen Canyon National Recreation Area, and the shift from primarily land- to water-based access	States that the Secretary of the Interior shall take adequate protective measures to preclude the impairment of Rainbow Bridge National Monument
Public Law 84-485: Colorado River Storage Project	Law	1956	None	NPS and Navajo Tribal Council	Legislates that lands in Parcel B will not be used for public recreation activities without approval from the Navajo Tribal Council	
American Indian Religious Freedom Act		1978		NPS and Navajo Tribal Council	National Park Service must ensure that its general regulations and basic management do not unduly interfere with traditional use of sacred sites located within the bounds of the park unit	
Judicial Decision: Badoni v R Higginson H V, U S Court of Appeals, Tenth Circuit		1980		NPS and tribes	The court found that the government cannot order the public excluded from areas in which the exercise of First Amendment rights occur, otherwise it would be violating the Constitution and endorsing one religion over another	

The Superintendent's Office maintains a complete list of current agreements. The content provided here highlights some of the key administrative commitments, but is not intended to be a complete record of all agreements. The complete list of agreements and current rights-of-way permits is available by request.

Administrative Commitments—Rainbow Bridge National Monument						
Name	Agreement Type	Start Date	Expiration Date	Stakeholders	Purpose	Notes
Program-matic Agreement with Native American Consultation Committee				NPS and five associated American Indian tribes		Hopi Tribe, Kaibab Paiute Tribe, Navajo Nation, San Juan Southern Paiute Tribe, and the Ute Mountain Ute Tribe (White Mesa Band)

## Appendix C: Basics for Wilderness Stewardship

### Wilderness Background Information

Glen Canyon National Recreation Area (GLCA) is located in the heart of the rugged, remote and inaccessible canyon country of northern Arizona and southern Utah. GLCA occupies approximately 1,255,000 acres in the Colorado Plateau and shares boundaries with Grand Canyon National Park, Capitol Reef National Park, Canyonlands National Park, and the Grand Staircase- Escalante National Monument. Congress formally established GLCA in 1972 “to provide for public outdoor recreation use and enjoyment of Lake Powell and lands adjacent thereto...and to preserve scenic, scientific, and historic features contributing to public enjoyment of the area.”

In 1980, approximately 588,855 acres, or 47% of GLCA, were proposed for wilderness designation. The proposed wilderness area is precisely congruent with GLCA’s Natural management zone defined in the General Management Plan with the exception of (1) suitable state lands and state mineral rights, (2) federal oil-gas leases (zoned as potential wilderness additions upon the expiration of each lease) and, (3) boundary additions (Figure 3, page 6). The boundary of the wilderness area at lakeshore is coincident with the fluctuating surface of Lake Powell except for Antelope Island. Below approximately 3,620 feet Antelope Island connects to the mainland and ceases to be an island. For this situation the Wilderness would be coincident with the top of the south side of the channel between this island and Castle Rock.

The wilderness area also includes a unique Operation and Maintenance (O&M) zone that extends inland ½ mile from the high water elevation of Lake Powell (3,711 feet above mean sea level) or to the withdrawal boundary, whichever is the lesser distance. The purpose of this zone is to provide Bureau of Reclamation latitude to conduct routine and emergency operations and maintenance activities that might otherwise conflict with the wilderness designation.

The GLCA wilderness is broken up into 11 different units. From northeast to southwest they include: the Orange Cliffs, Dark Canyon, Dirty Devil, Little Rockies, Moki-Mancos Mesa, Escalante, Wilson Mesa, San Juan, Kaiparowits, Antelope Island and Paria units.

### Wilderness Character Narrative

**A wilderness character narrative is a positive and affirming description of what is unique and special about *this* wilderness.**

The Glen Canyon National Recreation Area proposed wilderness is a place where canyons collide with sandstone flats and mesas rise from vast desert expanses. Great rivers rage by steep canyon walls and trickling streams sustain an astonishing diversity of life in the dry desert heat. Relict communities of pinyon juniper, blackbrush, and yucca thrive, undisturbed by man. But people are nonetheless an integral part of this wilderness. Culture connects the diverse landscapes that comprise the Glen Canyon National Recreation Area wilderness. This region has defined the lives of people since prehistoric times. Archaic and prehistoric Indian tribes, historic pioneers, miners, and ranchers roamed this land for ages prior to its wilderness proposal. Today, the observant explorer may find themselves amidst the remains of an ancient dwelling, or walking along an historic trail as the Glen Canyon National Recreation Area wilderness continues to entice, challenge and awe.

The proposed Glen Canyon National Recreation Area wilderness is natural, untrammelled, undeveloped, provides outstanding opportunities for solitude or primitive and unconfined recreation, and contains significant cultural resources. These five qualities of wilderness character provide the setting from which a suite of wilderness values is derived. This narrative describes those qualities and values as they pertain to the Glen Canyon National Recreation Area proposed wilderness.

## Natural

**Wilderness maintains ecological systems that are substantially free from the effects of modern civilization.**

Glen Canyon's somewhat barren-looking landscape belies the wealth of life within. Biodiversity abounds on the macro and micro scale, from the movement of migratory species through the canyon to the microcosm of soil crusts and water pockets. Northern desert shrub associations, typified by communities of sagebrush, shadscale, blackbrush, saltbush, and rabbitbrush, occupy broad valleys, slopes, mesa tops, and low hills. Pinyon-juniper woodlands vary from extensive and continuous forests to scattered stands interspersed with desert shrubs along the higher mesas and slopes where the soil is rocky or sandy. Communities of cottonwood, willow, and saltcedar border waterways and sandy washes. Some of the largest hanging gardens in the world suspend a rich variety of luxuriant plants from seeps on steep canyon walls. Areas devoid of vascular-plant groundcover often harbor a well-developed "cryptogamic earth" composed of cyanobacteria, lichens, and mosses that form a distinctive irregular surface crust. This unique crust stabilizes soil, improves percolation, decreases erosion from winds and torrential summer rains, and contributes to nutrient cycling (particularly nitrogen) and the organic content of the surface soil.

These environments support diverse populations of small mammals, birds, and reptiles throughout the wilderness. Pinyon jays, loggerhead shrikes, mocking birds, canyon wrens, Gambel quail, chukar partridges, turkey vultures, crows, magpies, and ravens represent some of the more common bird species found here year-round. More transient waterfowl such as the mallard, shoveler, cinnamon teal, great blue heron, snowy egret, and American merganser may frequent this area too. Today, this wilderness is home to more than 40 rare and endemic plant and animal species as well as several federally listed endangered species. Glen Canyon, with its tributary side canyons and adjacent plateaus and mesas, supports some of the last relict bighorn herds, which were once abundant throughout the state. Predators such as the bobcat, mountain lion, gray fox, badger, kit fox, and coyote range widely, especially in the winter months when conditions in the low country are more favorable for their prey. Topographic diversity and abundance of prey throughout the wilderness offer prime habitat for red-tailed hawks, prairie and peregrine falcons, golden and northern bald eagles, and burrowing owls. The Escalante River, one of the last intact small river riparian ecosystems in the Southwest, still boasts an extensive Fremont cottonwood-Goodding willow community. Located in the darkest corners of the state, the Utah portions of this wilderness are protected from the impacts of light pollution and silence envelops the landscape in winter months. The diverse environments of this wilderness are substantially free from the effects of modern humans.

Unfortunately, forces largely beyond the control of the land manager threaten to erode the natural quality of this wilderness. Anthropogenic activity in this area has greatly reduced the numbers and ranges of native animals. Issues with air quality and nonnative invasive species are significant concerns. Nonnative plant species such as tamarisk, Russian olive, and Ravenna grass have invaded riparian ecosystems and crowd out native species. Thousands of acres of grazing allotments within the wilderness exacerbate and accelerate erosion, and disturb fragile flora. Wild burros and horses in the San Juan unit have a similar impact. Bighorn sheep reintroduction efforts in the immediate vicinity of Glen Canyon can impact natural predator/prey relationships within the wilderness. Reduced river flows below the Glen Canyon dam affect the development of beaches and riparian ecosystems. The existence of Quagga mussels in Lake Powell threatens the health of all water bodies in the wilderness. Mining districts outside the wilderness boundaries threaten the community of life within the wilderness.

## Untrammeled

**Wilderness is essentially unhindered and free from modern human actions that control or manipulate the community of life.**

Historically, the immensity of this region prevented people from significantly affecting ecological systems within the wilderness. Although the occasional ruin or petroglyph suggests former human occupation, the environment remained unmanipulated. Those same systems are preserved today by their inaccessibility. This region contains some of the last lands in the contiguous United States to be explored and mapped by modern people. In fact, the Escalante River was the last river of its size to be discovered. This leaves little opportunity for modern people to have directly manipulated the environment and its community of life.

The Glen Canyon National Recreation Area wilderness is largely unmanipulated, unrestrained, self-willed, and wild. The agency exhibits restraint and humility in making decisions that affect the community of life inside the wilderness. Animal populations that are managed, such as bighorn sheep and beavers, are controlled outside the wilderness. Waterways in the wilderness are allowed to flow freely and sometimes excessively when summer storms dominate the climate. The occasional, if not rare, wildfire is allowed to burn unrestrained in wilderness.

However, in some cases the land manager may decide that controlling or manipulating certain aspects of the environment within the wilderness is necessary for preserving other qualities of wilderness character. For example, the health of the Escalante River corridor is compromised by the spread of Russian olive, a nonnative invasive plant species. Other nonnative invasive plants threaten upland regions of the wilderness. Treatment and removal of these species is the primary concern for the degradation of the untrammeled quality in this wilderness. Ranching operations also significantly affect the landscape. Authorized grazing allotments are generally associated with developments that alter hydrology that require regular maintenance. Fortunately, rugged terrain limits the extent of these operations.

## Undeveloped

**Wilderness retains its primeval character and influence, and is essentially without permanent improvements or modern human occupation.**

The Glen Canyon National Recreation Area wilderness embodies the Wilderness Act's definition of undeveloped as "a place where man himself is a visitor who does not remain." The amenities often found in some national park units are rare here. Most of the wilderness can be accessed outside of the park's primary fee stations. Many of the roads that lead to these areas are remote, undeveloped, and difficult to travel, requiring high-clearance, four-wheel-drive vehicles. Once leaving the trailhead, if there is one, it is possible to walk for days without seeing the imprint of another boot. A visitor would be hard pressed to find modern developments in this wilderness. In fact, the presence of a pictograph panel or Ancestral Puebloan ruin may be the only evidence that you were not the first person to walk in this place. Most wilderness explorers would consider this to be an exciting discovery that heightens their wilderness experience rather than a degradation of the undeveloped quality.

Threats to the undeveloped quality of the Glen Canyon National Recreation Area wilderness lie primarily in the administrative actions to protect other wilderness qualities. For example, signs may be used to identify restoration areas or protect cultural resources, and motorized equipment such as chainsaws may be used where necessary to combat invasive species. These instances are generally localized and temporary and therefore have a minimal impact on the undeveloped quality of wilderness character. On the other hand, motorized equipment and mechanical transportation are regularly used to facilitate emergency operations. In a wilderness as vast as Glen Canyon, no other feasible option exists to rescue wilderness visitors in emergency situations. Structures associated with authorized grazing allotments such as fencing and stock ponds also make a significant contribution to the number of developments that degrade this quality.



## Solitude or Primitive and Unconfined Recreation

### **Wilderness provides outstanding opportunities for solitude or primitive and unconfined recreation.**

Solitude abounds in the Glen Canyon National Recreation Area wilderness. This land absorbs its visitors. Upon arriving at a crowded parking lot, visitors immediately disperse into side canyons and narrow slots, or summit mesas and hike along ridges that offer expansive views of distant thunderstorms where wild land stretches to the horizon. In this wilderness, a feeling of isolation from civilization and solitude from people saturates your senses by the time you have left the trailhead. The somewhat arduous access into many of the wilderness areas in Glen Canyon National Recreation Area magnifies its primitive nature. A whispering breeze or the song of a lone coyote on a clear starry night conjures the images of loneliness that are often associated with the desert landscapes that pervade this region. Both are present here.

The Glen Canyon National Recreation Area wilderness is vast and unforgiving. A visitor may spend days captivated by the features of a single canyon only to realize that this enchanting experience was minuscule in scale compared to the expanse that is the Glen Canyon National Recreation Area wilderness. In many ways, this notion is profoundly humbling. This is a place where visitors can exercise their intuition and primitive skills; a place where travel can be extremely dangerous; a place that is not for the faint of heart. Variable, sometimes extreme terrain forces hikers to make conservative travel plans with the knowledge that emergency communication may be unreliable. Water may be scarce and heat can reach extreme temperatures in places where shade is unavailable for miles. Rivers change from idle streams to raging torrents and summer rains cause violent flash floods that alter everything in their path. Awareness of self and of your surroundings, as well as a strong dose of caution are essential survival tools in this wilderness. These challenges evoke a connection between people and nature that is unparalleled.

In this wilderness visitors may engage in unconfined recreation of the highest degree. The Glen Canyon National Recreation Area wilderness is largely free from recreational developments and few restrictions are imposed on wilderness travelers. Permits are required for overnight stays in some wilderness units, but their purpose is primarily administrative. The permits do not inflict additional restrictions. Campsites are not designated and recommended routes are suggested in the place of maintained trails. The landscape allows for a variety of unique experiences that visitors are free to dictate for themselves based on personal skill level and desired experience.

There are a number of issues that could lead to the degradation of this quality of wilderness character. Military, commercial and administrative over flights are extremely common and boat engine noise from Lake Powell can propagate up to five miles into the wilderness, diminishing the otherwise pristine soundscape. Evidence of previous users in the form of litter, human waste, graffiti or impacted campsites is detrimental to a visitor's sense of solitude. Many cultural sites in the wilderness have been vandalized to the extent that valuable information has been lost. In some cases, management strategies such as use limitations, the occasional recreational facility (e.g., composting toilets), or climbing anchors, may be authorized where necessary to improve another quality of wilderness character at the expense of degrading the opportunity for solitude or primitive and unconfined recreation.

## Other Features

**Wilderness may also contain ecological, geological, or other features of scientific, educational, scenic, or historic value.**

### **Paleontology.**

The sediments of Glen Canyon's buttes and mesas trace their origins to times of shallow seaways, flowing rivers, and expansive deserts. As part of the supercontinent Pangaea, modern-day Arizona and Utah hovered near the equator. Seasonal wet-dry periods created swamps, populated by large salamander-like amphibians that fed on various species of fish, and conifer forest uplands filled with reptiles and early predatory dinosaurs. As Pangaea moved north, the climate became arid and large sand-seas covered much of the Four Corners region. The largest sand dune field known in North America formed, while summer monsoonal rains and ephemeral rivers supported a diverse population of reptiles, carnivorous and large plant-eating dinosaurs. Trackways throughout modern-day Glen Canyon serve as evidence that these animals once roamed this land.

Dune seas began to alternate with marine seas, and after an erosive gap of 40 million years the Western Interior Seaway encroached upon this region, spanning the Arctic to the Gulf of Mexico. At its largest expansion, the sea hosted sharks, bony fish, turtles, and diverse plesiosaurs, as well as invertebrates such as ammonites, bivalves, and corals. Much later, sandstone alcoves provided habitat for some of the last Ice Age fauna including mammoths, ground sloths, shrub oxen, and mountain goats. As the Colorado Plateau shifted up, the Colorado River and a system of lakes and flooded basins in California, Nevada, and Arizona began cutting down through millions of years of sediment. Together these geologic processes helped form the Glen Canyon National Recreation Area wilderness.

The story of life in Glen Canyon is written into the layers of rock that make up this wilderness. Some of the oldest layers in the park preserve extinct early amphibians more than 300 million years old, while the youngest layers include Ice Age mammals such as mammoths and shrub oxen. The fossils found within Glen Canyon help scientists piece together the puzzle of ancient life in this area and around the world.

### **Cultural and Historical.**

Contemporary tribes possess a deep historical, cultural, emotional, and spiritual connection toward the same landscape European Americans know and revere as wilderness. American Indians have lived in association with the Colorado River and its tributaries for at least 11,000 years. Seven contemporary tribes continue to recognize the Glen Canyon region as their ancestral homeland based on migration histories, residential villages and encampments, cosmologies, and traditional uses. These tribes include the Hopi Tribe, Kaibab Paiute Tribe, Paiute Indian Tribe of Utah, Pueblo of Zuni, Navajo Nation, San Juan Southern Paiute, and the Ute Mountain Ute. While native ties to the land are ancient in contrast with the modern wilderness designation, the survival of the values and the tangible resources these traditionally associated peoples ascribe to Glen Canyon country are integrally bound to its wilderness character.

For these tribes, the Colorado River corridor and canyons are more than just beautiful scenery. The canyons are alive; they are birth, they are death, and they are a way of life. The Colorado River, the canyons that feed it, the canyons that are carved by it, and the resources it supports are all considered sacred. Here, natural and cultural resources converge to form a landscape that serves as the setting for tribal histories and spiritual narratives.

A lineage of explorers and homesteaders migrated through Glen Canyon's history. The Dominguez-Escalante Expedition traversed this region in 1776 leaving their only known inscription in Padre Bay – a unique, international, and tangible symbol of the fusing of the Old World with the New World. What was once known as “Ute Ford” became the crossing for this expedition. Today we call it the “Crossing of the Fathers.”

In the mid-19th century, early pioneers and settlers of The Church of Jesus Christ of Latter-day Saints traversed Glen Canyon Country. As directed by their prophet and leader, Brigham Young, they began settling areas of Southern Utah and Northern Arizona. They explored river corridors and canyons within the park. Some managed crossings at Hite and Lees Ferry. Others pioneered travel routes across the Colorado River along the Hole-in-the-Rock Trail from Parowan to Bluff, Utah. During this time, an infamous member of Latter-day Saints, John D. Lee, his wife Emma, and other members of the Latter-day Saints community, established a settlement at Lees Ferry. Subsequent generations of Mormons crossed the Colorado here through the early 20th century. The Lees Ferry crossing, which was incorporated into what is now known as the “Arizona Road/Honeymoon Trail,” was in fact, part of an older trail originally used by Hopis and Navajos. Many of the Mormon pioneers established cattle ranches throughout the region that still function today.

Historic and prehistoric sites, homesteads, ranches, trails, and other cultural resources that exist within the Glen Canyon National Recreation Area wilderness are a fundamental part of the wilderness character of Glen Canyon Country. The human experience and tangible evidence cannot be separated from the environment. The rich history of mutual dependency and interconnectedness shaped both the essence of this wilderness and the spirit, courage, and resilience of those humans who travel through or call it home.

**Contributing staff:**

Hunter Bailey

Todd Brindle

Brian Carey

Erica Clites

Carl Elleard

Steve Henry

Chris Hughes

Kelly Pippins

Alexandra Rohde

Denise Shultz

John Spence

Rosemary Sucec

Teri Tucker

2012 GLCA Unit Wilderness Training Participant




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## Intermountain Region Foundation Document Recommendation Glen Canyon National Recreation Area / Rainbow Bridge National Monument

SEPTEMBER 2014

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This Foundation Document has been prepared as a collaborative effort between park and regional staff and is recommended for approval by the Intermountain Regional Director

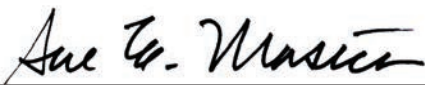


RECOMMENDED

Todd W. Brindle, Superintendent,  
Glen Canyon National Recreation Area / Rainbow Bridge National Monument

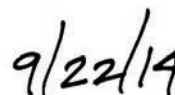


Date



APPROVED

Sue E. Masica, Regional Director, Intermountain Region



Date



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historic places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.



**Foundation Document  
Glen Canyon National Recreation Area  
Rainbow Bridge National Monument**

