



# Foundation Document

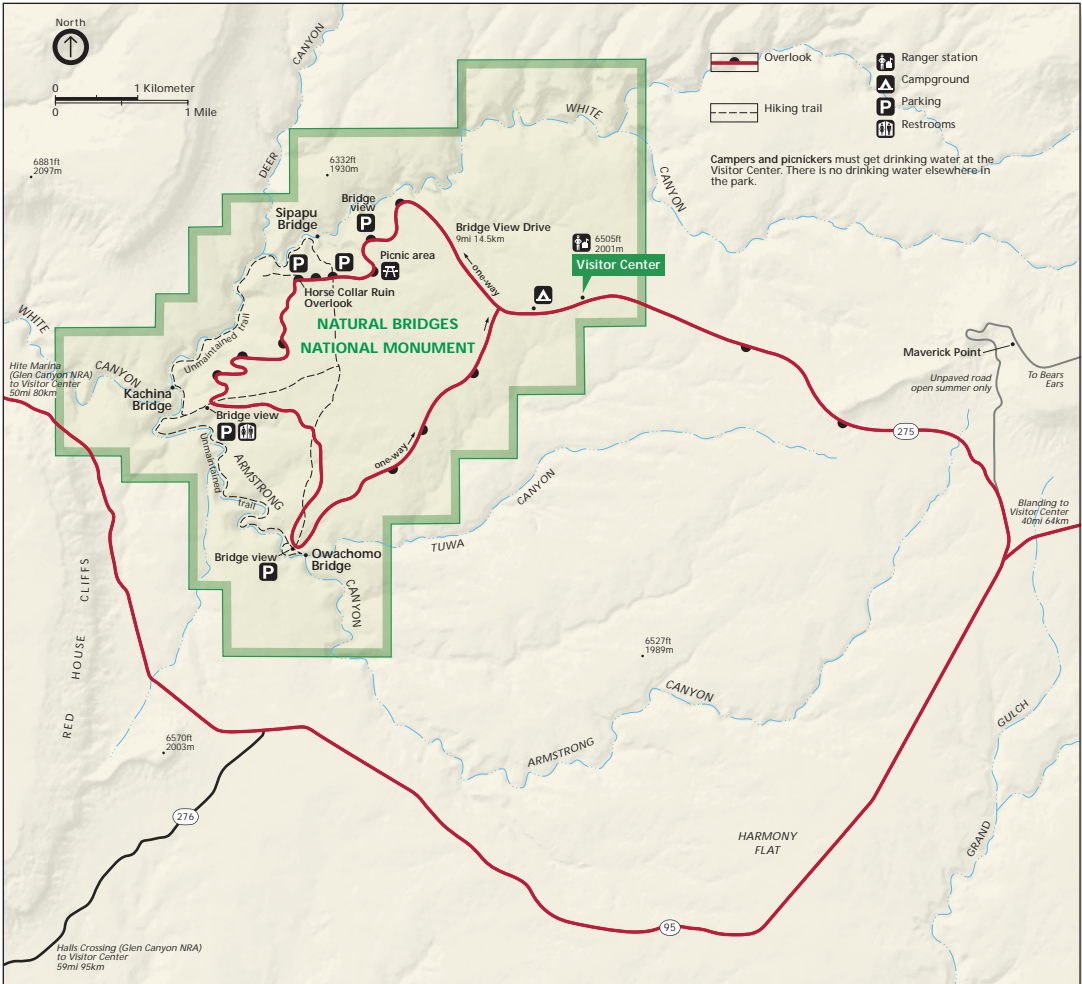
## Natural Bridges National Monument

Utah

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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 units were created prior to 1916, it was not until August 25, 1916, that President Woodrow Wilson signed the act formally establishing the National Park Service.

The national park system continues to grow, and currently 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 in order 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 is required to have a formal statement of its core mission that will provide basic guidance for all planning and management decisions—a foundation for planning and management. Increasing emphasis on government accountability and restrained federal spending demand that all stakeholders are aware of the purpose, significance, interpretive themes, fundamental resources and values, and special mandates and administrative commitments of a park unit, as well as the legal and policy requirements for administration and resource protection that factor into management decisions.

The process of developing a foundation document provides the opportunity to gather together and integrate all varieties and hierarchies of information about a park unit. Next, this information is refined and focused to determine what are the most important attributes of the park. The process of preparing a foundation document aids park managers, staff, and stakeholders in identifying information that is necessary for future planning efforts. This foundation document was developed as a collaborative effort. A workshop to facilitate this process was held June 19–21, 2012, in Moab, Utah. A complete list of attendees and preparers is included in part 3 of this document.

A foundation document serves as the underlying guidance for planning decisions for a national park unit. It describes the core mission of the park unit by identifying the purpose, significance, fundamental and important resources and values, interpretive themes, assessment of planning and data needs, special mandates and administrative commitments, and the unit's setting in the regional context.

The foundation document can be useful in all aspects of park management to ensure that primary management objectives are accomplished before addressing other factors that are also important, but not directly essential to achieving the park purpose and maintaining its significance. Thus, the development of a foundation document for Natural Bridges National Monument is necessary to effectively manage the park over the long term and protect park resources and values that are integral to the purpose and identity of the park unit and to address key issues affecting management.

The park atlas is also a part of the foundation project. It is a geographic information system (GIS) product that can be published as a hard copy paper atlas and as electronic geospatial data in a Web-mapping environment. The purpose of the park atlas is to support park operations and to facilitate planning decisions as a GIS-based planning support tool. The atlas covers various geographic elements that are important for park management such as natural and cultural resources, visitor use patterns, and facilities. The park atlas establishes the available baseline GIS information for a park that can be used to support future planning activities. The park atlas is available at <http://insideparkatlas.nps.gov/>.





## Part 1: Core Components

Foundation documents include the following core elements:

The **park purpose** is the specific reason(s) for establishing a particular park. A park purpose statement is grounded in a thorough analysis of the legislation (or executive order) and legislative history of the park, and may include information from studies generated prior to the park's establishment. The purpose statement goes beyond a restatement of the law to clarify assumptions about what the law means in terms specific to the park.

The **significance statements** express why the resources and values of the park are important enough to justify national park designation. Statements of park significance describe why an area is important within a global, national, regional, and systemwide context. Significance statements are directly linked to the purpose of the park and are verified by data or consensus that reflect the most current scientific or scholarly inquiry and cultural perceptions because the resources and values may have changed since the park was established.

**Interpretive themes** connect park resources to relevant ideas, meanings, concepts, contexts, beliefs, and values. They support the desired interpretive objective of increasing visitor understanding and appreciation of the significance of park resources. In other words, interpretive themes are the most important messages to be conveyed to the public about the park. Interpretive themes are based on park purpose and significance.

**Fundamental resources and values** are features, systems, organisms, processes, visitor experiences, stories, scenes, sounds, smells, or other attributes of the park that merit primary consideration during planning and management because they are essential to achieving park purpose and maintaining park significance.

**Other important resources and values** are resources and values that are determined to be important and integral to park planning and management, although they are not related to park purpose and significance.



*Photo by Dale Dombrowski.*



## Brief Description of the Park

Natural Bridges National Monument (Natural Bridges) is located 43 miles west of Blanding, San Juan County, Utah. The park contains 7,636.88 acres within its boundary. San Juan County covers 7,884 square miles and is the largest county in Utah. Located in the southeast corner of Utah, the county is roughly the size of the Commonwealth of Massachusetts and lies entirely within the physiographic region of the United States known as the Colorado Plateau. The land area surrounding the park ranges from the desert canyons along the Colorado River to the forested mountains of the Abajo Mountains range. Elevations on the Colorado Plateau vary approximately from 4,200 to 10,000 feet. As is common in the southwestern United States, precipitation is minimal, averaging only 13 inches per year.

Repeatedly occupied and abandoned during prehistoric times, Natural Bridges was first inhabited during the Archaic period, from 7000 BC to AD 500. Only the rock art and stone tools left by hunter-gatherer groups reveal that humans lived in this area. Around AD 700, ancestors of modern Puebloan people moved onto the mesa tops for dryland farming and later left as the natural environment changed. Around AD 1100, new migrants from across the San Juan River moved into small, single-family houses near the deepest, best watered soils throughout this area. In the 1200s, farmers from Mesa Verde migrated here, but by the 1300s, the Ancestral Puebloan people migrated south. Navajos and Paiutes lived in the area during later times, and Navajo oral tradition holds that their ancestors lived among the early Pueblos.

In 1883, prospector Cass Hite wandered up White Canyon from his base camp along the Colorado River in search of gold. What he found instead were three magnificent bridges that water had sculpted from stone. In 1904, *National Geographic Magazine* publicized the bridges, and in 1908, President Theodore Roosevelt established Natural Bridges National Monument, creating Utah's first national park system unit.

The three natural bridges found here are among the world's largest, having formed in a classic entrenched meander stream system in Cedar Mesa Sandstone. They represent three different stages of bridge development. Sipapu—a Hopi word meaning “place of emergence”—is a massive, mature bridge with a smooth, symmetrical opening. The second bridge, Kachina, is named for the rock art at its base that resembles symbols often associated with Kachina dolls. Kachina is a youthful bridge. Low and broad, it is still growing, widened by episodic flooding and rockfall. Its abandoned meander is easily recognizable. The last bridge, Owachomo, named for the rock mound on its east abutment, is an old bridge nearing collapse. The stream that formed it has long since changed course and no longer flows beneath it, making Owachomo seem like a relic.

The three bridges have been known by other names but in 1909 the General Land Survey assigned the current Hopi names attesting to the Puebloan occupation of the area in times past. Kayenta and Mesa Verdean cultural influences are in evidence in the structures, artifacts, and rock art found in the vicinity of the bridges suggesting former trade networks to the wider Southwest.



## Park Purpose

Purpose statements identify the specific reason for the establishment of a particular park. Purpose statements are crafted through a careful analysis of the enabling legislation and legislative history that influenced the development of Natural Bridges National Monument, which was first designated on April 16, 1908 (see appendix A for enabling legislation and subsequent amendments). The purpose statement reinforces the foundation for future park management administration and use decisions. The following is the purpose statement for Natural Bridges National Monument:

*The purpose of Natural Bridges National Monument is to preserve and provide for public enjoyment of three of the world's largest stream-eroded natural bridges, and Ancestral Puebloan and other cultural sites in their settings.*



## Park Significance

Significance statements express why Natural Bridges National Monument resources and values are important enough to merit national park unit designation. Statements of significance describe why an area is important within a global, national, regional, and systemwide context. These statements are linked to the purpose of the park unit, and are supported by data, research, and consensus. Significance statements describe the distinctive nature of the park and inform management decisions, focusing efforts on preserving and protecting the most important resources and values of the park unit.

The following significance statements have been identified for Natural Bridges National Monument. (Note: The statements are in no particular order):

- Nowhere else on Earth are three large natural bridges found in such close proximity to one another.
- Natural Bridges National Monument contains some of the most significant intact or semi-intact prehistoric structures with wooden features in the American Southwest, as well as archeological sites and resources associated with ancient peoples and their activities. Scientific investigations of wood specimens have contributed significant insights into the timing of Ancestral Puebloan settlement, resettlement, and abandonment in the Colorado Plateau region.
- Natural Bridges National Monument is recognized internationally for the exceptional natural quality of its night sky and was the first designated International Dark Sky Park.
- Deep, moist canyons and associated diverse biotic assemblages of Natural Bridges National Monument are regionally significant due to a long history of protection that has maintained these systems in their natural condition.





## 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 of the park significances and fundamental 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. They go beyond a mere description of the event or process to foster multiple opportunities to experience and consider the park and its resources. Themes help to explain why a park story is relevant to people who are unconnected to an event, time, or place.

While themes are important as an organizational tool to guide management decisions, they are not intended for public use. The themes offer park staff guidance on focusing on relevant visitor experiences, and what matters to the public is how these themes are represented through park services, media, programming, and facilities.

The following interpretive themes have been identified for Natural Bridges National Monument:

- **Geology.** The deeply incised canyons, entrenched meanders, and natural bridges of the region are a result of powerful geologic and hydrologic processes operating over great spans of time.
- **Life and Landforms.** The climate, geology, and riparian habitats of Natural Bridges National Monument form a rich, interconnected ecosystem.
- **Wildness.** The remote nature of Natural Bridges National Monument provides opportunities for visitors to discover and enjoy wildness and solitude.
- **Prehistoric Cultural Resources.** Structures, sites, artifacts, and rock art from ancient peoples found in Natural Bridges National Monument serve as windows into the region's rich human history and help foster better understanding and appreciation of the lives of these prehistoric people and their relationships with the land.
- **Remote and Undeveloped Setting.** In a remote natural setting essentially unchanged since Puebloan time, Natural Bridges National Monument protects and preserves the same dark night skies, natural soundscapes, and clean air that the ancestral Pueblos observed and valued hundreds of years ago.





## Fundamental Resources and Values

Fundamental resources and values are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to warrant primary consideration during planning and management because they are critical to achieving the park's purpose and maintaining its significance.

The preeminent responsibility of park managers is to ensure the conservation and public enjoyment of those qualities that are critical (fundamental) to achieving the park's purpose and maintaining its significance. These qualities are called the park's fundamental resources and values (FRVs). Fundamental resources and values are closely related to legislative purpose, and are more specific than significance statements. Fundamental resources and values help focus planning and management on what is truly important about the park. If they are allowed to deteriorate, the park purpose and/or significance could be jeopardized.

This distinction is made to ensure that fundamental resources and values receive specific consideration in park planning processes because of their relationship to the park's purpose and significance.

The following fundamental resources and values have been identified for Natural Bridges National Monument:

- **The three natural bridges—Sipapu, Kachina, and Owachomo.** Natural Bridges National Monument is the one place where three natural bridges (stream-carved features) are found in close proximity. Sipapu, Kachina, and Owachomo exemplify natural geologic and hydrologic processes that form and modify natural bridges over great spans of time
- **Cultural resources.** The entire monument has been listed on the National Register of Historic Places as the Natural Bridges Archeological District, which includes 507 contributing resources. These resources contribute to the broader knowledge of the full range of prehistoric occupation on Cedar Mesa and include both simple lithic scatters as well as multi-room pueblos with stratified deposits.
- **The remote and undeveloped setting.** Natural Bridges National Monument exists away from significant development, allowing for night skies, soundscapes, and air quality to be maintained in their natural condition.
- **Moist canyon habitats.** Protected natural hydrologic processes, geomorphic processes, and biotic processes are necessary for maintaining the natural condition of canyon habitats and associated biotic assemblages.

## Other Important Resources and Values

Natural Bridges National Monument contains other resources and values that may not be fundamental to the purpose and significance of the park but are important to consider in management and planning decisions. These are referred to as other important resources and values. The following other important resource and value has been identified for Natural Bridges National Monument:

- **Museum Collections.** The park's museum collections contain three-dimensional objects and natural history specimens and artifacts that are representative of the resources within the park's boundaries. Archives also are a component of museum collections and document park and resource management history.

## Part 2: Dynamic Components

Part 2 consists of two components:

- special mandates and administrative commitments
- assessment of planning and data needs

These components may change after this foundation document is published and may need to be updated periodically.

### Special Mandates and Administrative Commitments

Many of the 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, most often legislative or judicial, that must be fulfilled along with the park purpose. Mandates can be expressed in enabling legislation or in separate legislation following the establishment of the park. 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. In this category are such agreements as easements, rights-of-way, arrangements for emergency service response, etc. Special mandates and administrative commitments, in many cases, 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 Natural Bridges National Monument.

- Memorandum of Understanding between the U.S. Bureau of Land Management and National Park Service—this agreement ensures that the Bureau of Land Management and National Park Service continue to enhance efficiencies in each other's management activities, to coordinate information and outreach efforts, and to foster communications on activities that have the potential to affect the other agency's management responsibilities.
- Memorandum of Understanding among the U.S. Department of Agriculture, the U.S. Department of the Interior, and the U.S. Environmental Protection Agency regarding air quality analyses and mitigation for federal oil and gas decisions analyzed under the National Environmental Policy Act (NEPA) process—this memorandum of understanding provides that air quality will be considered, analyzed, and mitigated through an interagency collaborative process. The agreement seeks to safeguard air quality and resources sensitive to air pollution—termed Air Quality Related Values (AQRVs)—while recognizing the various missions and mandates of the signatory agencies.
- Cooperative Agreement between the National Park Service and San Juan County—this agreement is to provide for cooperative management activities and emergency operations in San Juan County, Canyonlands National Park, Natural Bridges National Monument, and Hovenweep National Monument.
- Special Use Permit—this special use permit allows Utah Department of Transportation access over, along, and upon the Natural Bridges National Monument easement and withdrawal as may be required by Utah Department of Transportation for the performance of routine maintenance, to make modifications to the roadway and appurtenances to address safety hazards, and to minimize resource degradation.

## Assessment of Planning and Data Needs

Once park purpose and significance statements and fundamental resources and values have been identified, it is important to consider what additional information and planning tasks may be necessary to aid the National Park Service in its mission. The assessment of planning and data needs identifies any inherent conditions or threats contained in the gathered information and determines whether any additional planning steps, data needs, and management efforts may be necessary to maintain or protect the existing fundamental resources and values and other important resources and values.

There are three parts that make up the planning and data needs assessment:

1. analysis of fundamental and other important resources and values
2. identification of key or major parkwide issues that need to be addressed by future planning
3. prioritization of data and planning needs

The analysis of fundamental resources and values and identification of major issues leads up to and supports the identification and prioritization of needed plans and studies.

## Analysis of Fundamental Resources and Values

The analysis of fundamental resources and values articulates the importance of each fundamental resource and value, current condition, potential threats, and the related issues that require consideration in planning and management. Included in the analysis is the identification of relevant laws and NPS policies specific to the preservation and management of the resources at the park. This section of the foundation document will require periodic reviews and updates as monitoring and research improves the understanding of each fundamental resource and value.



*Photo by Dale Dombrowski.*



<b>Fundamental Resource or Value:</b> <b>The three natural bridges—Sipapu, Kachina, and Owachomo</b>	
<b>Short Description of Importance</b>	Natural Bridges National Monument is the one place where three natural bridges (stream-carved features) are found in close proximity. Sipapu, Kachina, and Owachomo exemplify natural geologic and hydrologic processes that form and modify natural bridges over great spans of time.
<b>Related Significance Statements</b>	<ul style="list-style-type: none"> <li>Nowhere else on Earth are three large natural bridges found in such close proximity to one another.</li> </ul>
<b>Current Conditions and Trends</b>	<b>Conditions and trends</b> <ul style="list-style-type: none"> <li>Owachomo Bridge is thin (down to 9 feet [3 meters]) at its crest of span) and could potentially be significantly weaker than the other two bridges.</li> <li>Seismic activity, geohazards (rockfalls, landslides) and flash flooding may alter the condition of the bridges.</li> </ul>
<b>Threats and Opportunities</b>	<b>Threats</b> <ul style="list-style-type: none"> <li>Potential changes in erosion / weathering rates due to warming, drought, and greater frequency and magnitude of extreme weather events attributable to anthropogenic climate change.</li> </ul> <b>Opportunities</b> <ul style="list-style-type: none"> <li>Interpretive opportunities to explain textbook natural bridges stages.</li> <li>Establish monitoring program based on repeat photography in conjunction with current U.S. Geological Survey (USGS)-NPS repeat photography research project.</li> </ul>
<b>Stakeholders Interested in this Resource or Value</b>	<ul style="list-style-type: none"> <li>Park visitors and staff</li> <li>Traditionally associated tribes</li> <li>San Juan County</li> <li>City of Blanding</li> <li>Utah Geological Survey</li> <li>Canyonlands Natural History Association</li> <li>Friends of Arches and Canyonlands Parks</li> </ul>
<b>Laws and Policies that Apply to This FRV, and Existing Park Guidance</b>	<b>Laws and policies that apply to this FRV</b> <ul style="list-style-type: none"> <li>NPS <i>Management Policies 2006</i> (section 4.8) provides general direction on the protection of geologic and soil resources</li> <li>NPS <i>Natural Resource Management Reference Manual 77</i></li> <li>Rivers and Harbors Act</li> <li>NPS <i>Management Policies 2006</i> (4.6.4 and 4.8.1.1)</li> <li>Director's Order 77-2: <i>Floodplain Management</i></li> <li>Executive Order 11988, "Floodplain Management"</li> <li>National Flood Insurance Program (44 CFR 60)</li> <li>Special Directive 93-4, "Floodplain Management, Revised Guidelines for National Park Service Floodplain Compliance" (1993)</li> </ul> <b>Existing park guidance</b> <ul style="list-style-type: none"> <li>1993 resource management plan</li> <li>1997 general management plan</li> <li>2010 Natural Bridges National Monument water rights agreement with the State of Utah</li> </ul>
<b>Identified Data Needs</b>	<ul style="list-style-type: none"> <li>Photo inventory and measurements of the bridges.</li> </ul>
<b>Identified Planning Needs</b>	<ul style="list-style-type: none"> <li>Resource stewardship strategy.</li> <li>Climate adaptation planning, including integrated vulnerability assessments for natural and cultural resources.</li> </ul>

<b>Fundamental Resource or Value: Cultural resources</b>	
<b>Short Description of Importance</b>	The entire monument has been listed on the National Register of Historic Places as the Natural Bridges Archeological District, which includes 507 contributing resources. These resources contribute to the broader knowledge of the full range of prehistoric occupation on Cedar Mesa and include both simple lithic scatters as well as multi-room pueblos with stratified deposits.
<b>Related Significance Statements</b>	<ul style="list-style-type: none"> <li>Natural Bridges National Monument contains some of the most significant intact or semi-intact prehistoric structures with wooden features in the American Southwest, as well as archeological sites and resources associated with ancient peoples and their activities. Scientific investigations of wood specimens have contributed significant insights into the timing of Ancestral Puebloan settlement, resettlement, and abandonment in the Colorado Plateau region.</li> </ul>
<b>Current Conditions and Trends</b>	<b>Conditions and trends</b> <ul style="list-style-type: none"> <li>95% of park surveyed for archeological resources.</li> <li>Entire park is listed in the National Register of Historic Places.</li> <li>Currently, limited monitoring of archeological sites is taking place.</li> </ul>
<b>Threats and Opportunities</b>	<b>Threats</b> <ul style="list-style-type: none"> <li>High visitation to specific archeological sites.</li> <li>Vandalism.</li> <li>Graffiti.</li> <li>Intentional and inadvertent impacts from visitors.</li> <li>Pot hunting.</li> <li>Artifact theft.</li> <li>Potential changes in erosion / weathering rates due to warming, drought, and greater frequency and magnitude of extreme weather events attributable to anthropogenic climate change.</li> </ul> <b>Opportunities</b> <ul style="list-style-type: none"> <li>Prioritize stabilization efforts.</li> <li>Develop a monitoring program.</li> <li>Expand site stewardship program to include Natural Bridges.</li> <li>Special research projects.</li> <li>Develop / expand / implement interpretive programs in cultural history.</li> <li>Foster public education programs in cultural history.</li> </ul>
<b>Stakeholders Interested in this Resource or Value</b>	<ul style="list-style-type: none"> <li>Park visitors and staff</li> <li>Utah State Historic Preservation Office</li> <li>Traditionally associated tribes</li> <li>Bureau of Land Management</li> <li>U.S. Forest Service</li> <li>Canyonlands Natural History Association</li> <li>Friends of Arches and Canyonlands Parks</li> </ul>

Fundamental Resource or Value: Cultural resources	
Laws and Policies that Apply to this FRV, and Existing Park Guidance	<p><b>Laws and policies that apply to this FRV</b></p> <ul style="list-style-type: none"> <li>• Antiquities Act of 1906</li> <li>• National Historic Preservation Act of 1966, as amended (16 United States Code (USC) 470)</li> <li>• Executive Order 11593, "Protection and Enhancement of the Cultural Environment"</li> <li>• Archeological Resources Protection Act of 1979</li> <li>• Native American Graves Protection and Repatriation Act (NAGPRA)</li> <li>• 36 <i>Code of Federal Regulations</i> (CFR) 79, Curation of Archaeological Collections</li> <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>• NPS <i>Management Policies 2006</i> (section 5.3.5.5) states that the National Park Service "will collect, protect, preserve, provide access to, and use objects, specimens, and archival and manuscript collections . . . in the disciplines of archeology, ethnography, history, biology, geology, and paleontology to aid understanding among park visitors, and to advance knowledge in the humanities and sciences."</li> <li>• NPS <i>Management Policies 2006</i> (section 5.3.5.2) calls for the preservation of the physical attributes, biotic systems, and uses of cultural landscapes that contribute to historical significance.</li> <li>• Director's Order 28: <i>Cultural Resource Management</i> (1998)</li> <li>• Director's Order 28A: <i>Archeology</i> (2004)</li> <li>• Protection of Historic Properties (36 CFR 800)</li> <li>• Executive Order 13007, "Indian Sacred Sites"</li> <li>• American Indian Religious Freedom Act</li> </ul> <p><b>Existing park guidance</b></p> <ul style="list-style-type: none"> <li>• <i>Superintendent's Compendium</i></li> <li>• 2001 site disclosure policy</li> <li>• 1997 general management plan</li> <li>• 1993 resource management plan</li> </ul>
Identified Data Needs	<ul style="list-style-type: none"> <li>• Archeological monitoring program.</li> <li>• Archeological overview and assessment.</li> <li>• Ethnographic overview and assessment.</li> <li>• Cultural landscape inventory(s) and cultural landscape report(s).</li> <li>• Administrative history.</li> <li>• Historic structure report(s).</li> <li>• Oral histories.</li> </ul>
Identified Planning Needs	<ul style="list-style-type: none"> <li>• Resource stewardship strategy.</li> <li>• Climate adaptation planning, including integrated vulnerability assessments for natural and cultural resources.</li> </ul>



<b>Fundamental Resource or Value:</b> <b>The remote and undeveloped setting</b>	
<b>Short Description of Importance</b>	Natural Bridges National Monument exists away from significant development, allowing for night skies, soundscapes, and air quality to be maintained in their natural condition.
<b>Related Significance Statements</b>	<ul style="list-style-type: none"> <li>Natural Bridges National Monument is recognized internationally for the exceptional natural quality of its night sky and was the first designated International Dark Sky Park.</li> <li>Deep, moist canyons and associated diverse biotic assemblages of Natural Bridges National Monument are regionally significant due to a long history of protection that has maintained these systems in their natural condition.</li> </ul>
<b>Current Conditions and Trends</b>	<b>Conditions and trends</b> <ul style="list-style-type: none"> <li>Setting is in excellent condition.</li> </ul>
<b>Threats and Opportunities</b>	<b>Threats</b> <ul style="list-style-type: none"> <li>Potential external development.</li> <li>Potential energy development on adjacent lands (oil, gas, solar).</li> <li>Existing coal-fed power plants in the region.</li> <li>Adjacent land uses that destabilize soils and trigger dust emissions.</li> <li>Adjacent land uses that generate noise.</li> <li>Secondary (i.e., unnatural) light sources.</li> <li>Neighboring land is State of Utah, School and Institutional Trust Lands Administration (SITLA) land, which could be sold off and developed.</li> <li>Aridification attributable to anthropogenic climate change could lead to an increase in fire frequency and an increase in windblown dust due to drying soils, thereby diminishing the quality of dark night skies.</li> </ul> <b>Opportunities</b> <ul style="list-style-type: none"> <li>Education and outreach to public and local communities.</li> <li>Work through planning process of other federal agencies.</li> <li>Identify mitigations.</li> <li>Showcase the park because it is a novelty to have these remote locations.</li> <li>Collaboration with outside agencies to ensure development is kept to a minimum (Bureau of Land Management and San Juan County).</li> <li>Conservation groups could buy the SITLA lands to preserve them.</li> <li>Potential boundary adjustment for National Park Service or Bureau of Land Management.</li> <li>Continue coordination with adjacent land managers to mitigate the air quality and AQRV impacts of oil and gas development through the air quality oil and gas memorandum of understanding.</li> </ul>
<b>Stakeholders Interested in this Resource or Value</b>	<ul style="list-style-type: none"> <li>Park visitors and staff</li> <li>Bureau of Land Management</li> <li>U.S. Forest Service</li> <li>Department of Energy</li> <li>Traditionally associated tribes</li> <li>State/local governments</li> <li>Night Sky and Sound Division</li> <li>Canyonlands Natural History Association</li> <li>Friends of Arches and Canyonlands Parks</li> </ul>

<b>Fundamental Resource or Value:</b> <b>The remote and undeveloped setting</b>	
<b>Laws and Policies that Apply to this FRV, and Existing Park Guidance</b>	<p><b>Laws and policies that apply to this FRV</b></p> <ul style="list-style-type: none"> <li>• Clean Air Act (42 USC 7401 et seq.) gives federal land managers the responsibility for protecting air quality and related values, including visibility, plants, animals, soils, water quality, cultural resources, and public health, from adverse air pollution impacts.</li> <li>• <i>NPS Management Policies 2006</i> (section 4.7) and <i>Natural Resource Management Reference Manual 77</i> provide further direction on the protection of air quality and related values for park units.</li> <li>• <i>NPS Management Policies 2006</i> (sections 1.4, 1.6, 3.1) call for the National Park Service to conserve and protect scenery and scenic vistas</li> </ul> <p><b>Existing park guidance</b></p> <ul style="list-style-type: none"> <li>• 1997 general management plan</li> <li>• 1993 resource management plan</li> </ul>
<b>Identified Data Needs</b>	<ul style="list-style-type: none"> <li>• Need monitoring data that indicate status and trends in the condition of dark night skies.</li> </ul>
<b>Identified Planning Needs</b>	<ul style="list-style-type: none"> <li>• Develop soundscape management plan with monitoring component.</li> <li>• Resource stewardship strategy.</li> <li>• Climate adaptation planning, including integrated vulnerability assessments for natural and cultural resources.</li> <li>• Backcountry management plan.</li> </ul>



<b>Fundamental Resource or Value: Moist canyon habitats</b>	
<b>Short Description of Importance</b>	Protected natural hydrologic processes, geomorphic processes, and biotic processes are necessary for maintaining the natural condition of canyon habitats and associated biotic assemblages.
<b>Related Significance Statements</b>	<ul style="list-style-type: none"> <li>• Deep, moist canyons and associated diverse biotic assemblages of Natural Bridges National Monument are regionally significant due to a long history of protection that has maintained these systems in their natural condition.</li> </ul>
<b>Current Conditions and Trends</b>	<p><b>Conditions and trends</b></p> <ul style="list-style-type: none"> <li>• Condition is very good—trends are unknown.</li> <li>• Average temperature in the Southwest has increased approximately 1.5°F compared to 1960-79 baseline.</li> <li>• Recent tree mortality (Douglas fir and pinyon) possibly attributable to combination of drought, warming, and beetles.</li> <li>• Spring flow dependent on climatic conditions (annual precipitation).</li> <li>• Staffing issues complicate data collection and management actions at this time.</li> </ul>
<b>Threats and Opportunities</b>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>• Changes in natural hydrologic regimes, geomorphic processes, and biotic processes due to warming, drought, and greater frequency and magnitude of extreme weather events attributable to anthropogenic climate change.</li> <li>• Effects of climate change on resilience of natural systems to other stressors.</li> <li>• Effects of warming on bark beetle population dynamics (specific example).</li> <li>• Effects of land uses and water development inside and outside the park on water quality and natural hydrologic regimes.</li> <li>• Visitors and surrounding land-use activities that facilitate dispersal of invasive plants.</li> </ul> <p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>• Continue current collaboration with the NPS inventory and monitoring program to establish long-term monitoring of riparian systems, springs, seeps, hanging gardens.</li> <li>• Establish additional monitoring on basis of repeat photography, in conjunction with current USGS-NPS repeat photography research.</li> </ul>
<b>Stakeholders Interested in this Resource or Value</b>	<ul style="list-style-type: none"> <li>• Park visitors and staff</li> <li>• Nongovernmental organizations such as National Parks Conservation Association</li> <li>• Traditionally associated tribes</li> <li>• Canyonlands Natural History Association</li> <li>• Friends of Arches and Canyonlands Parks</li> </ul>



<b>Fundamental Resource or Value: Moist canyon habitats</b>	
<b>Laws and Policies that Apply to This FRV, and Existing Park Guidance</b>	<p><b>Laws and policies that apply to this FRV</b></p> <ul style="list-style-type: none"> <li>• NPS <i>Management Policies 2006</i> (sections 1.6, 4.1, 4.1.4, 4.4.1) provides general direction for managing park units from an ecosystem perspective</li> <li>• NPS <i>Natural Resource Management Reference Manual 77</i></li> <li>• Endangered Species Act of 1973, as amended</li> <li>• National Invasive Species Act</li> <li>• Lacey Act, as amended</li> <li>• Federal Noxious Weed Act of 1974, as amended</li> <li>• Executive Order 13112, "Invasive Species"</li> <li>• Clean Air Act (42 USC 7401 et seq.) gives federal land managers the responsibility for protecting air quality and related values, including visibility, plants, animals, soils, water quality, cultural resources, and public health, from adverse air pollution impacts</li> <li>• The Clean Water Act</li> <li>• NPS General Authorities Act—all water resources of the park are protected by the federal government. Only an act of Congress can change this fundamental responsibility of the National Park Service</li> <li>• Safe Drinking Water Act</li> <li>• Resource Conservation and Recovery Act</li> <li>• NPS <i>Management Policies 2006</i> (sections 4.6.4, 4.7.2, 4.8.1.1)</li> <li>• Director's Order 77-1: <i>Wetland Protection</i></li> <li>• Director's Order 77-2: <i>Floodplain Management</i></li> <li>• Executive Order 11988, "Floodplain Management"</li> <li>• Executive Order 11990, "Protection of Wetlands"</li> <li>• Special Directive 93-4, "Floodplain Management, Revised Guidelines for National Park Service Floodplain Compliance" (1993)</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>Existing park guidance</b></p> <ul style="list-style-type: none"> <li>• 2010 Natural Bridges National Monument water rights agreement with the State of Utah</li> <li>• 2009 Southeast Utah Group (SEUG) exotic plant management plan</li> <li>• 2005 SEUG fire management plan</li> <li>• 1999 SEUG water resources management plan</li> <li>• 1997 general management plan</li> <li>• 1993 resource management plan</li> </ul>
<b>Identified Data Needs</b>	<ul style="list-style-type: none"> <li>• Water resource inventory that produces a map (digital spatial data), a condition assessment, and a risk assessment for streams, wetlands, hanging gardens, and riparian areas.</li> <li>• Data and analyses that quantify water needs of water-dependent resources.</li> <li>• Continued collection of weather data.</li> <li>• Continued collection of water quality data.</li> <li>• Continued collection of spring flow data.</li> </ul>
<b>Identified Planning Needs</b>	<ul style="list-style-type: none"> <li>• Resource stewardship strategy.</li> <li>• Climate adaptation planning, including integrated vulnerability assessments for natural and cultural resources.</li> <li>• Backcountry management plan.</li> </ul>

## Analysis of Other Important Resources and Values

Other Important Resource or Value: Museum collections	
<b>Short Description of Importance</b>	The park's museum collections contain three-dimensional objects and natural history specimens and artifacts that are representative of the resources within the park's boundaries. Archives also are a component of museum collections and document park and resource management history.
<b>Related Significance Statements</b>	<ul style="list-style-type: none"> <li>Natural Bridges National Monument contains some of the most significant intact or semi-intact prehistoric structures with wooden features in the American Southwest, as well as archeological sites and resources associated with ancient peoples and their activities. Scientific investigations of wood specimens have contributed significant insights into the timing of Ancestral Puebloan settlement, resettlement, and abandonment in the Colorado Plateau region.</li> <li>Deep, moist canyons and associated diverse biotic assemblages of Natural Bridges National Monument are regionally significant due to a long history of protection that has maintained these systems in their natural condition.</li> </ul>
<b>Current Conditions and Trends</b>	<p><b>Conditions and trends</b></p> <ul style="list-style-type: none"> <li>The collection is 99.9% documented.</li> <li>The collection is housed appropriately.</li> <li>There are no problematic issues with the collection.</li> <li>Some NAGPRA items remain to be processed.</li> <li>Storage space is extremely limited and nearly filled to capacity.</li> <li>Anticipate a significant growth of collections due to research activity in both natural and cultural disciplines.</li> <li>The digitization of magnetic media is complete.</li> </ul>
<b>Threats and Opportunities</b>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>Inadequate storage space restricts ability to store future collections.</li> <li>Inadequate storage furniture.</li> <li>Radioactive fossilized material stored in an enclosed space.</li> <li>Climate control system is incapable of maintaining specified performance characteristics.</li> </ul> <p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>Improved access due to the hierarchical cataloging of the archives.</li> <li>Place catalog database on the servers.</li> <li>Train park staff to use the database.</li> <li>Make digitized collections available to the public.</li> </ul>
<b>Stakeholders Interested in this Resource or Value</b>	<ul style="list-style-type: none"> <li>Park visitors and staff</li> <li>Bureau of Land Management</li> <li>U.S. Forest Service</li> <li>U.S. Fish and Wildlife Service</li> <li>State/local governments, especially Utah Division of Wildlife Resources</li> <li>Nongovernment organizations</li> <li>Traditionally associated tribes</li> <li>Friends of Arches and Canyonlands Parks, The Bates Wilson Legacy Fund</li> <li>Canyonlands Natural History Association</li> </ul>

Other Important Resource or Value: Museum collections	
Laws and Policies that Apply to this OIRV, and Existing Park Guidance	<p><b>Laws and policies that apply to this OIRV</b></p> <ul style="list-style-type: none"> <li>• NPS <i>Management Policies 2006</i> (5.3.5.5), the service will collect, protect, preserve, provide access to and use objects, specimens, and archival and manuscript collections . . . in the disciplines of archeology, ethnography, history, biology, geology, and paleontology, to aid understanding among park visitors, and to advance knowledge in the humanities and sciences.</li> <li>• Director's Order 24: <i>NPS Museum Collections</i></li> <li>• Museum Act (16 USC 18f through 18f-3)</li> <li>• NPS <i>Museum Handbook</i></li> </ul> <p><b>Existing park guidance</b></p> <ul style="list-style-type: none"> <li>• 2010 scope of collections statement</li> <li>• 2003 SEUG museum management plan</li> <li>• 2003 collections storage plan</li> <li>• 1993 resource management plan</li> </ul>
Identified Data Needs	<ul style="list-style-type: none"> <li>• None identified.</li> </ul>
Identified Planning Needs	<ul style="list-style-type: none"> <li>• Complete core management documents: collection condition survey, fire and security plan, housekeeping and integrated pest management plan.</li> </ul>





## Identification of Key Parkwide or Major Issues and Associated Planning and Data Needs

All parks face a variety of issues that must be addressed now or through future planning. An issue is a point or matter that must be decided. A key parkwide or major issue may raise questions regarding park purpose and significance. Or there may be other questions of importance that, in the judgment of NPS staff, need to be addressed in future planning.

The following are key or major issues and associated planning and data needs for Natural Bridges National Monument:

Key Parkwide Issues	Planning and Data Needs	Notes
Limited number of staff at the park	None identified	The small number of staff at the park is heavily impacted by planned and future vacancies. All natural resource staff are based in Moab. Limited staff and funding, in addition to distance between Moab and Natural Bridges National Monument greatly limit capacity to address resource issues in the park.
Lack of funding for park operations	A request for additional base funding has been submitted	Natural Bridges has never had a base operating increase funded
Potential wildland fire hazard	None identified	Fuel reduction is ongoing
Current photovoltaic system is not always reliable or adequate for demand	None identified	Park frequently relies on backup diesel generator for power
Climate change	Weather data: climate adaptation planning, including integrated vulnerability assessments for natural and cultural resources	Overall drying of the landscape due to the changes in climate projected for the Southwest region (average temperature projected to increase 4–10°F and spring precipitation to decrease by 2100) will have significant influence on natural and cultural resources, visitor use patterns, and park operations

## Prioritization of Planning and Data Needs

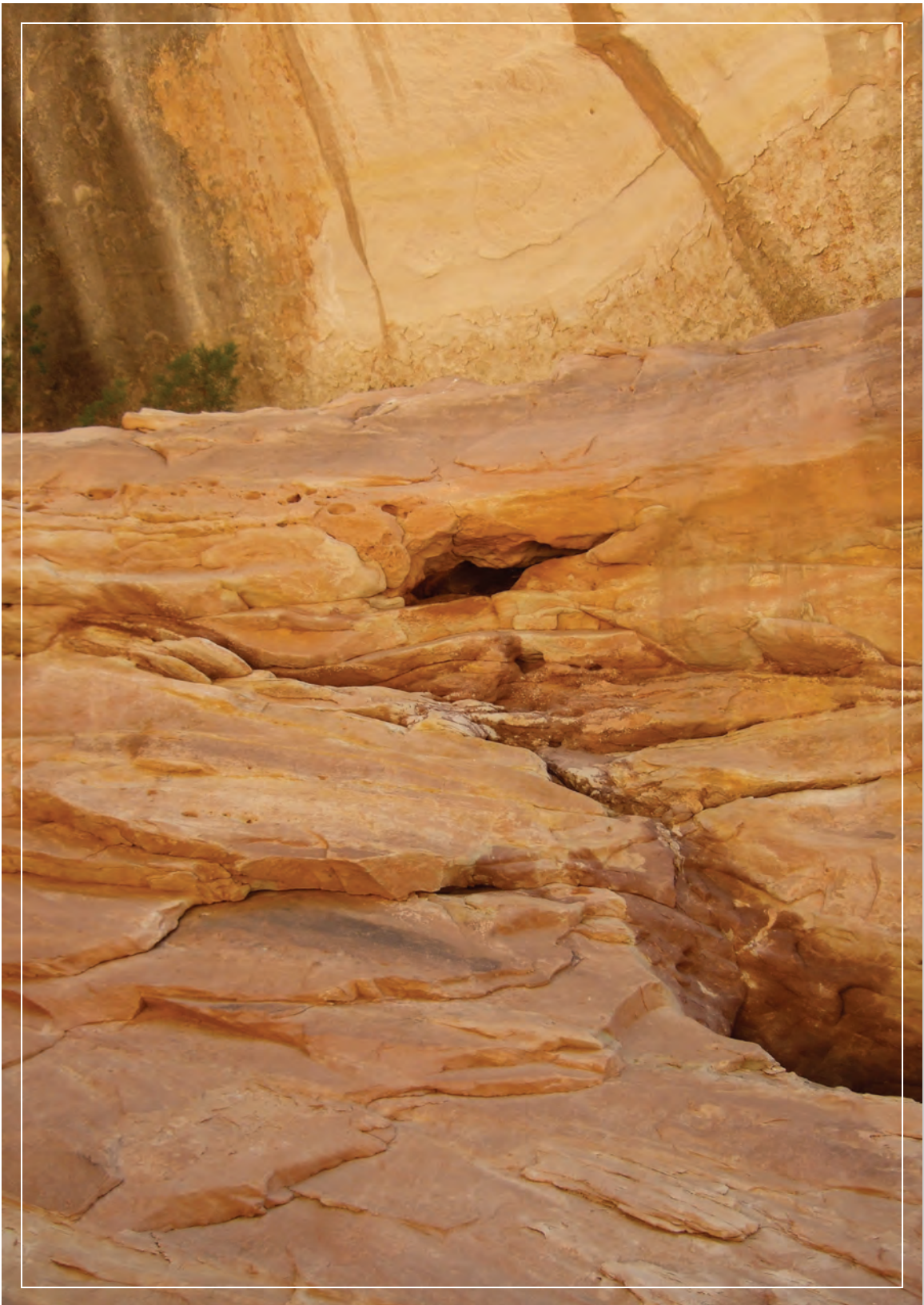
This section ranks the need for future plans and studies or research for Natural Bridges National Monument. This is a comprehensive review and synthesis of plans and data needed to protect and maintain the park's fundamental resources and values, as well as address key parkwide and other major issues. The ranking of planning and data needs for Natural Bridges National Monument were considered for 2012 through the following five years.

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 projects. This information will be used by staff from the park and the NPS Intermountain Regional Office to determine priorities and consider the future funding needs of the park.

Data Needs—Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV?	Data Needs	Priority (H, M, L)	Notes
X	Archeological monitoring program	H	Periodic and regular monitoring is critical for recognizing change in condition in a timely manner and for being proactive in treating those changes.
X	Water resource inventory, condition assessment, and risk assessment	H	Water resources are scarce in arid lands and are fundamental to sustaining park ecosystems. Water resources also are at risk from external development and climate change. Assessments will assist in determining management needs and priorities.
X	Data and analyses that quantify water needs of water-dependent resources	H	These data and analyses are required to provide a credible basis for NPS efforts to protect water-dependent resources from external threats posed by water diversion projects.
X	Continued collection of weather data	H	Weather data collected in the park contribute to our understanding of regional climactic patterns and are essential for understanding trends in the condition of park natural and cultural resources.
X	Continued collection of water quality data	H	Monitoring data are required to understand trends in water quality and to mitigate potential impacts of human activities.
X	Continued collection of spring flow data	H	Monitoring data are required to understand trends in spring flow and to mitigate potential impacts of human activities.
X	Archeological overview and assessment	M	
X	Administrative history	M	
X	Oral histories	M	
X	Need monitoring data that indicate status and trends in the condition of dark night skies	M	Emissions from power plants in the Four Corners area may impact air quality and night skies.
X	Soundscape monitoring data (have baseline data but need to complete soundscape management plan with monitoring component)	M	Monitoring data are required to understand trends in the condition of soundscape resources and to mitigate potential impacts of human activities.
X	Photo inventory and measurements of the bridges	L	
X	Ethnographic overview and assessment	L	
X	Cultural landscape inventory(s) and cultural landscape report(s)	L	
X	Historic structure report(s)	L	

Planning Needs—Where a Decision-making Process Is Needed to Set Long-term Strategy			
Related to an FRV?	Planning Needs	Priority (H, M, L)	Notes
FRV	Southeast Utah Group soundscape management plan	H nearly done	In progress: trying to solve what is appropriate sound and inappropriate noise.
FRV	Resource stewardship strategy	H	There is a need to establish strategic priorities for natural and cultural resource management for 5–10 years; other plans will depend on the completion of the resources stewardship strategy; development of the strategy should include climate adaptation planning and integrated vulnerability assessment for natural and cultural resources.
FRV	Climate adaptation planning	H	Ideally integrated with resource stewardship strategy; includes integrated vulnerability assessments for natural and cultural resources. Such planning is necessary to evaluate, prioritize, and mitigate potential climate-change impacts on park resources.
FRV	Backcountry management plan	L	Complete climate change adaptation planning and resource stewardship strategy first; then address issues related to visitor use and visitor impacts; need background data before decision can be made.
OIRV	Complete core management documents for museum collections	L	This includes collection condition survey, fire and security plan, housekeeping and integrated pest management plan.





## Part 3: Preparers, Consultants, and Meeting Attendees

### Workshop Attendees

Kate Cannon, Superintendent, Southeast Utah Group

Corky Hays, (former) Superintendent, Hovenweep National Monument and Natural Bridges National Monument

Paul Henderson, Assistant Superintendent, Arches National Park and Canyonlands National Park

Sabrina Henry, Environmental Protection Specialist/Planner, Southeast Utah Group

Denny Ziemann, (former) Chief Ranger, Arches and Canyonlands National Parks

Mary Wilson, Chief of Interpretation and Visitor Services, Southeast Utah Group

Mark Miller, Chief, Resource Stewardship and Science, Southeast Utah Group

Chris Goetze, Cultural Resource Program Manager, Southeast Utah Group

Doug Buttery, Facility Manager, Southeast Utah Group

Karen McKinlay-Jones, (former) Supervisory Park Ranger, Arches National Park

Gery Wakefield, GIS Specialist, Southeast Utah Group

Skip Meehan, Community Planner, NPS Intermountain Regional Office

Andrea Stacy, Environmental Protection Specialist, NPS Air Resources Division

James Harte, Hydrologist, NPS Water Resources Division

Mark Wondzell, Hydrologist, NPS Water Resources Division

Tim Connors, Geologist, NPS Geological Resources Division

Erika Pollard, Southwest Program Manager, National Parks Conservation Association

Joette Langianese, Executive Director, Friends of Arches and Canyonlands National Parks

### Additional Reviewers

Don Weeks, Climate Change Resource Planner, NPS Water Resources Division

Gretel Enck, Planner, NPS Water Resources Division

### Preparers

Tokey Boswell, NPS Denver Service Center, Planning

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Pam Holtman, NPS WASO Park Planning and Special Studies

Melody Bentfield, NPS Denver Service Center contractor, Foundations Librarian

Angel Lopez, NPS Denver Service Center, Graphics

John Paul Jones, NPS Denver Service Center, Graphics

### Consultants

Nancy Shock, Foundations Coordinator, NPS WASO Park Planning and Special Studies

## Appendixes

### Appendix A: Enabling Legislation and Legislative Acts for Natural Bridges National Monument

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA.

#### A PROCLAMATION.

WHEREAS, a number of natural bridges situated in southeastern Utah, having heights more lofty and spans far greater than any heretofore known to exist, are of the greatest scientific interest, and it appears that the public interests would be promoted by reserving these extraordinary examples of stream erosion with as much land as may be necessary for the proper protection thereof;

Now, therefore, I, THEODORE ROOSEVELT, President of the United States of America, by virtue of the power in me vested by 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 Natural Bridges National Monument, subject to any valid interest or rights, at and surrounding each of the natural bridges located on the White Canyon and tributaries, in San Juan County, State of Utah, by common report named by Horace J. Long as Augusta Bridge, Caroline Bridge and the Little Bridge, forty acres in square form with side lines running north and south and east and west equidistant from the respective centers of said bridges.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure or destroy any of the natural bridges hereby declared to be a National Monument, nor to locate or 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 16th day of April in the year of our Lord one thousand nine hundred and eight,  
[SEAL.] and of the Independence of the United States the one hundred and thirty-second.

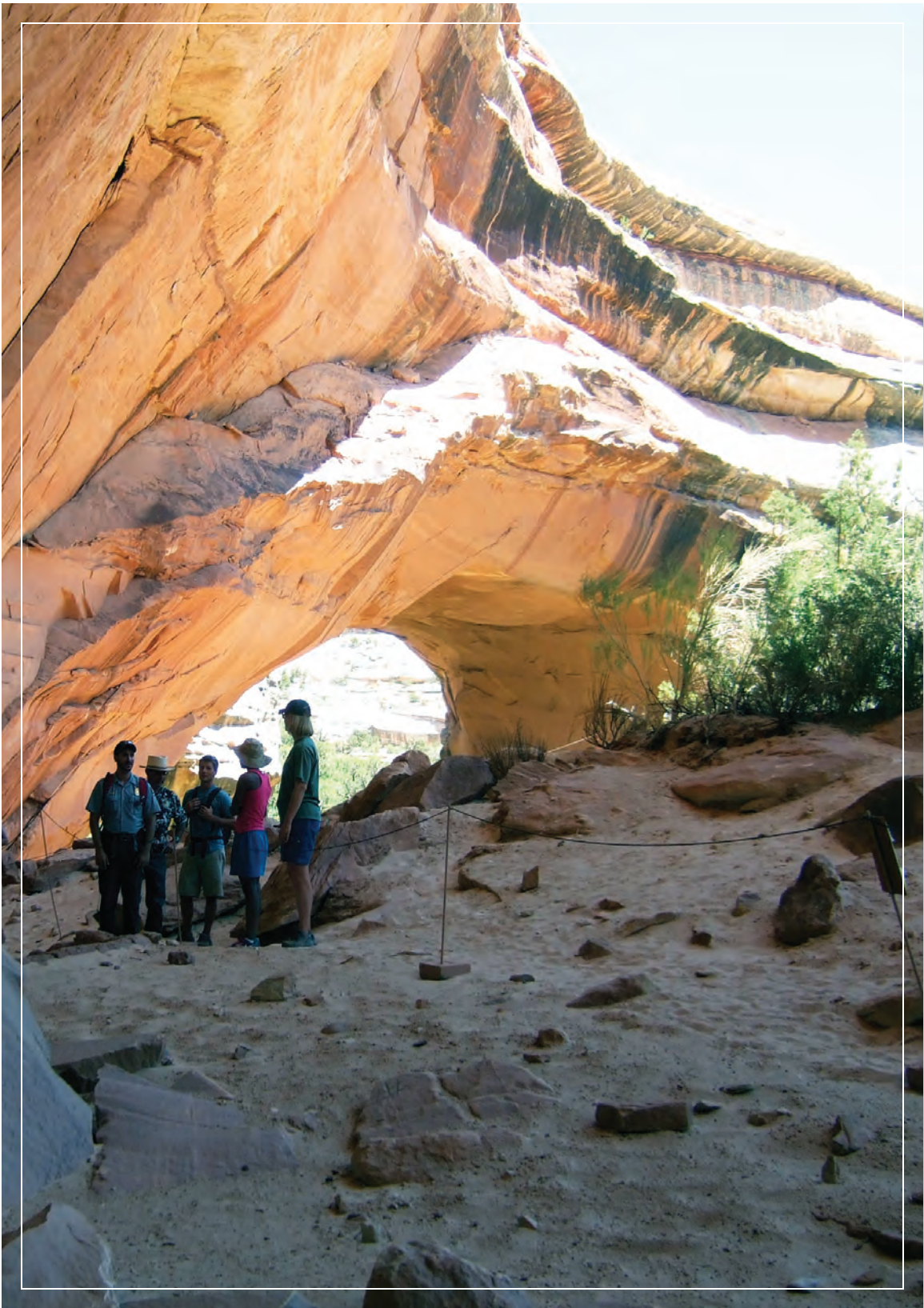
THEODORE ROOSEVELT

By the President:

ROBERT BACON

*Acting Secretary of State.*





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## Intermountain Region Foundation Document Recommendation Natural Bridges National Monument

July 2013

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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

Superintendent, Natural Bridges National Monument

Date

APPROVED

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.

NABR 115/121463

August 2013



## Foundation Document • Natural Bridges National Monument



NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR