



Foundation Document

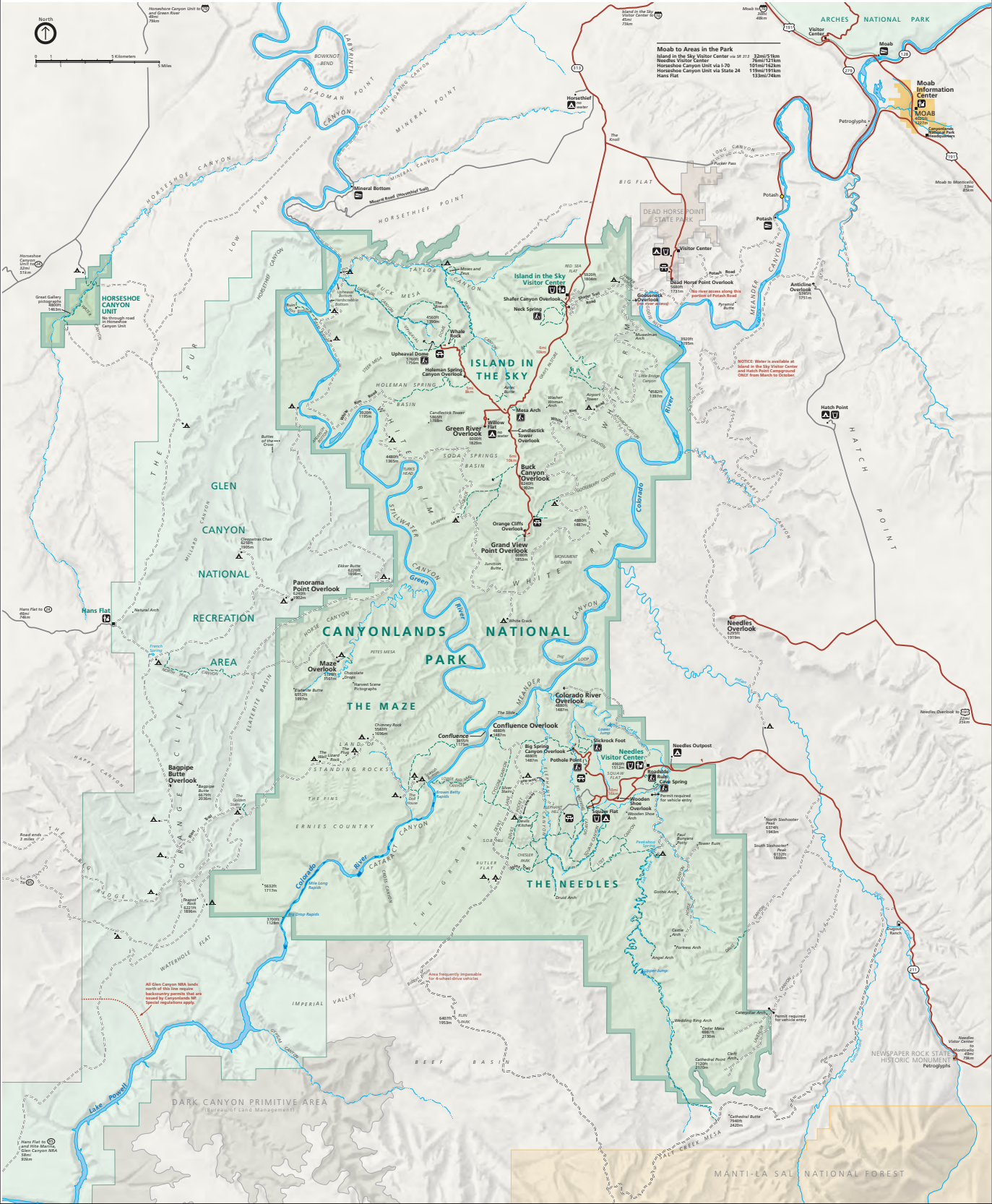
Canyonlands National Park

Utah

August 2013

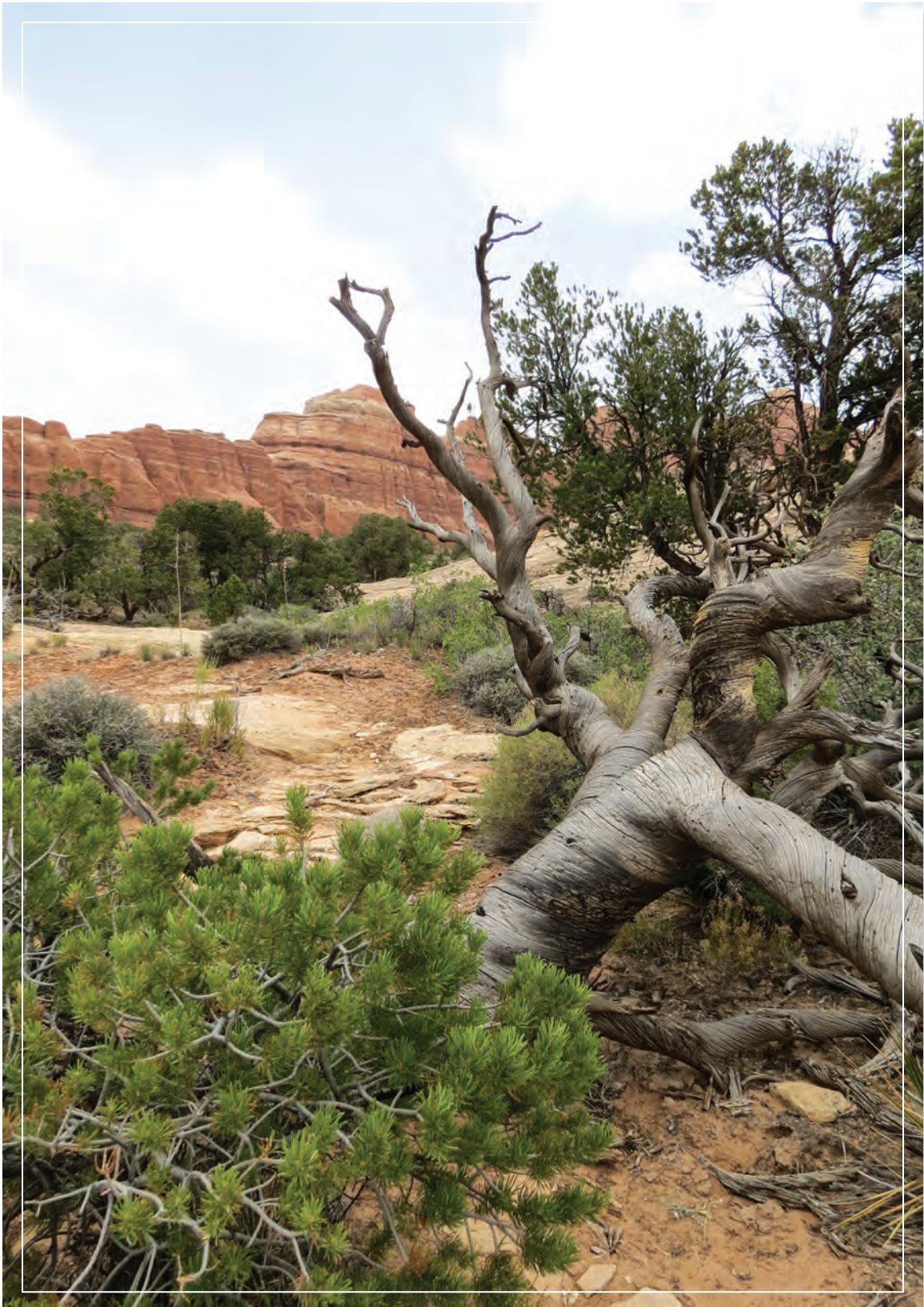


Canyonlands National Park



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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 park 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 Canyonlands National Park 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, 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.



Brief Description of the Park

Canyonlands National Park is in southeastern Utah, on the Colorado Plateau. The area is mostly high desert characterized by eroded sedimentary rocks including several distinct types of sandstone, shale, and limestone formations. It is rugged and spectacular country. Summers are hot with occasional occurrence of violent thunderstorms. Winters can be cold, with occasional snow. Spring and fall temperatures are usually pleasant.

Canyonlands National Park encompasses approximately 527 square miles. The confluence of the Colorado and Green rivers lies within the park. The rivers divide the park into four districts: (1) Island in the Sky, (2) Needles, (3) the Maze, and (4) the rivers themselves. While the districts share a primitive desert atmosphere, each retains its own character and offers different opportunities for exploration and encounters with natural and cultural history. The four districts are not directly linked by any roads, so travel between them requires 2 to 6 hours by car.

The Colorado and Green rivers wind through the heart of Canyonlands, cutting through layered sedimentary formations to form four deep and distinctly different canyons known as Labyrinth, Stillwater, Meander, and Cataract. Both rivers are characterized by gentle gradients upstream of the confluence, where “flat water” reaches are ideal for travel in canoes and kayaks. In Cataract Canyon below the confluence, numerous rocky debris flows from steep canyon walls have created a long series of large rapids where sandstone and limestone boulders present obstacles to navigation and provide an opportunity for visitors to experience a world-class reach of whitewater boating that continues downstream from Canyonlands into Glen Canyon National Recreation Area.

Island in the Sky is positioned between the two great rivers above their confluence and forms the northern and most-visited region of the park. It is composed of two sections, the mesa top above and the White Rim below, the latter consisting of a prominent sandstone bench 1,200 feet below the mesa top and 500–1,000 feet above the rivers. From the Island in the Sky district, visitors can look down on both rivers, view much of the rest of the park, and experience expansive scenic vistas that extend across intervening plateaus and dissected canyons to encompass many significant landmarks of the Colorado Plateau region including the La Sal, Abajo, Henry, and Navajo mountains. The mesa top is notable for its extensive grasslands and numerous scenic viewpoints, and is accessible by automobile, bicycle, and foot, with several hiking trails down to the White Rim. The White Rim is traversed by a rough, primitive road that can be traveled by bicycle, four-wheel-drive vehicle, or by foot.

The Needles District forms the southeast corner of Canyonlands and was named for the colorful spires of Cedar Mesa sandstone that dominates the area. The district’s extensive backcountry trail system provides many opportunities for long day-hikes and overnight trips. Foot trails and four-wheel-drive roads lead to such features as Tower Ruin, Confluence Overlook, Elephant Hill, Joint Trail, and Chesler Park.

The Maze is the wildest and least accessible district of Canyonlands, ranking as one of the most remote areas in the United States. Travel to the Maze requires more time and a greater degree of self-sufficiency because of the remote location, difficult roads, and primitive trails. Rarely do visitors spend less than three days in the Maze, and a visit here can easily consume a week-long trip. The Orange Cliffs unit of Glen Canyon National Recreation Area shares a western boundary with Canyonlands and is administered under the same backcountry management plan and permit / reservation system.

Horseshoe Canyon contains some of the most significant rock art in North America. The Great Gallery, the best known panel in Horseshoe Canyon, includes well-preserved, life-sized figures with intricate designs. Other impressive sights include spring wildflowers, sheer sandstone walls, and mature cottonwood groves along the intermittent stream in the canyon bottom.

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 Canyonlands National Park. The park was first designated as Canyonlands National Monument when the initial enabling legislation was passed and signed into law on September 12, 1964 (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 Canyonlands National Park:

The purpose of Canyonlands National Park is to preserve striking geologic landscapes and associated ecosystems in an area encompassing the confluence of the Green and Colorado rivers possessing superlative scenic, scientific, and cultural features for the inspiration, benefit, and use of the public.



Park Significance

Significance statements express why Canyonlands National Park 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 Canyonlands National Park (please note that these statements are in no particular order):

- Canyonlands National Park and its expansive natural setting exhibit an array of striking geologic landscapes composed of canyons, mesas, buttes, and spires formed from multiple and varying sedimentary rock formations.
- Canyonlands National Park protects the confluence, significant reaches, and associated ecosystems of two major western rivers, the Green and Colorado, which have shaped the complex natural and human histories of the park and surrounding region.
- Canyonlands National Park contains world-class archeological sites and districts, including the Great Gallery, which is the type-site for Barrier Canyon style rock art.
- An assemblage of roads, many associated with a history of mining and ranching activities, continue to provide visitors with exceptional recreational opportunities to access the backcountry of Canyonlands National Park.
- Canyonlands National Park provides incomparable opportunities to view superlative scenery from various perspectives above the rivers and then descend into the midst of these scenic landscapes to experience remote wildness and solitude.
- The diverse natural landscapes and rich cultural history of Canyonlands National Park provide outstanding opportunities for the scientific study of natural ecosystems and how they are affected by human use and climate in different settings over long periods of time.



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 the history of a park 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 experience, 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 under individual topics for Canyonlands National Park:

- **Geology.** The vast and diverse geologic landscapes of Canyonlands National Park are a result of the power of the Colorado River, the persistence of gravity, and the promise of intermittent rainfall in an arid environment.
- **Rivers.** Canyonlands National Park's Green and Colorado rivers are the lifeblood of the region, and provide a stage upon which the history of exploration and development of the American West unfold.
- **Wildness.** The remote nature of the backcountry of Canyonlands National Park provides opportunities for visitors to discover and enjoy the wildness and solitude of the desert.
- **Desert Ecology.** The climate, diverse geology, and life forms of Canyonlands National Park form a rich, interconnected desert ecosystem.
- **Prehistoric Cultural Resources.** The petroglyphs, pictographs, granaries, and other traces of ancestral Puebloans found in Canyonlands National Park serve as windows into the region's rich human history, and help us better understand and appreciate the lives of these prehistoric people and their relationship with the land.
- **Cultural Landscapes.** Past human activities have influenced and shaped what we see and experience in Canyonlands National Park today.

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 processes 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 Canyonlands National Park:

- **Geologic Landscapes and Features.** Canyonlands National Park protects a striking geologic landscape composed of a diverse and multilayered assemblage of canyons, mesas, buttes, and spires, as well as many notable features of great scientific interest including grabens and Upheaval Dome. These landscapes and features were formed by geologic processes such as sedimentation, erosion, salt dissolution and tectonics, and meteorite impact operating over hundreds of millions of years.
- **Green and Colorado Rivers.** The Green and Colorado rivers are the lifeblood of the park, and fundamental to their integrity are clean water, native biotic communities, characteristic landforms, and the natural hydrologic, geomorphic, and biotic processes necessary for sustaining them.
- **Cultural Resources.** The Salt Creek and Horseshoe Canyon archeological districts, both listed on the National Register of Historic Places, contain important world-class archeological and rock art sites, including the Great Gallery, which is the type-site for Barrier Canyon style rock art. National register-listed properties related to historic grazing and mining activities and a national register-eligible network of roads such as Elephant Hill, Shafer Trail, and White Rim Road are also present in the park.
- **Clean Air and Superlative Scenery.** Clean air and undeveloped natural viewsheds afford expansive vistas of geologic landscapes and iconic Colorado Plateau features such as the La Sal, Abajo, Henry, and Navajo mountains. Clean air enhances the color and contrast of landscape features, allows visitors to see great distances, and safeguards ecosystem, visitor, and staff health.
- **Remote Wildness and Solitude.** Canyonlands National Park is primarily a backcountry park with limited accessibility. The wilderness character, natural acoustical environment, and dark night skies enhance opportunities to experience the remoteness in solitude.
- **Diverse Assemblage of Colorado Plateau Ecosystems.** The park protects a diverse and interconnected assemblage of Colorado Plateau ecosystems, and fundamental to their integrity are clean water, stable soils, native biotic communities, and the hydrologic, geomorphic, and biotic processes necessary for sustaining them.
- **Collaborative Conservation, Science, and Scholarship.** Collaboration with external partners and engagement in scientific and scholarly activities are values and processes that are fundamental for achieving the park's purpose and maintaining its significance in the context of shared landscape values, rapidly changing social and environmental conditions, and uncertainty in outcomes of management decision making.

Other Important Resources and Values

Canyonlands National Park 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 resources and values have been identified for Canyonlands National Park:

- **Rare and Iconic Wildlife Species.** Rare desert bighorn sheep, Mexican spotted owls, peregrine falcons, and other raptors are important components of park ecosystems, and are observed and enjoyed by park visitors.
- **Paleontological Resources.** Geologic landscapes in Canyonlands National Park preserve extensive fossil evidence of prehistoric life.
- **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 Canyonlands National Park.

- The Clean Air Act, as amended, requires all park units to meet federal, state, and local pollution standards. Additionally, Canyonlands National Park is a mandatory Class I area under the prevention of significant deterioration provisions of the act. This gives the National Park Service an “affirmative responsibility” to protect the air quality and air quality related values (AQRVs) within the park from the adverse effects of air pollution. Air quality related values are resources that are sensitive to air pollution, such as visibility, plants, animals, soils, water, and certain cultural resources. State and federal permitting authorities must consult with the National Park Service regarding new sources of air pollution, and impacts to park air quality related values must be considered in the permitting process. Further, the act requires NPS involvement in national regulatory efforts aimed at eliminating human-caused visibility impairment in all Class I areas.
- Memorandum of Understanding (MOU) between U.S. Bureau of Land Management and the National Park Service. This agreement ensures that the Bureau of Land Management and the 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 mitigations 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 MOU seeks to safeguard air quality and resources sensitive to air pollution—termed air quality related values—while recognizing the various missions and mandates of the signatory agencies.



- General Agreement between Glen Canyon National Recreation Area and Canyonlands National Park to provide mutual management interest in resource preservation and visitor use in the area of the Orange Cliffs unit in Glen Canyon National Recreation Area. Canyonlands National Park will maintain a visitor information station, maintenance facility, and employee residences within the boundary of Glen Canyon National Recreation Area, at Hans Flat, for the administration of the Maze District and the Orange Cliffs unit.
- General Agreement between Glen Canyon National Recreation Area and Arches and Canyonlands national parks. This agreement is to support shared employee safety, interagency operational communications, emergency medical services, law enforcement and the public safety efforts by making available 24-hour dispatch for after-hours and emergency services from Glen Canyon Interagency Communications Center.
- Cooperative Agreement between the National Park Service and San Juan County. This agreement is intended to provide cooperative management activities and emergency operations in San Juan County, Canyonlands National Park, Natural Bridges National Monument, and Hovenweep National Monument.
- Cooperative Agreement among National Park Service, Southeast Utah Group (SEUG), and Grand County. This agreement is intended to provide cooperative management activities and emergency operations in Grand County, Arches National Park, and Canyonlands National Park.

For more information about the existing commitments for the park, please see the inventory of concessions and permits in appendix C.

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 our understanding of each fundamental resource and value.



Fundamental Resource or Value: Geologic Landscapes and Features	
Short Description of Importance	Canyonlands National Park protects a striking geologic landscape composed of a diverse and multilayered assemblage of canyons, mesas, buttes, and spires, as well as many notable features of great scientific interest including grabens and Upheaval Dome. These landscapes and features were formed by geologic processes such as sedimentation, erosion, salt dissolution and tectonics, and meteorite impact operating over hundreds of millions of years.
Related Significance Statements	<ul style="list-style-type: none"> • Canyonlands National Park and its expansive natural setting exhibit an array of striking geologic landscapes composed of canyons, mesas, buttes, and spires formed from multiple and varying sedimentary rock formations. • Canyonlands National Park protects the confluence, significant reaches, and associated ecosystems of two major western rivers, the Green and Colorado, which have shaped the complex natural and human histories of the park and surrounding region. • Canyonlands National Park provides incomparable opportunities to view superlative scenery from various perspectives above the rivers and then to descend into the midst of these scenic landscapes to experience remote wildness and solitude.
Current Conditions and Trends	Conditions and trends <ul style="list-style-type: none"> • All are eroding (natural process).
Threats and Opportunities	Threats <ul style="list-style-type: none"> • Visitor use including graffiti and vandalism. Opportunities <ul style="list-style-type: none"> • Continue to learn from research conducted on geologic features and processes.
Stakeholders Interested in this Resource or Value	<ul style="list-style-type: none"> • Park visitors and staff • State and local governments • Commercial guides • Natural Arch and Bridge Society • Traditionally associated tribes • National Parks Conservation Association • Scientific researchers and educators • Grand and San Juan counties, Utah • Cities of Moab and Monticello • Friends of Arches and Canyonlands Parks, The Bates Wilson Legacy Fund • Canyonlands Natural History Association

Fundamental Resource or Value: Geologic Landscapes and Features	
Laws and Policies that Apply to this FRV, and Existing Park Guidance	<p>Laws and policies that apply to this FRV</p> <ul style="list-style-type: none">• <i>NPS Management Policies 2006</i> (4.8) provide general direction on the protection of geologic and soil resources• <i>NPS Management Policies 2006</i> (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”• <i>NPS Natural Resource Management Reference Manual 77</i>• 1988 Federal Cave Resources Protection Act• 1976 Mining in the Parks Act <p>Existing park guidance</p> <ul style="list-style-type: none">• 1995 backcountry management plan• 1995 resource management plan• Superintendent’s Compendium
Identified Data Needs	<ul style="list-style-type: none">• Geologic hazard inventory and map (to show proximity of hazards to cultural resources).• Inventory of geologic features of special interest.• Larger scale geologic map (1:24,000).
Identified Planning Needs	<ul style="list-style-type: none">• Resource stewardship strategy.



Fundamental Resource or Value: Green and Colorado Rivers	
Short Description of Importance	The Green and Colorado Rivers are the lifeblood of the park, and fundamental to their integrity are clean water, native biotic communities, characteristic landforms, and the natural hydrologic, geomorphic, and biotic processes necessary for sustaining them.
Related Significance Statements	<ul style="list-style-type: none"> • Canyonlands National Park and its expansive natural setting exhibit an array of striking geologic landscapes composed of canyons, mesas, buttes, and spires formed from multiple and varying sedimentary rock formations. • Canyonlands National Park protects the confluence, significant reaches, and associated ecosystems of two major western rivers, the Green and Colorado, which have shaped the complex natural and human histories of the park and surrounding region. • Canyonlands National Park provides incomparable opportunities to view superlative scenery from various perspectives above the rivers and then descend into the midst of these scenic landscapes to experience remote wildness and solitude. • The diverse natural landscapes and rich cultural history of Canyonlands National Park provide outstanding opportunities for the scientific study of natural ecological systems and how they are affected by human use and climate in different settings over long periods of time.
Current Conditions and Trends	<p>Conditions and trends</p> <ul style="list-style-type: none"> • River flow regimes are significantly altered due to upstream dams, flow regulation, water withdrawals, as well as a significant decline in winter snowpack attributable in part to anthropogenic climate change. • Altered flow regimes have had impacts on geomorphic processes, riparian vegetation, and aquatic life. • River channels have narrowed extensively and river banks have heightened during the post-dam period due to altered flow regimes, altered geomorphic processes, and establishment of woody exotic plants. • Riparian vegetation along rivers and tributaries is dominated by extensive populations of exotic tamarisk which are undergoing rapid change due to effects of tamarisk leaf beetle; other woody and herbaceous exotics also are present. • Four native fish species are federally listed as endangered. • Several river bottoms along the Green and Colorado rivers have been adversely impacted by human-caused fire fueled by exotics, especially contributing to declines in cottonwood populations. • The Colorado River between Moab and the confluence with the Green River is on the EPA / State of Utah 303(d) list of impaired waters due to elevated concentrations of selenium. • Many high-visitation areas along the river corridor are characterized by proliferating networks of social trails. • Surface disturbance and soil destabilization facilitate soil erosion in some high-use areas along the river corridor. • Existing monitoring data are inadequate for determining trends in most resource conditions and visitor impacts.

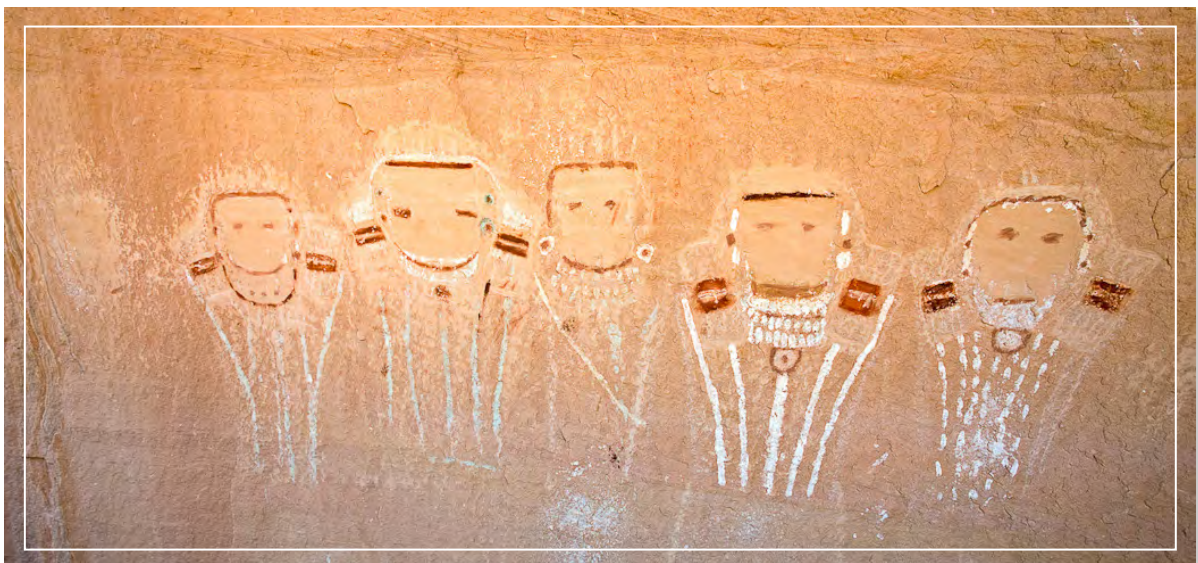
Fundamental Resource or Value: Green and Colorado Rivers	
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> • Continued / increasing alterations of river flow regimes due to climate change and upstream water diversions. • Potential contamination from uranium mill tailings pile if breached by extreme high-flow event. • Continued impacts from invasive exotic plants and animals, including nonnative fish populations in rivers. • Multiple ecological effects of warming, drought, and greater frequency and magnitude of extreme weather or flow events attributable to anthropogenic climate change. • Continued visitor-use impacts including surface disturbance, soil destabilization, graffiti, vandalism, and fire ignition. • Inadequate staff capacity for designing and implementing necessary monitoring (including data analysis and reporting) or other management actions. • Inadequate protocols and systems for ensuring proper management of resource-related data and information necessary to support management decision making. <p>Opportunities</p> <ul style="list-style-type: none"> • Funded campsite restoration project for river corridors will improve resource conditions and visitor experience opportunities. • U.S. Geological Survey (USGS)-NPS repeat photography research provides opportunities for understanding long-term environmental changes along the river corridor. • Monitoring by the Southeast Utah Group, the NPS inventory and monitoring (I&M) program, and U.S. Geological Survey will improve understanding of conditions and trends for some river-related resources. • Clean Water Act Total Maximum Daily Load (TMDL) process has the potential to mitigate water quality impairment on the Colorado River. • Preparation and implementation of an updated river management plan has the potential to improve resource conditions and visitor experience opportunities along the river corridors. • Newly funded Colorado River conservation planning project with U.S. Geological Survey, The Nature Conservancy, the Bureau of Land Management, and the State of Utah has the potential to inform the design and prioritization of future conservation actions. • Continued pursuit of opportunities to develop new partnerships and to expand staff science / technical capacity have the potential to increase management effectiveness.
Stakeholders Interested in this Resource or Value	<ul style="list-style-type: none"> • Park visitors and staff • Commercial guides • Glen Canyon National Recreation Area • Traditionally associated tribes • Bureau of Land Management • The Nature Conservancy • U.S. Geological Survey • National Parks Conservation Association • Researchers and educators • Local government • State government • Friends of Arches and Canyonlands Parks, The Bates Wilson Legacy • Canyonlands Natural History Association

Fundamental Resource or Value: Green and Colorado Rivers	
Laws and Policies that Apply to this FRV, and Existing Park Guidance	<p>Laws and policies that apply to this FRV</p> <ul style="list-style-type: none"> • The Clean Water Act • The 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 • Rivers and Harbors Act • 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. • The Safe Drinking Water Act • The Resource Conservation and Recovery Act • Endangered Species Act of 1973, as amended • National Invasive Species Act • Lacey Act, as amended • Federal Noxious Weed Act of 1974, as amended • <i>NPS Management Policies 2006</i> • Director's Order 77-1: Wetland Protection • Director's Order 77-2: Floodplain Management • NPS Natural Resource Management Reference Manual 77 • Executive Order 11988, "Floodplain Management" • Executive Order 11990, "Protection of Wetlands" • Executive Order 13112, "Invasive Species" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" • Special Directive 93-4, "Floodplain Management, Revised Guidelines for National Park Service Floodplain Compliance" (1993) <p>Existing park guidance</p> <ul style="list-style-type: none"> • Superintendent's Compendium • 1995 backcountry management plan • 1995 resource management plan • 1993 commercial visitor services management plan • 1985 river management plan • Colorado River Compact • 2009 SEUG exotic plant management plan • 2005 SEUG fire management plan
Identified Data Needs	<ul style="list-style-type: none"> • Data and analyses that quantify effects of river flow regimes on resource conditions along the Green and Colorado rivers. • Data on trends and extent of social trails and other surface disturbances in high use areas. • Trends and extent of nonnative species spread throughout park (park has some data). • Continued collection of stream flow data by U.S. Geological Survey on the Green and Colorado rivers upstream of the park. • Continued collection of water quality data. • Visitor use data for rivers. • Water resource inventory and risk assessments parkwide.

Fundamental Resource or Value: Green and Colorado Rivers	
Identified Planning Needs	<ul style="list-style-type: none"> • Updated river management plan that includes <ul style="list-style-type: none"> • visitor use / potential limitations on rivers. • archeological site access decisions for sites along the rivers. • motorized use and/or restrictions on rivers. • commercial visitor services management plan. • campsite infrastructure decisions on the rivers—specific camps versus at-large camping. • restoration areas. • Resource stewardship strategy. • Climate change adaptation planning, including integrated vulnerability assessments for natural and cultural resources.

Fundamental Resource or Value: Cultural Resources	
Short Description of Importance	The Salt Creek and Horseshoe Canyon archeological districts, both listed in the National Register of Historic Places, contain important world-class archeological and rock art sites, including the Great Gallery, which is the type-site for Barrier Canyon style rock art. National register-listed properties related to historic grazing and mining activities and a national register-eligible network of roads such as Elephant Hill, Shafer Trail, and White Rim Road are also present in the park.
Related Significance Statements	<ul style="list-style-type: none"> • Canyonlands National Park contains world-class archeological sites and districts, including the Great Gallery, which is the type-site for Barrier Canyon style rock art. • An assemblage of roads, many associated with a history of mining and ranching activities, continue to provide visitors with exceptional recreational opportunities to access the backcountry of Canyonlands National Park.
Current Conditions and Trends	<p>Conditions and trends</p> <ul style="list-style-type: none"> • 2% of the park has been surveyed for cultural resources; 1,583 cultural resource sites have been documented to date. • Access to sites has been limited due to Salt Creek Road closure. • Some archeological sites are getting more visitation. • Can only actively manage in selected places in the park. • Compliant museum program exists.

Fundamental Resource or Value: Cultural Resources	
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> • High visitation to specific archeological sites. • Vandalism. • Graffiti. • Intentional and inadvertent impacts from visitors. • Pot hunting. • Artifact theft. • Potential changes in erosion / weathering rates due to warming, drought, and greater frequency and magnitude of extreme weather or flow events attributable to anthropogenic climate change. • Inadequate staff capacity for implementing necessary monitoring (including analyzing and reporting on monitoring results). • Inadequate protocols and systems for ensuring proper management of resource-related data and information necessary to support management decision making. <p>Opportunities</p> <ul style="list-style-type: none"> • Site stewardship program underway. • Create monitoring plan. • Site documentation and condition assessments. • Develop / expand / implement interpretive programs in cultural history. • Foster public education programs in cultural history.
Stakeholders Interested in this Resource or Value	<ul style="list-style-type: none"> • Park visitors and staff • Utah State Historic Preservation Office • Traditionally associated tribes • Friends of Arches and Canyonlands Parks, The Bates Wilson Legacy Fund • Commercial guides on the river and land • Bureau of Land Management • Canyonlands Natural History Association



Fundamental Resource or Value: Cultural Resources	
Laws and Policies that Apply to this FRV, and Existing Park Guidance	<p>Laws and policies that apply to this FRV</p> <ul style="list-style-type: none"> • Antiquities Act of 1906 • National Historic Preservation Act of 1966, as amended (16 USC 470) • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • Archeological Resources Protection Act • Native American Graves Protection and Repatriation Act • 36 CFR 79 – Curation of Archaeological Collections • <i>The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> • 2008 Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers • NPS <i>Management Policies 2006</i> (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" • NPS <i>Management Policies 2006</i> (5.3.5.2) requires preservation of the physical attributes, biotic systems, and uses of cultural landscapes that contribute to historical significance • Director's Order 28: <i>Cultural Resource Management</i> (1998) • Director's Order 28A: <i>Archeology</i> (2004) • 36 CFR 800 "Protection of Historic Properties" • Executive Order 13007, "American Indian Sacred Sites" • American Indian Religious Freedom Act <p>Existing park guidance</p> <ul style="list-style-type: none"> • Superintendent's Compendium • 1995 backcountry management plan • 1995 resource management plan • 1978 general management plan • Site disclosure policy • NPS Brief 22, "Developing and Implementing Archeological Site Stewardship Programs"
Identified Data Needs	<ul style="list-style-type: none"> • Archeological surveys along the rivers. • Archeological surveys other places in the park. • Conditions assessments of cultural resources. • Monitoring program for cultural resources. • Archeological overview and assessment. • Ethnographic overview and assessment. • Cultural landscape inventory(s) and cultural landscape report(s). • Historic structure report(s). • National register nominations. • Oral histories.
Identified Planning Needs	<ul style="list-style-type: none"> • Resource stewardship strategy. • Climate change adaptation planning, including integrated vulnerability assessments for natural and cultural resources. • Updated river management plan.

Fundamental Resource or Value: Clean Air and Superlative Scenery	
Short Description of Importance	Clean air and undeveloped natural viewsheds afford expansive vistas of geologic landscapes and iconic Colorado Plateau features such as the La Sal, Abajo, Henry, and Navajo mountains. Clean air enhances the color and contrast of landscape features, allows visitors to see great distances, and safeguards ecosystem, visitor, and staff health.
Related Significance Statements	<ul style="list-style-type: none"> • Canyonlands National Park and its expansive natural setting exhibit an array of striking geologic landscapes composed of canyons, mesas, buttes, and spires formed from multiple and varying sedimentary rock formations. • Canyonlands National Park provides incomparable opportunities to view superlative scenery from various perspectives above the rivers and then descend into the midst of these scenic landscapes to experience remote wildness and solitude. • The diverse natural landscapes and rich cultural history of Canyonlands National Park provide outstanding opportunities for the scientific study of natural ecosystems and how they are affected by human use and climate in different settings over long periods of time.
Current Conditions and Trends	<p>Conditions and trends</p> <ul style="list-style-type: none"> • Canyonlands National Park is a designated Class I area. • Current natural vistas are nearly pristine; however, several human developments have impacted the viewshed. • During a portion of the year, visibility in Canyonlands is degraded relative to estimated natural conditions (the national goal under the Clean Air Act); 10-year trends for these “hazy” visibility days remain unchanged. However, on “clear” visibility days, the air is still exceptionally clean when compared to other regions of the country, and visitors can experience expansive, clear views that extend well over 100 miles. • Current ozone levels are approaching the human health-based National Ambient Air Quality Standard. Average ozone levels from 2005–2009 suggest that ozone sensitive plant species, such as ponderosa pine, quaking aspen, and serviceberry could be at risk. The most recent 10 years of monitoring data show no significant trends. • Current estimates of total (wet plus dry) nitrogen (N) deposition at the park suggest that sensitive plant communities could be at risk if regional N emissions increase. Potential effects of increased N deposition include disruption of nutrient cycling, changes in species composition, and loss of biodiversity. The most recent 10 years of wet nitrogen deposition monitoring data show no significant trends in nitrogen deposition. • Current sulfur deposition levels and trends suggest that ecosystem effects from acidification are not a widespread significant concern in this park.

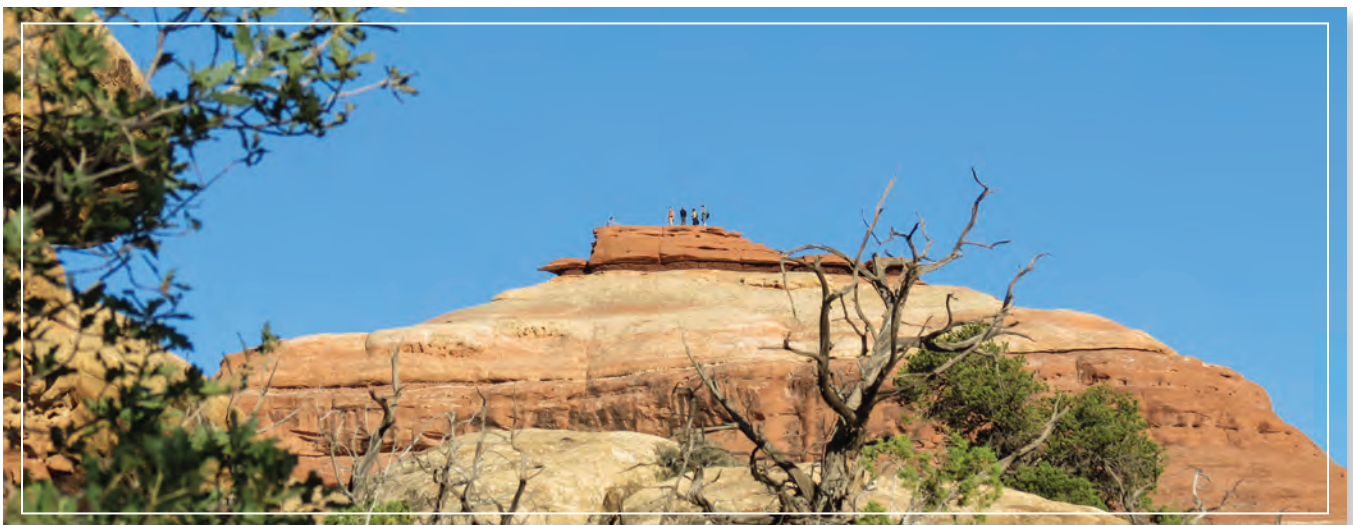
Fundamental Resource or Value: Clean Air and Superlative Scenery	
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> • Oil and gas development. • Other development (i.e., utility-scale renewables, potash). • Regional ozone levels are a concern for human health and vegetation. • Potential future impacts of N deposition on ecosystems. • Emissions of wind-blown dust. • Increasing visitor use. • Potential new point sources of air pollution. • Aridification due to climate change could lead to increased fire frequency, increased dust emissions, ozone formation, increased pollutant exposures, and decreased ecosystem resilience due to the effects of air pollution, impacting plant and animal communities and viewsheds. <p>Opportunities</p> <ul style="list-style-type: none"> • Continue work to achieve visibility improvement through the regional haze program. • Continue collaboration and coordination with adjacent land managers to mitigate the air quality and AQRV impacts of oil and gas development and other activities through the air quality oil and gas memorandum of understanding. • Potential implementation of park sustainability measures that reduce in-park pollution. • Continue technical review of air pollution permits exercising the authority of the federal land manager under the Clean Air Act to prevent significant deterioration of park air quality related values.
Stakeholders Interested in this Resource or Value	<ul style="list-style-type: none"> • Park visitors and staff • Bureau of Land Management • U.S. Forest Service • Environmental Protection Agency • State and local governments • Nongovernment organizations • Traditionally associated tribes • Friends of Arches and Canyonlands Parks, The Bates Wilson Legacy Fund • Canyonlands Natural History Association
Laws and Policies that Apply to this FRV, and Existing Park Guidance	<p>Laws and policies that apply to this FRV</p> <ul style="list-style-type: none"> • NPS Organic Act • The 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 • <i>NPS Management Policies 2006 (4.7)</i> and <i>NPS Natural Resource Management Reference Manual 77</i> provide further direction on the protection of air quality and related values for park units • <i>NPS Management Policies 2006 (1.4, 1.6, 3.1)</i> call for the National Park Service to conserve and protect scenery and scenic vistas <p>Existing park guidance</p> <ul style="list-style-type: none"> • 1995 resource management plan • Air quality memorandum of understanding with Bureau of Land Management

Fundamental Resource or Value: Clean Air and Superlative Scenery	
Identified Data Needs	<ul style="list-style-type: none"> • Continue monitoring of air quality and air quality related values. • Evaluate adequacy of key observation points that provide basis for current viewshed modeling and analysis. • Establish viewshed monitoring on basis of repeat photography at key observation points. • Special studies to examine pollution dose-response relationships in sensitive park ecosystems. • Special studies, including source attribution studies, to evaluate the impacts of windblown dust and climate change interactions on visibility in Canyonlands. • Management direction that emphasizes cooperative conservation to protect air quality and resources sensitive to air pollution. • The protection of scenic views depends on the identification of park scenic resources, evaluating visual resource impacts through assessment and monitoring, and understanding visitor values regarding scenic resources. • Continued collection of weather data.
Identified Planning Needs	<ul style="list-style-type: none"> • Resource stewardship strategy. • Climate change adaptation planning, including integrated vulnerability assessments for natural and cultural resources.

Fundamental Resource or Value: Remote Wilderness and Solitude	
Short Description of Importance	Canyonlands National Park is primarily a backcountry park with limited accessibility. The wilderness character, natural acoustical environment, and dark night skies enhance opportunities to experience the remoteness in solitude.
Related Significance Statements	<ul style="list-style-type: none"> • Canyonlands National Park provides incomparable opportunities to view superlative scenery from various perspectives above the rivers and then descend into the midst of these scenic landscapes to experience remote wildness and solitude.
Current Conditions and Trends	<p>Conditions and trends</p> <ul style="list-style-type: none"> • Wilderness – unknown trends and condition with no baseline data. • Night sky – park has baseline data – very good condition, but no data on trends other than recent actions to reduce NPS impacts on night skies by changes in lighting. • Soundscapes – park has a limited amount of baseline data, indicating degraded soundscape conditions, no trend data. • Park could be doing wilderness character monitoring but they don't have the capacity.

Fundamental Resource or Value: Remote Wilderness and Solitude	
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> • Wilderness – Oil and gas leases on adjacent federal lands, cumulative impacts of research and other infrastructure, visitor use, persistent / pervasive impacts of invasive nonnative plants on the natural aspect of wilderness character. • Night sky – lighting from Moab, external development. • Sound – commercial overflights, motorboat usage, motor vehicle usage within and adjacent to parks, park operations. • 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. • Inadequate staff capacity for implementing necessary monitoring (including analyzing and reporting on monitoring results) or other management actions. • Inadequate protocols and systems for ensuring proper management of resource-related data and information necessary to support management decision making. <p>Opportunities</p> <ul style="list-style-type: none"> • Soundscape management plan. • Park will ask the Night Sky Monitoring Program team to send their data, analysis, results. • Colorado Plateau Dark Sky Cooperative effort associated with Director's <i>A Call to Action</i>.
Stakeholders Interested in this Resource or Value	<ul style="list-style-type: none"> • Park visitors and staff • State and local governments • Nongovernment organizations • Traditionally associated tribes • Commercial operators • Friends of Arches and Canyonlands Parks, The Bates Wilson Legacy Fund • Canyonlands Natural History Association
Laws and Policies that Apply to this FRV, and Existing Park Guidance	<p>Laws and policies that apply to this FRV</p> <ul style="list-style-type: none"> • Wilderness Act of 1964 • NPS <i>Management Policies 2006</i> (4.9, 6.3, 6.4) • Director's Order 41: Wilderness Preservation and Management • Director's Order 47: Soundscape Preservation and Noise Management <p>Existing park guidance</p> <ul style="list-style-type: none"> • 1995 backcountry management plan • 1995 resource management plan • 1985 river management plan • 1974 wilderness recommendation
Identified Data Needs	<ul style="list-style-type: none"> • Wilderness character narrative and assessment, inventory, and monitoring. • Soundscape monitoring data. • Park will ask the Night Sky Monitoring Program team to send their final report for night skies.
Identified Planning Needs	<ul style="list-style-type: none"> • Soundscape management plan. • Resource stewardship strategy. • Update backcountry management plan. • Update river management plan.

Fundamental Resource or Value: Colorado Plateau Ecosystems	
Short Description of Importance	The park protects a diverse and interconnected assemblage of Colorado Plateau ecosystems and fundamental to their integrity are clean water, stable soils, native biotic communities, and the hydrologic, geomorphic, and biotic processes necessary for sustaining them.
Related Significance Statements	<ul style="list-style-type: none"> • Canyonlands National Park and its expansive natural setting exhibit an array of striking geologic landscapes composed of canyons, mesas, buttes, and spires formed from multiple and varying sedimentary rock formations. • Canyonlands National Park provides incomparable opportunities to view superlative scenery from various perspectives above the rivers and then descend into the midst of these scenic landscapes to experience remote wildness and solitude. • The diverse natural landscapes and rich cultural history of Canyonlands National Park provide outstanding opportunities for the scientific study of natural ecosystems and how they are affected by human use and climate in different settings over long periods of time.
Current Conditions and Trends	<p>Conditions and trends</p> <ul style="list-style-type: none"> • Vegetation and geomorphic conditions in Salt Creek are altered due to permitted vehicle use in the riparian area. • At least 2,100 acres of grasslands in the Needles district remain persistently degraded and dominated by bare ground and invasive annual plants despite more than 35 years of rest from livestock grazing. • Many high-visitation areas are characterized by proliferating networks of social trails. • Surface disturbance and soil destabilization facilitate soil erosion in high-visitation area. • Current nitrogen (N) deposition levels at the park suggest that sensitive plant communities could be at risk if regional N emissions increase; potential effects of increased N deposition include disruption of nutrient cycling, changes in species composition, and loss of biodiversity. • Existing monitoring data are inadequate for determining trends in most resource conditions and visitor impacts. • Average temperature in the Southwest has increased approximately 1.5°F compared to 1960–79 baseline. • Recent extensive dieback in woody plants possibly attributable to combination of drought and warming.



Fundamental Resource or Value: Colorado Plateau Ecosystems	
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> • Groundwater development external to the park. • Continued impacts from invasive exotic plants and animals. • Continued persistent impacts of past livestock grazing on soils and plant communities, resulting in diminished resilience to other stressors such as climate change. • Multiple ecological effects of warming, drought, and greater frequency and magnitude of extreme weather or flow events attributable to anthropogenic climate change. • Effects of climate change on resilience of natural systems to other stressors. • Potential increases in nitrogen deposition, with effects on nutrient cycling and plant community composition. • Continued visitor-use impacts including surface disturbance, soil destabilization, graffiti, vandalism, and ignition of fires. • Inadequate staff capacity for designing and implementing necessary monitoring (including data analysis and reporting) or other management actions. • Inadequate protocols and systems for ensuring proper management of resource-related data and information necessary to support management decision making. <p>Opportunities</p> <ul style="list-style-type: none"> • Funded grassland restoration project for Needles. • Funded project to enhance capacity for treating frontcountry nonnatives. • USGS-NPS repeat photography research provides opportunities for understanding long-term environmental changes and establishing photo-monitoring sites. • Continued monitoring by the Southeast Utah Group, NPS I&M program, and U.S. Geological Survey will improve understanding of conditions and trends for some park resources. • USGS-NPS nitrogen-deposition research will improve understanding of link between atmospheric deposition and invasive plant dynamics. • Community partnerships to communicate threats and to improve education. • Canyonlands Research Center, a research collaborative focusing on effects of land use and climate on Colorado Plateau ecosystems. • Continued pursuit of opportunities to develop new partnerships and to expand staff science / technical capacity.
Stakeholders Interested in this Resource or Value	<ul style="list-style-type: none"> • Park visitors and staff • Commercial guides • Traditionally associated tribes • Bureau of Land Management • The Nature Conservancy • U.S. Geological Survey • National Parks Conservation Association • Researchers and educators • Local government • State government • Friends of Arches and Canyonlands Parks, The Bates Wilson Legacy Fund • Canyonlands Natural History Association

Fundamental Resource or Value: Colorado Plateau Ecosystems	
Laws and Policies that Apply to this FRV, and Existing Park Guidance	<p>Laws and policies that apply to this FRV</p> <ul style="list-style-type: none"> • The Clean Water Act • The 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 • 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 • The Safe Drinking Water Act • The Resource Conservation and Recovery Act • Endangered Species Act of 1973, as amended • National Invasive Species Act • Lacey Act, as amended • Federal Noxious Weed Act of 1974, as amended • NPS <i>Management Policies 2006</i> • Director's Order 77-1: Wetland Protection • Director's Order 77-2: Floodplain Management • NPS <i>Natural Resource Management Reference Manual 77</i> • Executive Order 11988, "Floodplain Management" • Executive Order 11990, "Protection of Wetlands" • Executive Order 13112, "Invasive Species" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" • Special Directive 93-4, "Floodplain Management, Revised Guidelines for National Park Service Floodplain Compliance" (1993) <p>Existing park guidance</p> <ul style="list-style-type: none"> • Superintendent's Compendium • 2009 SEUG exotic plant management plan • 2005 SEUG fire management plan • 1995 backcountry management plan • 1995 resource management plan • 1993 commercial visitor services management plan
Identified Data Needs	<ul style="list-style-type: none"> • 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. • Data and analyses that quantify water needs of other water-dependent resources in the park. • Data on trends and extent of social trails and other surface disturbances in high use areas. • Trends and extent of nonnative species spread throughout park (park has some data). • Continued collection of weather and water-quality data. • Continued collection of spring flow data.
Identified Planning Needs	<ul style="list-style-type: none"> • Resource stewardship strategy. • Climate change adaptation planning, including integrated vulnerability assessments for natural and cultural resources.

Fundamental Resource or Value: Collaborative Conservation, Science, and Scholarship	
Short Description of Importance	Collaboration with external partners and engagement in scientific and scholarly activities are values and processes that are fundamental for achieving the park's purpose and maintaining its significance in the context of shared landscape values, rapidly changing social and environmental conditions, and uncertainty in outcomes of management decision making.
Related Significance Statements	<ul style="list-style-type: none"> • Canyonlands National Park and its expansive natural setting exhibit an array of striking geologic landscapes composed of canyons, mesas, buttes, and spires formed from multiple and varying sedimentary rock formations. • Canyonlands National Park protects the confluence, significant reaches, and associated ecosystems of two major western rivers, the Green and Colorado, which have shaped the complex natural and human histories of the park and surrounding region. • Canyonlands National Park contains world-class archeological sites, including the Great Gallery, which is the type-site for Barrier Canyon style rock art. • Canyonlands National Park provides incomparable opportunities to view superlative scenery from various perspectives above the rivers and then descend into the midst of these scenic landscapes to experience remote wildness and solitude. • The diverse natural landscapes and rich cultural history of Canyonlands National Park provide outstanding opportunities for the scientific study of natural ecosystems and how they are affected by human use and climate in different settings over long periods of time.
Current Conditions and Trends	Conditions and trends <ul style="list-style-type: none"> • The park maintains strong partnerships with local governments, other federal agencies, other NPS units and technical support staff, academic institutions, and multiple nongovernmental organizations that contribute to the achievement of park management goals. • Some partnerships are new and have considerable potential for growth. • Internal scientific and technical capacity are limited but growing.
Threats and Opportunities	Threats <ul style="list-style-type: none"> • Continued limited staffing and inadequate science / technical capacity. • Opportunities • Continued engagement with and fostering of existing partnerships, including collaboration with the Bureau of Land Management on the master leasing plan environmental impact statement and proposed actions near the park. • Continued pursuit of opportunities to develop new partnerships and to expand staff science / technical capacity.
Stakeholders Interested in this Resource or Value	<ul style="list-style-type: none"> • Park visitors and staff • Commercial guides • State and local governments / institutions • Other federal agencies, including Bureau of Land Management, U.S. Forest Service, and U.S. Geological Survey • Nongovernmental organizations including The Nature Conservancy, National Parks Conservation Association, others • Traditionally associated tribes • Academic institutions

Fundamental Resource or Value: Collaborative Conservation, Science, and Scholarship	
Laws and Policies that Apply to this FRV, and Existing Park Guidance	<p>Laws and policies that apply to this FRV</p> <ul style="list-style-type: none"> • NPS <i>Management Policies 2006</i> (1.6, 4.1, 4.1.4, 4.4.1) provides general direction for managing park units from an ecosystem perspective • NPS Organic Act and NPS <i>Management Policies 2006</i> (1.4, 1.6, 3.1) call for the National Park Service to conserve and protect scenery and scenic vistas • NPS <i>Natural Resource Management Reference Manual 77</i> • The 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 • The Clean Water Act • Endangered Species Act of 1973, as amended • National Invasive Species Act • Lacey Act, as amended • Federal Noxious Weed Act of 1974, as amended • Executive Order 13112, "Invasive Species" <p>Existing park guidance</p> <ul style="list-style-type: none"> • 1995 resource management plan • 1993 SEUG research plan
Identified Data Needs	<ul style="list-style-type: none"> • No additional data needs.
Identified Planning Needs	<ul style="list-style-type: none"> • Resource stewardship strategy. • Climate change adaptation planning, including integrated vulnerability assessments for natural and cultural resources. • Updated research plan, integrated with resource stewardship strategy and climate change adaptation planning.



Analysis of Other Important Resources and Values

Other Important Resource and Value: Rare and Iconic Wildlife Species	
Short Description of Importance	Rare desert bighorn sheep, Mexican spotted owls, peregrine falcons, and other raptors are important components of park ecosystems, and are observed and enjoyed by park visitors.
Related Significance Statements	<ul style="list-style-type: none"> • Canyonlands National Park protects the confluence, significant reaches, and associated ecosystems of two major western rivers, the Green and Colorado, which have shaped the complex natural and human histories of the park and surrounding region. • The diverse natural landscapes and rich cultural history of Canyonlands National Park provide outstanding opportunities for the scientific study of natural ecosystems and how they are affected by human use and climate in different settings over long periods of time.
Current Conditions and Trends	Conditions and trends <ul style="list-style-type: none"> • Data for federally listed Mexican spotted owls and raptors other than peregrine falcons are lacking. • Data for falcons and desert bighorn sheep have not been analyzed to determine the condition and/or trends in park populations.
Threats and Opportunities	Threats <ul style="list-style-type: none"> • For bighorn sheep, disease transmission from nearby domestic sheep populations. • Habitat fragmentation within and beyond park boundaries. • Increased frequency of human disturbance due to continued increases in park visitation and recreational use. • Potential disturbance by park management activities. • Potential effects of climate change on water and/or prey availability. • Inadequate staff capacity for designing and implementing necessary monitoring (including data analysis and reporting). • Inadequate protocols and systems for ensuring proper management of resource-related data and information necessary to support management decision making. Opportunities <ul style="list-style-type: none"> • Canyonlands National Park and the surrounding area has been nominated by the Audubon Society as a Globally Important Bird Area due to the high concentration of Mexican spotted owl territories.
Stakeholders Interested in this Resource or Value	<ul style="list-style-type: none"> • Park visitors and staff • Commercial guides • Bureau of Land Management • U.S. Forest Service • U.S. Fish and Wildlife Service • State/local governments, especially Utah Division of Wildlife Resources • Nongovernment organizations • Traditionally associated tribes • Friends of Arches and Canyonlands Parks, The Bates Wilson Legacy Fund • Canyonlands Natural History Association

Other Important Resource and Value: Rare and Iconic Wildlife Species	
Laws and Policies that Apply to this OIRV, and Existing Park Guidance	<p>Laws and policies that apply to this OIRV</p> <ul style="list-style-type: none"> Endangered Species Act NPS <i>Management Policies 2006</i> (4.4.2.3) also calls for the agency to survey, protect, and strive to recover all species native to park units that are listed under the Endangered Species Act; in addition, the National Park Service is directed to inventory, monitor, and manage state listed species in a manner similar to the treatment of federally listed species, to the greatest extent possible Migratory Bird Treaty Act (MBTA); 16 U.S.C. 703-712 Eagle Protection Act; 16 U.S.C. 668 The National Environmental Policy Act of 1970 (NEPA); 42 U.S.C. 4321 <p>Existing park guidance</p> <ul style="list-style-type: none"> 1995 resource management plan
Identified Data Needs	<ul style="list-style-type: none"> Soundscape monitoring data. Data, analyses, and reports that enable assessments of condition, trends, and risks to sensitive populations. Risk-based prioritization of needs for monitoring or other management actions.
Identified Planning Needs	<ul style="list-style-type: none"> River management plan. Soundscape management plan. Resource stewardship strategy. Climate change adaptation planning, including integrated vulnerability assessments for natural and cultural resources.

Other Important Resource and Value: Paleontological Resources	
Short Description of Importance	Geologic landscapes in Canyonlands National Park preserve extensive fossil evidence of prehistoric life.
Related Significance Statements	<ul style="list-style-type: none"> Not applicable.
Current Conditions and Trends	<p>Conditions and trends</p> <ul style="list-style-type: none"> Most of the park has not been surveyed for paleontological resources. Several geologic formations have known high potential.
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> Vandalism and theft of fossil resources. Erosion of fossil material. Potential changes in erosion / weathering rates due to warming, drought, and greater frequency and magnitude of extreme weather events attributable to anthropogenic climate change. Continued limited staffing and inadequate science / technical capacity. <p>Opportunities</p> <ul style="list-style-type: none"> None identified.

Other Important Resource and Value: Paleontological Resources	
Stakeholders Interested in this Resource or Value	<ul style="list-style-type: none"> • Park visitors and staff • Commercial guides • Bureau of Land Management • U.S. Forest Service • State/local governments (especially Utah Geological Survey) • Traditionally associated tribes • Nongovernment organizations • Public/industry • Friends of Arches and Canyonlands Parks, The Bates Wilson Legacy Fund • Canyonlands Natural History Association
Laws and Policies that Apply to this OIRV, and Existing Park Guidance	<p>Laws and policies that apply to this OIRV</p> <ul style="list-style-type: none"> • Archeological Resources Protection Act of 1979 • Paleontological Resources Preservation Act (Pending, Senate Bill S.263), USC Title 9, Chapter 79, 5937. • NPS <i>Management Policies 2006</i> (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” <p>Existing park guidance</p> <ul style="list-style-type: none"> • 1995 resource management plan
Identified Data Needs	<ul style="list-style-type: none"> • Complete paleontological survey of the entire park.
Identified Planning Needs	<ul style="list-style-type: none"> • Resource stewardship strategy. • Climate change adaptation planning, including integrated vulnerability assessments for natural and cultural resources.

Other Important Resource and Value: Museum Collections	
Short Description of Importance	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.
Related Significance Statements	<ul style="list-style-type: none"> • Canyonlands National Park protects the confluence, significant reaches, and associated ecosystems of two major western rivers, the Green and Colorado, which have shaped the complex natural and human histories of the park and surrounding region. • Canyonlands National Park contains world-class archeological sites and districts, including the Great Gallery, which is the type-site for Barrier Canyon style rock art. • The diverse natural landscapes and rich cultural history of Canyonlands National Park provide outstanding opportunities for the scientific study of natural ecosystems and how they are affected by human use and climate in different settings over long periods of time.

Other Important Resource and Value: Museum Collections	
Current Conditions and Trends	Conditions and trends <ul style="list-style-type: none"> • The collection is well documented except for a backlog of archives. • Storage space is extremely limited and nearly filled to capacity. • Anticipate a significant growth of collections due to research activity in both natural and cultural disciplines. • The digitization of magnetic media is almost complete.
Threats and Opportunities	Threats <ul style="list-style-type: none"> • Inadequate storage space restricts ability to store future collections. • Inadequate storage furniture. • Radioactive fossilized material stored in an enclosed space. • Climate control system is incapable of maintaining specified performance characteristics. Opportunities <ul style="list-style-type: none"> • Improved access due to the hierarchal cataloguing of the archives. • Place catalog database on the servers. • Train staff to use the database. • Make digitized records available to the public.
Stakeholders Interested in this Resource or Value	<ul style="list-style-type: none"> • Park visitors and staff • Bureau of Land Management • U.S. Forest Service • U.S. Fish and Wildlife Service • State/local governments, especially Utah Division of Wildlife Resources • Nongovernment organizations • Traditionally associated tribes • Friends of Arches and Canyonlands Parks, The Bates Wilson Legacy Fund • Canyonlands Natural History Association
Laws and Policies that Apply to this OIRV, and Existing Park Guidance	Laws and policies that apply to this OIRV <ul style="list-style-type: none"> • <i>NPS 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. • Director's Order 24: <i>NPS Museum Collections</i> • Museum Act (16 USC 18f through 18f-3) • <i>NPS Museum Handbook</i> Existing park guidance <ul style="list-style-type: none"> • 2010 scope of collections statement • 2003 SEUG museum management plan • 2003 collections storage plan • 1995 resource management plan
Identified Data Needs	<ul style="list-style-type: none"> • None identified.
Identified Planning Needs	<ul style="list-style-type: none"> • Core documents: collection condition survey, fire and security plan, housekeeping and integrated pest management plan.

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

All park employees 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 Canyonlands National Park:

Key Parkwide Issues	Planning and Data Needs	Notes
Archeological sites are threatened by natural processes (intersection of archeological sites and geologic stability issues)	Need an inventory of where archeological sites are threatened by natural processes	NPS <i>Management Policies 2006</i> states that the National Park Service is to preserve cultural resources and allow natural processes to occur. An example area where this is occurring is Aztec Butte.
Paleontological resources exist in the park, but little is known about their locations	Paleontological resources need to be surveyed and inventoried	A new synthesis report entitled "Paleontological Resource Inventory and Monitoring for the Northern Colorado Plateau Network" was published in summer 2012.
Currently day use is not restricted, so use can be heavy in the backcountry areas and along four-wheel-drive roads in Island in the Sky and Needles, which are managed for a solitude experience	Visitor use management plan	Day use permitting along unpaved roads may be an option. This plan is dependent on the resource stewardship strategy.
Climate change	Weather data; climate change 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 (avg. temperature projected to increase 4°F –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 Canyonlands National Park. This is a comprehensive review and synthesis of plans and data needed to protect and maintain the park's fundamental and other important resources and values, as well as address key parkwide and other major issues. The ranking of planning and data needs for Canyonlands National Park 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 or OIRV?	Data Needs	Priority (H, M, L)	Notes
FRV	Archeological surveys	H	It is difficult to manage for unknown resources; only 2% of the park has been surveyed; surveys are needed along the rivers; this effort will feed multiple other planning efforts; surveys are needed to complete other data gaps and planning needs; completing these surveys fulfills obligations under section 110 of the National Historic Preservation Act.
FRV	Conditions assessments of cultural resources	H	Updated condition assessments provide baseline information from which to track changes through time to cultural resources.
FRV	National register nominations	H	Completing these nominations fulfills obligations under section 110 of the National Historic Preservation Act; goes along with completing the archeological surveys; there are known archeological sites that do not have a national register nomination form completed.
FRV	Water resource inventory and risk assessments parkwide	H	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. 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.
FRV	Trends and extent of nonnative species spread throughout park (park has some data)	H	Invasive exotic species are among the greatest threats to the integrity of park ecosystems, and treatment actions consume considerable staff time and resources. Inventory and monitoring data are necessary for project prioritization and planning.
FRV	Wilderness character narrative and assessment, inventory, and monitoring	H	Needed for baseline comparison; precursor to wilderness designation; needed for other planning needs; help develop desired future conditions.
FRV	Data and analyses that quantify effects of river flow regimes on resource conditions along the Green and Colorado rivers	H	Data that establish quantitative relations between flow and resource conditions are essential for understanding flow-dependent resources.
FRV	Data and analyses that quantify water needs of other water-dependent resources in the park	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.
FRV	Continued collection of stream flow data by U.S. Geological Survey on the Green and Colorado rivers upstream of the park	H	Stream flow data collected by U.S. Geological Survey contribute to our understanding of regional hydrologic and climatic conditions and are essential for understanding trends in the condition of river-related resources in the park.

Data Needs—Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or OIRV?	Data Needs	Priority (H, M, L)	Notes
FRV	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.
FRV	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.
FRV	Special studies to examine pollution dose-response relationships in sensitive park ecosystems	H	Research is necessary to determine whether key ecosystem attributes (e.g., exotic species growth or spread) exhibit threshold-type responses to N deposition. Results can be used to support NEPA analyses associated with projects external to park boundaries.
FRV	Special studies, including source attribution studies, to evaluate the impacts of windblown dust and climate change interactions on visibility in Canyonlands	H	Dust emissions have many potential direct and indirect impacts on park resources. Research is necessary to identify key source areas and potential effects of climate change / variability on emission patterns. Results can be used to support NEPA analyses associated with projects external to park boundaries.
FRV	Establish viewshed monitoring on basis of repeat photography at key observation points	H	The protection of scenic views depends on the identification of park scenic resources, evaluating visual resource impacts through assessment and monitoring, and understanding visitor values regarding scenic resources
FRV	Evaluate adequacy of key observation points that provide basis for current viewshed modeling and analysis	H	Viewshed monitoring (i.e., repeat photography from key observation points) is needed to support NEPA analyses associated with projects external to park boundaries.
FRV	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.
FRV	Continued collection of water quality data	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.
FRV	Continued monitoring of air quality and air quality related values	H	Continued monitoring is necessary to determine trends in air quality and air quality related values, as well as to evaluate and mitigate potential impacts from human activities.
OIRV	Soundscape monitoring data	H	Monitoring data are required to understand trends in the condition of soundscape resources and to mitigate potential impacts of human activities.
OIRV	Data, analyses, and reports that enable assessments of condition, trends, and risks to sensitive wildlife populations	M	

Data Needs—Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or OIRV?	Data Needs	Priority (H, M, L)	Notes
FRV	Larger scale geologic map (1:24,000)	M	
FRV	Archeological overview and assessment	M	
FRV	Cultural landscape inventory(s) and cultural landscape report(s)	M	Example: Orange Cliffs Cultural Landscape Inventory, which was completed by Glen Canyon National Recreation Area.
FRV	Historic structure report(s)	M	
FRV	Oral histories	M	
FRV	Final report for night skies	M	
FRV	Data on trends and extent of social trails and other surface disturbance in high use areas	M	Surface disturbance, soil destabilization, and soil erosion are among the most widespread visitor-use impacts in the park. Current data on the extent and trends in surface disturbance are lacking but necessary for assessing the need for management actions.
FRV	Archeological surveys along the rivers	M	
FRV	Visitor use data (for rivers)	M	
OIRV	Complete paleontological survey of the entire park	M	
FRV	Geologic hazard inventory and map (to show proximity of hazards to cultural resources)	L	
FRV	Inventory of geologic features of special interest	L	
FRV	Ethnographic overview and assessment	L	

Planning Needs—Where a Decision-making Process Is Needed to Set Long-term Strategy			
Related to an FRV or OIRV?	Planning Needs	Priority (H, M, L)	Notes
FRV and OIRV	Updated river management plan	H	Includes visitor use / potential limitations for rivers; archeological site access decisions for sites along the rivers; motorized use and/or restrictions on rivers; commercial use plan for river use; campsite infrastructure decisions on the rivers—specific camps vs. at-large camping; resource impacts to campsites, cultural resources, natural resources; group size allowed up to 40 people impacts visitor experience and resources; restoration areas.
FRV	Southeast Utah Group soundscape management plan	H nearly done	In progress; trying to solve what is appropriate and inappropriate noise; will be used in the river management plan; could impact commercial services plan.
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	Commercial visitor services plan	H	This includes land-based and river tours, commercial use authorizations; concession contracts are coming up for renewal in the next few years; park is ready to start this planning effort.
FRV and Parkwide Issue	Climate change 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	Update backcountry management plan	M	Include human waste planning; trying to address visitor use; there is a 1995 plan that needs updating; looking at group size, campsite numbers, and locations.
FRV	Visitor use management plan	M	Primarily a day use issue; day use does not require a permit; need data to complete this plan; need to determine desired future conditions.
OIRV	Complete core management documents for museum collections	L	The includes collection condition survey, fire and security plan, housekeeping and integrated pest management plan.



Part 3: Preparers, Consultants, and Workshop 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 National Park and Canyonlands National Park

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

Ericka Pilcher, NPS Denver Service Center, Planning

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



Appendix A: Enabling Legislation and Legislative Acts for Canyonlands National Park

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PUBLIC LAW 88-590—SEPT. 12, 1964

[78 STAT.]

Public Law 88-590

September 12, 1964
[S. 27]

AN ACT

To provide for establishment of the Canyonlands National Park in the State of Utah, and for other purposes.

Canyonlands
National Park,
Utah.
Establishment.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in order to preserve an area in the State of Utah possessing superlative scenic, scientific, and archeologic features for the inspiration, benefit, and use of the public, there is hereby established the Canyonlands National Park which, subject to valid existing rights, shall comprise the following generally described lands:

Beginning at a point on the left or east bank of the Green River on the north township line of township 27 south, range 17½ (partially surveyed), Salt Lake base and meridian:

thence easterly along the north township line through township 27 south, range 17½ east (partially surveyed), and township 27 south, range 18 east (partially surveyed), to the northeast corner of section 6, township 27 south, range 18 east (partially surveyed);

thence southerly along the east line of section 6 to the southeast corner of section 6, township 27 south, range 18 east (partially surveyed);

thence easterly along the north line of sections 8, 9, and 10 to the northeast corner of section 10, township 27 south, range 18 east (partially surveyed);

thence southerly along the east line of section 10 to the southeast corner of section 10, township 27 south, range 18 east (partially surveyed);

thence easterly along the north line of sections 14 and 13 to the northeast corner of section 13, township 27 south, range 18 east (partially surveyed);

thence continuing easterly along the north line of sections 18, 17, 16, and 15 to the northeast corner of section 15, township 27 south, range 19 east (partially surveyed);

thence southerly along the east line of sections 15 and 22 to the southeast corner of section 22, township 27 south, range 19 east (partially surveyed);

thence easterly along the north line of sections 26 and 25 to the northeast corner of section 25, township 27 south, range 19 east (partially surveyed);

thence continuing easterly along the north line of section 30 to the northeast corner of section 30, township 27 south, range 20 east;

thence southerly along the east line of section 30 to the southeast corner of section 30, township 27 south, range 20 east;

thence easterly along the south line of section 29 to the southeast corner of the west half of section 28, township 27 south, range 20 east;

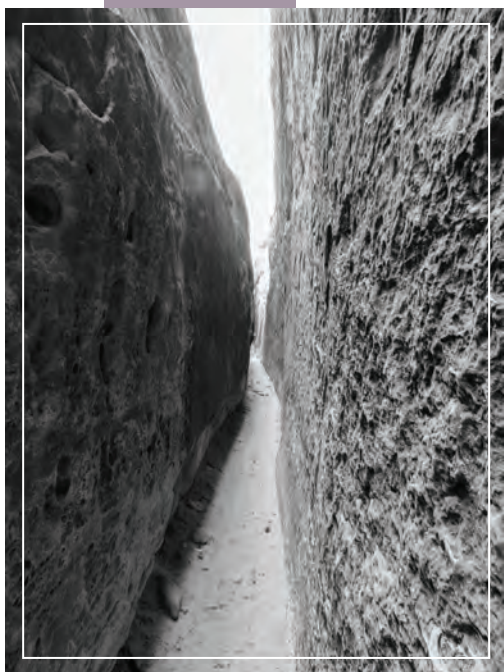
thence southerly along the east line of the west half of section 33 to the southeast corner of the west half of section 33, township 27 south, range 20 east;

thence continuing southerly along the east line of the west half of sections 4, 9, 16, and 21 to the southeast corner of the west half of section 21, township 28 south, range 20 east;

thence westerly along the south line of sections 21 and 20 to the southwest corner of section 20, township 28 south, range 20 east;

thence southerly along the east line of sections 30 and 31 to the southeast corner of section 31, township 28 south, range 20 east;

thence continuing southerly along the east line of sections 6 and



7 to the southeast corner of the north half of section 7, township 29 south, range 20 east;

thence westerly along the south line of the north half of section 7 to the southwest corner of the north half of section 7, township 29 south, range 19 east;

thence continuing westerly along the south line of the northeast quarter of section 12 to the southwest corner of the northeast quarter of section 12, township 29 south, range 19 east (partially surveyed);

thence southerly along the east line of the west half of sections 12, 13, and 24 to the southeast corner of the west half of section 24, township 29 south, range 19 east (partially surveyed);

thence westerly along the south line of section 24 to the southwest corner of section 24, township 29 south, range 19 east (partially surveyed);

thence southerly along the east line of sections 26 and 35 to the southeast corner of section 35, township 29 south, range 19 east (partially surveyed);

thence easterly along the south line of township 29 south, range 19 east, to the east line of the west half of section 36, township 29½ south, range 19 east (partially surveyed);

thence southerly along the east line of the west half of section 36 to the southeast corner of the west half of section 36, township 29½ south, range 19 east (partially surveyed);

thence continuing southerly along the east line of the west half of section 1 to the southeast corner of the northwest quarter of section 1, township 30 south, range 19 east (partially surveyed);

thence easterly along the north line of the southeast quarter of section 1 to the northeast corner of the southeast quarter of section 1, township 30 south, range 19 east (partially surveyed);

thence southerly along the east line of section 1 to the southeast corner of section 1, township 30 south, range 19 east (partially surveyed);

thence easterly along the north line of section 7 to the northeast corner of section 7, township 30 south, range 20 east;

thence southerly along the east line of section 7 to the southeast corner of section 7, township 30 south, range 20 east;

thence easterly along the north line of section 17 to the northeast corner of section 17, township 30 south, range 20 east;

thence southerly along the east line of section 17 to the southeast corner of section 17, township 30 south, range 20 east;

thence easterly along the north line of sections 21 and 22 to the northeast corner of section 22, township 30 south, range 20 east;

thence southerly along the east line of sections 22, 27, and 34 to the southeast corner of section 34, township 30 south, range 20 east;

thence easterly along the south line of township 30 south, range 20 east, to the east line of section 34, township 30½ south, range 20 east (partially surveyed);

thence southerly along the east line of section 34 to the southeast corner of section 34, township 30½ south, range 20 east (partially surveyed);

thence continuing southerly along the east line of sections 3, 10, 15, 22, 27, and 34 to the southeast corner of section 34, township 31 south, range 20 east (partially surveyed);

thence continuing southerly along the east line of sections 3, 10, and 15 to the southeast corner of section 15, township 32 south, range 20 east (partially surveyed);

thence westerly along the south line of sections 15, 16, 17, and 18 to the southwest corner of section 18, township 32 south, range 20 east (partially surveyed);

thence northerly along the west line of section 18 to the northwest corner of section 18, township 32 south, range 20 east (partially surveyed);

thence westerly along the south line of section 12 to the southwest corner of section 12, township 32 south, range 19 east (partially surveyed);

thence northerly along the west line of sections 12 and 1 to the northwest corner of section 1, township 32 south, range 19 east (partially surveyed);

thence westerly along the south line of section 35 to the southwest corner of section 35, township 31 south, range 19 east (partially surveyed);

thence northerly along the west line of sections 35 and 26 to the northwest corner of section 26, township 31 south, range 19 east (partially surveyed);

thence westerly along the south line of sections 22, 21, 20, and 19 to the southwest corner of section 19, township 31 south, range 19 east (partially surveyed);

thence continuing westerly along the south line of sections 24, 23, 22, 21, 20, and 19 to the southwest corner of section 19, township 31 south, range 18 east (partially surveyed);

thence continuing westerly along the south line of sections 24, 23, and 22 to the southwest corner of the east half of section 22, township 31 south, range 17 east (partially surveyed);

thence northerly along the west line of the east half of section 22 to the northwest corner of the east half of section 22, township 31 south, range 17 east (partially surveyed);

thence westerly along the south line of section 15 to the southwest corner of section 15, township 31 south, range 17 east (partially surveyed);

thence northerly along the west line of sections 15, 10, and 3 to the northwest corner of section 3, township 31 south, range 17 east (partially surveyed);

thence easterly along the north line of sections 3, 2, and 1 to the northeast corner of section 1, township 31 south, range 17 east (partially surveyed);

thence continuing easterly along the north line of section 6 to the northeast corner of section 6, township 31 south, range 18 east (partially surveyed);

thence north through partially surveyed township 30½ south, range 18 east, to the north line of partially surveyed township 30½ south, range 18 east;

thence easterly along the north line of partially surveyed township 30½ south, range 18 east, to the southwest corner of section 34, township 30 south, range 18 east (partially surveyed);

thence northerly along the west line of sections 34 and 27 to the northwest corner of section 27, township 30 south, range 18 east (partially surveyed);

thence easterly along the north line of section 27 to the northeast corner of section 27, township 30 south, range 18 east (partially surveyed);

thence northerly along the west line of sections 23, 14, 11, and 2 to the northwest corner of section 2, township 30 south, range 18 east (partially surveyed);

thence continuing northerly along the west line of section 35 to the northwest corner of section 35, township 29 south, range 18 east (partially surveyed);

thence westerly along the south line of section 27 to the southwest corner of section 27, township 29 south, range 18 east (partially surveyed);

thence northerly along the west line of sections 27 and 22 to the northwest corner of section 22, township 29 south, range 18 east (partially surveyed);

thence westerly along the south line of section 16 to the southwest corner of section 16, township 29 south, range 18 east (partially surveyed);

thence northerly along the west line of sections 16 and 9 to the northwest corner of section 9, township 29 south, range 18 east (partially surveyed);

thence westerly along the south line of section 5 to the southwest corner of section 5, township 29 south, range 18 east (partially surveyed);

thence northerly along the west line of section 5 to the northwest corner of section 5, township 29 south, range 18 east (partially surveyed);

thence continuing northerly along the west line of section 32 to the northwest corner of section 32, township 28½ south, range 18 east (partially surveyed);

thence westerly along the south line of section 30 to the southwest corner of section 30, township 28½ south, range 18 east (partially surveyed);

thence northerly along the west line of sections 30 and 19 to the northwest corner of the south half of section 19, township 28½ south, range 18 east (partially surveyed);

thence westerly along the south line of the north half of sections 24 and 23 to the southwest corner of the northeast quarter of section 23, township 28 south, range 17 east (partially surveyed);

thence northerly along the west line of the northeast quarter of section 23 and the west line of the southeast quarter of section 14 to the northwest corner of the southeast quarter of section 14, township 28 south, range 17 east (partially surveyed);

thence westerly along the south line of the north half of sections 14 and 15 to the southwest corner of the north half of section 15, township 28 south, range 17 east (partially surveyed);

thence northerly along the west line of sections 15, 10, and 3 to the northwest corner of section 3, township 28 south, range 17 east (partially surveyed);

thence continuing northerly along the west line of sections 34, 27, 22, and 15 to the northwest corner of the south half of section 15, township 27 south, range 17 east (partially surveyed);

thence easterly along the north line of the south half of sections 15 and 14 to the northeast corner of the south half of section 14, township 27 south, range 17 east (partially surveyed);

thence northerly along the west line of sections 13, 12, and 1, township 27 south, range 17 east (partially surveyed), to the right or west bank of the Green River;

thence northerly across the Green River to the point of beginning, containing approximately 257,640 acres.

SEC. 2. Within the area described in section 1 hereof or which lies within the boundaries of the park, the Secretary of the Interior is authorized to acquire lands and interests in lands by such means as he may deem to be in the public interest. The Secretary may accept title to any non-Federal property within the park, including State-owned

Acquisition of
lands.

school sections and riverbed lands, and in exchange therefor he may convey to the grantor of such property any federally owned property under his jurisdiction within the State of Utah, notwithstanding any other provision of law. The properties so exchanged shall be of the same classification, as near as may be, and shall be of approximately equal value, and the Secretary shall take administrative action to complete transfer on any lands in a proper application by the State of Utah on or before the expiration of one hundred twenty days following the date of enactment of this Act: *Provided*, That the Secretary may accept cash from, or pay cash to, the grantor in such an exchange in order to equalize the values of the properties exchanged. Federal property located within the boundaries of the park may, with the concurrence of the agency having custody thereof, be transferred to the administrative jurisdiction of the Secretary of the Interior, without consideration, for use by him in carrying out the purposes of this Act. Any lands within the boundaries of the park which are subject to Bureau of Reclamation or Federal Power Commission withdrawals are hereby freed and exonerated from any such withdrawal and shall, on the date of enactment of this Act, become a part of the Canyonlands National Park subject to no qualifications except those imposed by this Act.

Grazing privileges.

SEC. 3. Where any Federal lands included within the Canyonlands National Park are legally occupied or utilized on the date of approval of this Act for grazing purposes, pursuant to a lease, permit, or license for a fixed term of years issued or authorized by any department, establishment, or agency of the United States, the Secretary of the Interior shall permit the persons holding such grazing privileges to continue in the exercise thereof during the term of the lease, permit, or license, and one period of renewal thereafter.

Access roads.

SEC. 4. (a) In order to provide suitable access to the Canyonlands National Park and facilities and services required in the operation and administration of the park, the Secretary may select the location or locations of an entrance road or roads to such park and to points of interest therein from United States Route 160 and State Routes 24 and 95, including necessary entrance and related administrative headquarters sites upon lands located outside the park, and he may select a suitable location or locations outside the park for connections between entrance roads and between roads lying within the Canyonlands National Park.

Rights-of-way.

(b) To carry out the purposes of this section, the Secretary may acquire non-Federal lands or interests in lands by donation, purchase, condemnation, exchange, or such other means as he may deem to be in the public interest: *Provided*, That lands and interests in lands acquired outside the park as rights-of-way for said entrance roads and connections shall not exceed an average of one hundred twenty-five acres per mile. Rights-of-way and entrance and administrative sites acquired pursuant to this authority shall be administered pursuant to such special regulations as the Secretary may promulgate in furtherance of the purposes of this section.

(c) The Secretary may construct, reconstruct, improve, and maintain upon the lands or interests in lands acquired pursuant to this section, or otherwise in Government ownership, an entrance road or roads and connections of parkway standards, including necessary bridges and other structures and utilities as necessary, and funds appropriated for the National Park Service shall be available for these purposes: *Provided*, That if any portion of such road or roads crosses national forest land the Secretary shall obtain the approval of the Secretary of Agriculture before construction of such portion shall begin.

78 STAT.] PUBLIC LAW 88-592—SEPT. 12, 1964

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(d) The Secretary is hereby authorized to cooperate with the Secretary of Agriculture in the location and extension of a forest development road from State Route 95 and may extend the same from the national forest boundary to the park and points of interest therein in accordance with the applicable provisions of this section.

Forest road.

SEC. 5. Subject to the provisions of this Act, the administration, protection, and development of the Canyonlands National Park, as established pursuant to this Act, shall be exercised by the Secretary of the Interior in accordance with the provisions of the Act of August 25, 1916 (39 Stat. 535; 16 U.S.C. 1 and the following), as amended and supplemented.

Administration.

Approved September 12, 1964.

Public Law 88-591

AN ACT

September 12, 1964
[S. 1909]

To amend the joint resolution establishing the Battle of New Orleans Sesquicentennial Celebration Commission to authorize an appropriation to enable the Commission to carry out its functions under such joint resolution.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That section 4 of the joint resolution entitled "Joint resolution to establish the Sesquicentennial Commission for the Celebration of the Battle of New Orleans, to authorize the Secretary of the Interior to acquire certain property within Chalmette National Historical Park, and for other purposes", approved October 9, 1962 (76 Stat. 755), is amended—

Battle of New
Orleans Sesqui-
centennial Cele-
bration Commis-
sion.

(1) in subsection (a) thereof by striking out the colon and the following: "Provided, however, That all expenditures of the Commission shall be made from donated funds only", and

(2) by adding the following new subsection at the end thereof: "(d) There are hereby authorized to be appropriated such sums as may be necessary to enable the Commission to carry out its functions under the foregoing provisions of this joint resolution, but in no event shall the sums hereby authorized to be appropriated exceed a total of \$25,000."

Appropriation.

Approved September 12, 1964.

Public Law 88-592

AN ACT

September 12, 1964
[H. R. 1642]

To provide for the sale of the United States Animal Quarantine Station, Clifton, New Jersey, to the city of Clifton to provide for the establishment of a new station and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Secretary of Agriculture, hereinafter called the Secretary, is authorized at such site as he shall select in the New York-New Jersey port and airport area to establish, equip, and maintain a quarantine station for animals and birds imported into the United States; but no commitment shall be made as to the site at which such station shall be established unless at least sixty days prior to the making of such commitment the Secretary of Agriculture shall have advised the chairman of the Committee on Agriculture of the House of Representatives and the chairman of the Committee on Agriculture and Forestry of the Senate in writing of the facts concerning the proposed site.

Animal quaran-
tine station,
Clifton, N.J.
Relocation.

Appendix B: Related Federal Legislation, Regulations, and Executive Orders

The Clean Air Act, as amended, requires all park units to meet federal, state, and local pollution standards. Additionally, Arches National Park is a mandatory Class I area under the Prevention of Significant Deterioration provisions of the act. This gives the NPS an “affirmative responsibility” to protect the air quality and Air Quality Related Values (AQRVs) within the park from the adverse effects of air pollution. Air quality related values are resources that are sensitive to air pollution, such as visibility, plants, animals, soils, water and certain cultural resources. State and federal permitting authorities must consult with the NPS regarding new sources of air pollution, and impacts to park air quality related values must be considered in the permitting process. Further, the act requires NPS involvement in national regulatory efforts aimed eliminating human-caused visibility impairment in all Class I areas.

Executive Order 13112 (1999) on Invasive Species requires all federal agencies to:

- identify actions that may affect the status of invasive species,
- prevent the introduction of invasive species,
- detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner,
- monitor invasive species populations accurately and reliably,
- provide for restoration of native species and habitat conditions in ecosystems that have been invaded,
- conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species, and
- promote public education on invasive species and the means to address them.

Appendix C: Inventory of Concessions and Permits

Table of Concessions and Permits						
Name	Agreement Type	Start Date	End Date	Parties	Purpose	Notes
American Wilderness Expeditions DBA Adrift Adventures	Concession – Whitewater Tour CC-CANY018-05	2005	2014	NPS and Concessioner	Provide visitor service	
Adventure Bound, Inc.	Concession – Whitewater Tour CC-CANY001-05	2005	2014	NPS and Concessioner	Provide visitor service	
Colorado Outward Bound School	Concession – Whitewater Tour CC-CANY004-05	2005	2014	NPS and Concessioner	Provide visitor service	
Colorado River and Trail Expeditions	Concession – Whitewater Tour CC-CANY005-05	2005	2014	NPS and Concessioner	Provide visitor service	
Don Hatch River Expeditions	Concession – Whitewater Tour CC-CANY006-05	2005	2014	NPS and Concessioner	Provide visitor service	Contract currently being sold
Holiday River Expeditions	Concession – Whitewater Tour CC-CANY007-15	2005	2014	NPS and Concessioner	Provide visitor service	
Moki Mac Expeditions	Concession – Whitewater Tour CC-CANY009-05	2005	2014	NPS and Concessioner	Provide visitor service	
Navtec Expeditions	Concession – Whitewater Tour CC-CANY003-05	2005	2014	NPS and Concessioner	Provide visitor service	
Oars Canyonlands, Inc.	Concession – Whitewater Tour CC-CANY010-05	2005	2014	NPS and Concessioner	Provide visitor service	
Niskanen & Jones DBA San Juan Expeditions and Tag-A-Long Expeditions	Concession – Whitewater Tour CC-CANY012-05, CC-CANY014-05, CC-CANY019-05	2005	2014	NPS and Concessioner	Provide visitor service	Prospectus development happening in 2013
Sheri Griffith River Expeditions	Concession – Whitewater Tour CC-CANY-002-05	2005	2014	NPS and Concessioner	Provide visitor service	Prospectus development happening in 2013
Tour West, Inc.	Concession – Whitewater Tour CC-CANY016-05	2005	2014	NPS and Concessioner	Provide visitor service	Prospectus development happening in 2013
Western River Expeditions	Concession – Whitewater Tour CC-CANY017-05, CC-CANY011-05	2005	2014	NPS and Concessioner	Provide visitor service	Prospectus development happening in 2013

Table of Concessions and Permits						
Name	Agreement Type	Start Date	End Date	Parties	Purpose	Notes
World Wide River Expeditions	Concession – Whitewater Tour CC-CANY020-05	2005	2014	NPS and Concessioner	Provide visitor service	Prospectus development happening in 2013
Oars Canyonlands, Inc.	Concession – Vehicle Tour CC-CANY022-04	2004	2013	NPS and Concessioner	Provide visitor service	Prospectus development happening in 2013
Navtec Expeditions	Concession – Vehicle Tour CC-CANY025-04	2004	2013	NPS and Concessioner	Provide visitor service	Prospectus development happening in 2013
Niskanen & Jones DBA Tag-A-Long Expeditions	Concession - Vehicle Tour CC-CANY024-04	2004	2013	NPS and Concessioner	Provide visitor service	Operating under a limited contract
Niskanen & Jones DBA Tag-A-Long Expeditions	Concession – Calmwater Tour and Canoe Haul Out CC-CANY026-04	2004	2013	NPS and Concessioner	Provide visitor service	Prospectus development happening in 2013
3-D River Visions, Inc. DBA Tex's Riverways	Concession – Calmwater Tour and Canoe Haul Out CC-CANY027-04	2004	2013	NPS and Concessioner	Provide visitor service	Prospectus development happening in 2013
Holiday River Expeditions	Concession – Mountain Bike Tours CC-CANY031-07	2007	2016	NPS and Concessioner	Provide visitor service	
Escape Adventures	Concession – Mountain Bike Tours CC-CANY032-07	2007	2016	NPS and Concessioner	Provide visitor service	
Magpie Adventures	Concession – Mountain Bike Tours CC-CANY033-07	2007	2016	NPS and Concessioner	Provide visitor service	
Rim Tours	Concession – Mountain Bike Tours CC-CANY034-07	2007	2016	NPS and Concessioner	Provide visitor service	
Western Spirit Cycling, Inc.	Concession – Mountain Bike Tours CC-CANY035-07	2007	2016	NPS and Concessioner	Provide visitor service	

Table of Concessions and Permits						
Name	Agreement Type	Start Date	End Date	Parties	Purpose	Notes
Canyonlands Natural History Association	Concession – Visitor Convenience Item CC-CANY008-03	2003	2012	NPS and Concessioner	Provide visitor service	Prospectus development happening in 2012
Friendship Cruise	Special Use Permit	Short Term	Reissued annually	NPS and Permittee	Allows annual boat trip from Green River Utah to Moab via the park rivers	
Moab Music Festival	Special Use Permit	Short Term	Reissued annually	NPS and Permittee	Allows annual music concert in the “grotto” along the Colorado River	
Needles Outpost	Special Use Permit	Short Term	Reissued annually	NPS and Permittee	Allows the purchase of park water to support a small store and campground operation just outside of park boundaries	
Jeep Safari	Special Use Permit	Short Term	Reissued annually	NPS and Permittee	Allows organized Jeep trips through Canyonlands and a portion of Arches	



Intermountain Region Foundation Document Recommendation Canyonlands National Park

July 2013

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.

Kate Cannon

7/31/2013

RECOMMENDED

Superintendent, Canyonlands National Park

Date

J. Weseh

8/21/13

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.

CANY 164/121460

August 2013

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