



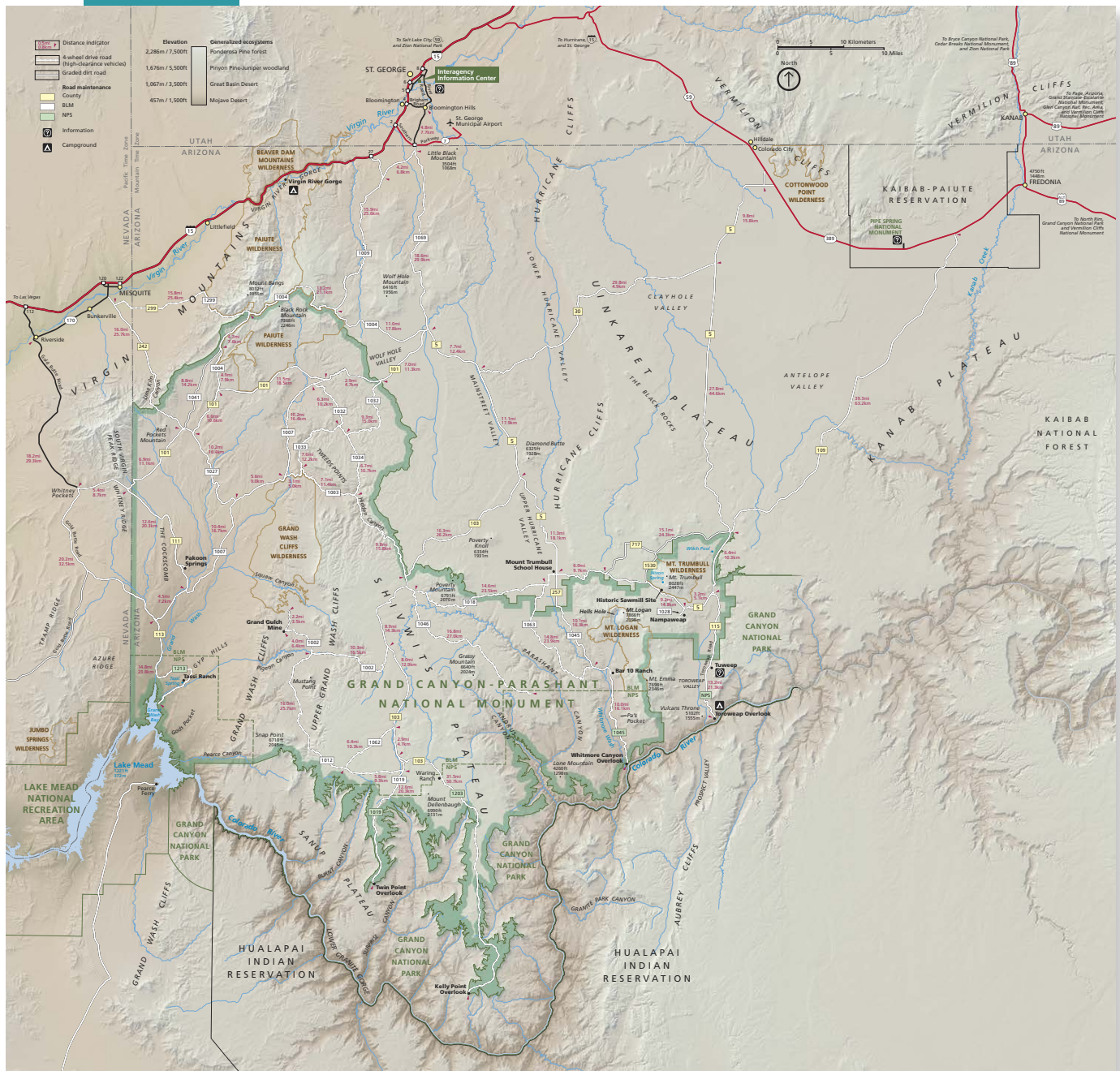
Foundation Document Grand Canyon-Parashant National Monument

Arizona

January 2016



Signatures
1-7-2016



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Mission of the National Park Service

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

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

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

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

The national park system continues to grow and comprises more than 400 park units covering more than 84 million acres in every state, the District of Columbia, American Samoa, Guam, Puerto Rico, and the US Virgin Islands. These units include, but are not limited to, national parks, monuments, battlefields, military parks, historical parks, historic sites, lakeshores, seashores, recreation areas, scenic rivers and trails, and the White House. The variety and diversity of park units throughout the nation require a strong commitment to resource stewardship and management to ensure both the protection and enjoyment of these resources for future generations.



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

Mission of the Bureau of Land Management

The Bureau of Land Management (BLM) may best be described as a small agency with a big mission: To sustain the health, diversity, and productivity of America’s public lands for the use and enjoyment of present and future generations. It administers more public land—over 245 million surface acres—than any other federal agency in the United States. Most of this land is within the 12 western states, including Alaska. The Bureau of Land Management also manages 700 million acres of subsurface mineral estates throughout the nation.

The BLM multiple-use mission, set forth in the Federal Land Policy and Management Act of 1976 (FLPMA), mandates that the agency manage public land resources for a variety of uses, such as energy development, livestock grazing, recreation, and timber harvesting, while protecting a wide array of natural, cultural, and historical resources, many of which are found in the BLM’s 27 million-acre National Landscape Conservation System. The conservation system includes 221 wilderness areas totaling 8.7 million acres, as well as 21 national monuments comprising 5.6 million acres.

The Bureau of Land Management focuses on the following priorities.

- The America’s Great Outdoors initiative, which is aimed at enhancing the conservation of BLM-managed lands and resources and reconnecting Americans to the outdoors.
- Cooperative Landscape Conservation, a scientific initiative that recognizes the need to better understand the condition of BLM-managed landscapes at a broad level.
- Youth in the Great Outdoors, which supports programs and partnerships that engage youth in natural resource management and encourages young people and their families to visit, explore, and learn about the public lands.
- Climate Change, which is affecting public lands in ways that could impact Americans’ quality of life. The Bureau of Land Management is responding with two interconnected initiatives: (1) proposed landscape approach to land management, and (2) rapid ecoregional assessments, which will improve the agency’s understanding of public land conditions to inform future management decisions.

By strengthening existing and forging new partnerships with stakeholders, the Bureau of Land Management will ensure that the nation’s public lands are managed and conserved for future generations of Americans to use and enjoy.



Introduction

Every unit of the national park system will have a foundation document to provide basic guidance for planning and management decisions—a foundation for planning and management. While most NPS units are managed solely by the National Park Service, Grand Canyon-Parashant National Monument is jointly managed under the Service First authority by the National Park Service and Bureau of Land Management. With that in mind, much of the typical content for a NPS foundation document has been tailored for this document to reflect the unique cooperative management of this national monument. The core components of a foundation document include a brief description of the unit as well as its purpose, significance, fundamental resources and values, other important resources and values, and interpretive themes. The foundation document also includes special mandates and administrative commitments, an assessment of planning and data needs that identifies planning issues, planning products to be developed, and the associated studies and data required for planning. Along with the core components, the assessment provides a focus for planning activities and establishes a baseline from which planning documents are developed.

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

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



Part 1: Core Components

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

Brief Description of the Monument

Grand Canyon-Parashant National Monument, a land area larger than the state of Rhode Island, epitomizes much of the “Wild West”—a vast, wild landscape of desert cactus and sheer canyon walls, soaring raptors and tall ponderosa pines, isolated cattle corrals and line shacks, lone cowboys, and rugged rock formations set against endless blue skies.

The monument is cooperatively managed by the Bureau of Land Management and the National Park Service, as directed by presidential proclamation 7265 of January 11, 2000. The Federal Land Policy and Management Act of 1976 and the NPS Organic Act both apply within the monument.

The monument is in Mohave County, Arizona, immediately north of Grand Canyon National Park and the Colorado River and east of the state of Nevada. Altogether, it encompasses 1,048,321 acres: 208,449 acres administered by the National Park Service; 812,581 acres administered by the Bureau of Land Management; 23,206 acres administered by the Arizona State Trust; and 4,085 acres of private land. The federally administered lands lie within the Arizona Strip BLM District and the Lake Mead National Recreation Area (NPS), co-managed under a Service First agreement. These lands include the ponderosa pine forested areas of Mt. Trumbull, Mt. Logan, and Mt. Dellenbaugh; the Mojave Desert in the Grand Wash and Pakoon areas; Kelly and Twin Points overlooking the Grand Canyon; and the Shivwits and Uinkaret Plateaus. Nearly 300,000 acres of the monument are designated or eligible for designation as wilderness areas. Approximately 791,017 acres are allotted and/or leased for livestock grazing, and more than 14,000 head of cattle roam monument lands.

With the Grand Canyon plunging thousands of feet deep along the south perimeter and only rough, unpaved roads providing entry from the north, west, and northeast, Grand Canyon-Parashant National Monument is one of the most remote areas within the 48 contiguous states. No towns or communities lie within its boundaries. The nearest towns (Littlefield, Beaver Dam, Scenic, Fredonia, Colorado City, and Centennial, Arizona; Mesquite and Bunkerville, Nevada; and St. George, Utah) are all more than an hour’s drive from the monument boundaries. Travel anywhere in the monument, except its outermost edges, requires slow driving over rough terrain, often in a high-clearance, four-wheel-drive or off-highway vehicle (OHV).

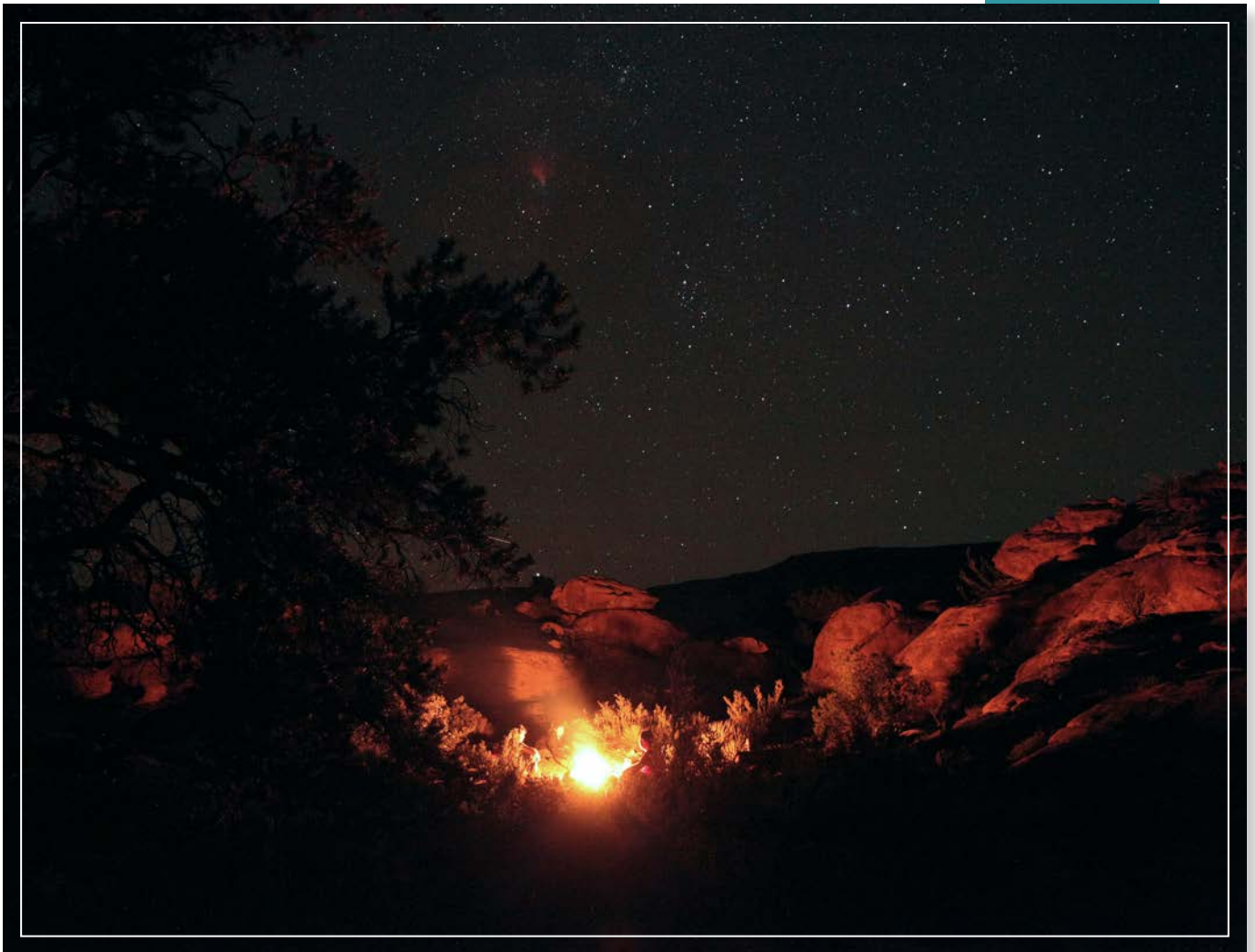
The name “Parashant” (pronounced “Pair-a-SHAUNT”) derives from a Southern Paiute Indian family name, spelled “Parashonts” in early pioneer-era translations. One of the monument’s large canyons draining into the Colorado River was named for this family. The new monument was named Grand Canyon-Parashant National Monument to incorporate both the historical reference to the Southern Paiutes and a geographical reference to the Grand Canyon watershed included in the designation.

Today, most visitors and monument staff refer to the monument as “Parashant National Monument,” dropping the Grand Canyon reference to avoid confusion. Except where the formal name is used in legislation and documentation, the current preference for the more common, abbreviated name (Parashant National Monument) has been followed in this plan.

Monument Purpose

The purpose statement identifies the specific reason(s) for establishment of the monument. The purpose statement for Grand Canyon-Parashant National Monument was drafted through a careful analysis of its enabling presidential proclamation and the legislative history that influenced its development. The monument was established by presidential proclamation on January 11, 2000 (see appendix A for text of the presidential proclamation). The purpose statement lays the foundation for understanding what is most important about the monument.

At GRAND CANYON-PARASHANT NATIONAL MONUMENT, the Bureau of Land Management and the National Park Service cooperatively protect undeveloped, wild, and remote northwestern Arizona landscapes and their resources, while providing opportunities for solitude, primitive recreation, scientific research, and historic and traditional uses.





Monument Significance

Significance statements express why the monument's resources and values are important enough to merit designation as a national monument. These statements are linked to the purpose of Grand Canyon-Parashant National Monument, and are supported by the proclamation, data, research, and consensus. Statements of significance describe the distinctive nature of the monument and why the area is important within a global, national, regional, and systemwide context. These statements focus on the most important resources and values that assist in planning and management for the monument.

The following significance statements have been identified for Parashant National Monument. The sequence of the statements does not reflect priority or the level of significance.

1. Spanning 320 million years, the exposed rock layers at Parashant National Monument provide a distinctly identifiable view of the geologic boundaries of the Colorado Plateau and Basin and Range regions, including evidence of the interaction between volcanic processes and native cultural communities. The extensive natural history reveals a robust fossil record and preserves museum-quality marine and ice age fossils.
2. Encompassing more than 1 million acres, a dramatic elevational gradient from 1,200 to 8,000 feet, and transitional zones of the Sonoran, Mojave, Great Basin, and Colorado Plateau ecoregions, Parashant National Monument protects a biologically rich system of plant and animal life.
3. Parashant National Monument is one of the most rugged and remote landscapes remaining in the southwestern United States. The monument provides iconic western viewsheds in a setting known for its solitude, natural soundscapes, internationally recognized night skies, and wilderness values.
4. Parashant National Monument provides the opportunity to continue historic and traditional uses of the landscape, including ranching and hunting and American Indian practices. The monument also provides exemplary opportunities for diverse primitive recreation, including horseback riding, camping, internationally renowned mule deer trophy hunting, and more than 1,386 miles of off-highway vehicle routes.
5. The large, contiguous, and undeveloped landmass of Parashant National Monument offers rare scientific opportunities for landscape-scale analysis of natural processes and related human influences.
6. The abundant and unspoiled prehistoric resources of Parashant National Monument offer a unique laboratory for the study of human behavior and cultural interaction spanning at least 13,000 years.
7. Parashant National Monument contains significant historic resources representative of the exploration and settling of the American West, including evidence of J. W. Powell's exploration of the Colorado River region, as well as homesteads, dairy farms, ranches, and logging and mining operations.

Fundamental Resources and Values

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

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

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

- **Vast open undisturbed spaces.** Few signs of civilization mar the splendid isolation of this expansive landscape. The monument was established to protect these wild and undeveloped characteristics, including colorful vistas, rugged canyons, lava-capped strata, spectacular escarpments, clean air, internationally recognized night skies, natural sounds, and designated and proposed wilderness areas.
- **Geological record.** Views of once violent eruptions and flowing basalt and the destructive force of earthquakes are evident in the layers of exposed geologic history in Parashant National Monument. Sedimentary rock layers are relatively unobscured by vegetation, providing clear visibility of deep canyons, mountains, and lonely buttes that testify to the power of geologic forces. Geologic faults range from more than 6 million years to more recent faults of only 30,000 years ago. Large numbers of invertebrate fossils and sponges, which have been preserved at the bottom of a mineralized shallow sea, are abundant on the monument.
- **Continuum of human use of the monument.** The human legacy of the Arizona Strip is found in the archeological and historical sites that remain within the monument, beginning more than 13,000 years ago with archeological resources primarily of the Archaic, Ancestral Puebloan, and Southern Paiute use. These archeological resources are significant due to their good condition, their connection to contemporary American Indians, and their location adjacent to the Grand Canyon—a place sacred to past and present peoples. Mining activities, timber cutting, and settlement by farmers and ranchers began by the 1870s and historic sites from these time periods are visible in the monument. Today, the monument is still used by humans through continued ranching operations and traditional American Indian practices.





- **Ecological diversity.** The monument contains outstanding biological resources preserved by its remote location and limited travel corridors. The monument is at the junction of two physiographic ecoregions: the Mojave Desert and Colorado Plateau. Individually, these regions contain ecosystems extreme to each other—ranging from stark, arid desert to complex, dramatic higher elevation plateaus, tributaries, and rims of the Grand Canyon. The western margin of the Shivwits Plateau marks the boundary between the Sonoran/Mojave/Great Basin floristic provinces to the west and south and Colorado Plateau province to the northeast. The intersection of these biomes is a distinctive and remarkable feature that contributes to the outstanding ecological diversity of the monument. The monument’s remote and contiguous habitat also serves as refugia for populations of special status species.
- **Cooperative management of the monument.** Collaborative management through the Service First authority allows each agency to lend expertise and resources to efforts that best protect resources and visitors across administrative boundaries. The National Park Service assists the Bureau of Land Management with historic preservation, curatorial management, ethnographic studies, resource protection, physical science, facility maintenance, and education programs. BLM staff provides NPS managers with range management expertise, tribal coordination, commercial and special use permitting, road maintenance, and initial attack wildland fire response for NPS lands. Among other forms of cooperation, the agencies have teamed together and pooled resources to implement educational and scientific programs for Southern Paiute youth, including historic preservation, archeology, and conduct nonnative plant management in the monument. Additionally, law enforcement rangers from each agency provide resource and visitor protection services where needed. The monument serves as a model of efficient interagency coordination, incorporating the strengths of each agency.
- **Scientific research.** The monument is a model of scientifically based ecological restoration, research, and investigative studies that guide the restoration of healthy native ecosystems, establishment of natural fire regimes, and protection of cultural landscapes. In particular, the ponderosa pine ecosystem in the Mt. Trumbull area is a biological resource of scientific interest, which has been studied to gain important insights regarding tree-ring climatic reconstruction, fire history, forest structure change, and the long-term persistence and stability of pine communities.

Other Important Resources and Values

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

The following other important resources and values have been identified for Grand Canyon-Parashant National Monument:

- **Rugged and remote recreation.** Visitors to the monument seek out this rugged and remote place for many reasons: adventure, solitude, history, scenic vistas, visiting cultural sites, camping, hiking, hunting, off-highway vehicle driving, wildlife observation, scientific inquiry, rock climbing, viewing the night sky, and countless other outdoor activities. The landscape is beautiful but unforgiving, and recreation in the Parashant comes with a certain level of risk. For safe recreation, visitors must ensure that they are prepared with the proper vehicle(s), equipment, maps, and knowledge of the region. Visitors may encounter unexpected snow storms, flash floods, lightning storms, impassable roads, extreme heat or cold, dried up water sources, and high water from floods or runoff.
- **Soils.** Soils play an important ecological role at Parashant National Monument, providing for plant establishment and growth in this arid landscape. In particular, the monument protects thousands of acres of biological soil crusts that help serve as living ground cover, increase stability of easily eroded soils, increase fertility, and increase water infiltration in areas that receive little precipitation. In addition, these biological soil crusts serve to reduce dust particulates thereby enhancing the surrounding air quality, and the monument’s dark-sky qualities.
- **Hydrology/springs/karst.** In light of the arid and harsh landscape, water sources and hydrology in the monument are extremely important resources for both biological and ecological diversity as well as human use of the landscape over thousands of years. The northern monument boundary parallels a major watershed boundary for the Colorado River as it drains from the Shivwits Plateau into the Grand Canyon. This watershed contributes to the Colorado River during seasonal flash flood events. In addition, the monument is rich in aquifers, which are vulnerable to surface activities. They serve to supply water to several hundred springs providing for wildlife habitat, riparian areas and cattle operations.



Interpretive Themes

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

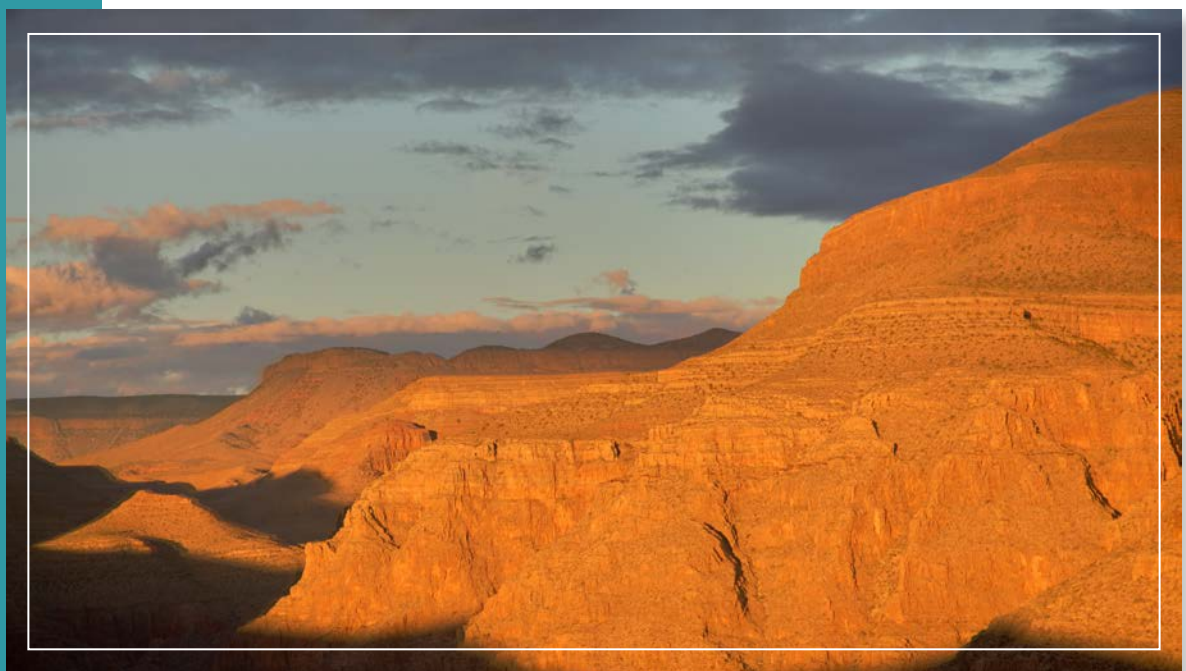
Interpretive themes are an organizational tool that reveal and clarify meaning, concepts, contexts, and values represented by monument resources. Sound themes are accurate and reflect current scholarship and science. They encourage exploration of the context in which events or natural processes occurred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

The following interpretive themes have been identified for Parashant National Monument:

Topic 1: Rock of All Ages: Geology and Paleontology of Parashant

Themes:

- The exposed stratigraphy and continuing natural processes within the monument reveals the progression of time and the natural history of the earth.
- The vast acreage of clearly defined geological formations provides an unsurpassed classroom for geological and paleontological research.
- Volcanic rocks, cinder cones, and basalt flows ranging in age from 9 million to only about 1,000 years old tell of ancient volcanic activity throughout the monument.
- Parashant's robust fossil record, spanning early sea life to present-day plants and animals, contributes to our understanding of global forces and climate change.





Topic 2: The Human Touch: People's Presence on the Land

Themes:

- Explorations in the Parashant have much to teach us about humans who lived in the region, beginning some 13,000 years ago.
- Southern Paiute and other Indian tribes developed lifestyles that enabled them to adapt to this harsh landscape for centuries before European settlers arrived.
- Early settlers used the land's vast natural resources for economic gain and community development.
- In the early 20th century, entrepreneurs competed to find and extract the mineral riches of the Parashant.
- Modern ranching within the monument, managed through term grazing permits, represents a continuum of generations of ranching.
- The vast majority of monument visitors now come for recreation, and recreational uses of the monument continue to increase in areas such as eco-tourism, hunting, recreational vehicle use, hiking and camping, and wildlife/scenic photography.



Topic 3: The Wild West: Getting Back to Nature at Parashant

Themes:

- In an increasingly developed western landscape, Parashant National Monument provides a remote natural setting for people to enjoy spectacular scenery, starry night skies, and natural sounds.
- With more than 1 million acres of rugged and remote landscape and four designated wilderness areas, the monument offers abundant opportunities for solitude and primitive recreation.

Topic 4: Variety Is the Spice of Life: From Desert to Mountain Ecosystems

Themes:

- Elevations in the Parashant vary from less than 2,000 feet to more than 8,000 feet above sea level, with corresponding changes in ecosystems and animal life from desert to riparian zones to shrub steppes, pinyon-juniper woodlands, and high-altitude ponderosa pine forests.
- The Parashant is home to a number of endemic, threatened, endangered, and recovering species of plants and animals.
- The plant, animal, and human history of the monument's landscape clearly illustrate a changing climate.



Topic 5: A Monumental Effort: People and Parashant Today

Themes:

- Preserving and protecting the monument requires cooperation among federal and state agencies, American Indian tribes, private landowners and stakeholders, local communities, and visitors.
- The public lands making up the monument are an invaluable resource for all Americans.
- Fire management in the monument seeks to promote healthy landscapes by balancing the natural role of fire in monument ecosystems with the need to protect human life and property.

Topic 6: Go With the Flow: Water Is the Lifblood of the Land

Themes:

- The water resources of Parashant National Monument are an important part of the watershed for the Colorado River and the Grand Canyon area.
- Human activities on and near the monument, including historical uses, renewable energy projects, rainwater collection, extraction mining, and other uses, can dramatically affect water and ecological resources of the region.

Part 2: Dynamic Components

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

Special Mandates and Administrative Commitments

Many management decisions for a monument 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 monument that must be fulfilled. Mandates can be expressed in enabling legislation, in separate legislation following the establishment of the monument, or through a judicial process. They may expand on monument purpose or introduce elements unrelated to the purpose of the monument. Administrative commitments are, in general, agreements that have been reached through formal, documented processes, often through memorandums of agreement. Examples include easements, rights-of-way, arrangements for emergency service responses, etc. Special mandates and administrative commitments can support, in many cases, a network of partnerships that help fulfill the objectives of the monument and facilitate working relationships with other organizations. They are an essential component of managing and planning for Parashant National Monument.

For more information about the existing special mandates, special designations, and administrative commitments for Parashant National Monument, please see appendix C.

Assessment of Planning and Data Needs

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

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

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

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

Analysis of Fundamental and Other Important Resources and Values

The fundamental and other important resource or value analysis table includes current conditions, potential threats and opportunities, planning and data needs, and selected laws and BLM and NPS policies related to management of the identified resource or value. Please see appendix B for the analysis of fundamental and other important resources and values.

Identification of Key Issues and Associated Planning and Data Needs

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

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

- **Co-management under two agencies:** Blending management of the monument into a hybrid of the two agencies has created unique challenges. Differences in agency missions, mandates, procedures, and policies are wrestled with on a daily basis as the agencies attempt to fulfill the presidential proclamation and administrative intent. For example, data management and sharing are difficult under separate database systems. Communication between divisions on daily needs and issues such as road conditions, as well as resource data and management actions, is hampered by office fragmentation and differing agency protocols. Different chains of command for the agencies and a lack of understanding of the monument's Service First management by others within the agencies complicate daily decision-making. Lack of knowledge regarding the monument's unique co-management mandate contributes to confusion about the monument's identity within the agencies and with the public. Many people, including locals, are not familiar with the monument and how it is managed. This results in misunderstandings about its boundaries and the different regulations between BLM and NPS areas, including off-highway vehicle use, camping, and hunting. This issue is compounded by confusion around the name of the monument, which contains "Grand Canyon," and the former management of portions of the monument by Lake Mead National Recreation Area.
 - *Associated high priority planning and data needs:* strategic and operational plan, data management guidelines and structure
- **Lack of natural and cultural resource data:** The monument has incomplete knowledge of its natural and cultural resources. A great deal of research to support future stewardship planning and projects is lacking or is not readily accessible to those who need it. Inventories and monitoring protocols related to vegetation cover, air quality, hydrologic systems, geology, erosion, night skies, acoustic environments, small mammals, birds, reptiles, amphibians, and unique biological and speleological resources are lacking or incomplete. The monument's collections and cultural resource research are scattered between agencies and other designated units. A lack of baseline information exists regarding archeological resources, cultural resources associated with caves, the historical background of past natural and cultural resource actions, and some cultural landscapes.
 - *Associated high priority planning and data needs:* resource stewardship strategy, watershed data, acoustic data, cultural resource inventories

- **Threats to biodiversity:** Several factors threaten biodiversity in the monument. Invasive species threaten native plant communities and the habitat they provide with both direct displacement as well as indirect effects such as the invasive annual grasses that spread wildfire into fire intolerant shrub lands. Additionally, nutrient enrichment as a result of excess atmospheric nitrogen deposition can help invasive annual grasses to grow faster and out-compete native vegetation. Of particular concern are effects on the Mojave desert environment, including desert tortoise habitat, and protection of thick stands of ponderosa pine in the Mt. Dellenbaugh and Mt. Trumbull areas from catastrophic fire. Historic grazing, fire suppression, and other past management activities have altered fire return intervals, thus affecting biodiversity in pinyon/juniper and sagebrush habitat and increasing soil erosion rates. With limited funding and uncertain knowledge regarding proper initial treatment in these systems, the monument struggles with fuels management and subsequent resource protection. Increases in mean annual temperature, drought events, and storm frequency/intensity projected for the region due to a changing climate will probably contribute to many of these threats. In addition, biological resources continue to suffer negative effects from trespass/feral cattle and burros.
 - *Associated high priority planning and data needs:* resource stewardship strategy, noxious weed and invasive species management plan

- **Recreation and travel planning:** Visitor use is probably increasing, but trends are poorly understood. Some of the most used sites, such as the Nampaweap Petroglyph Site, are becoming impacted by human waste and other recreation-related impacts. Unmanaged cave recreation will lead to damage or loss of significant features. Travel management is critical to visitor experience at the monument, but suffers from a lack of information, tools, and direction. Because the monument is so large, it is difficult for staff to be able to assess the condition of roads in a timely matter. Communicating current and continuing safety risks associated with road conditions, and the lack of water and services to visitors is a challenge with many access points and few staff. The monument lacks sufficient resources to manage backcountry roads, particularly regarding maintenance and closures. The monument lacks clarification of rights-of-way over private lands. The Grand Canyon-Parashant National Monument Resource Management Plan / General Management Plan (2008) references outdated or incomplete road and closure information, making implementation of specific recommendations problematic.
 - *Associated high priority planning and data needs:* visitor use management plan, visitor use study and survey, rights-of-way data



Planning and Data Needs

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

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

Criteria and Considerations for Prioritization. The following criteria were used to evaluate the priority of each planning or data need:

- Addresses multiple issues
- Emergency/urgency of the issue being addressed
- Ability to impact visitor use and experience
- Funding availability
- Feasibility of completing

High Priority Planning Needs

Strategic and Operational Plan.

Rationale — The monument needs a baseline/fundamental document to establish how the staff conduct business as a dual-agency national monument. Employees need direction to navigate through the current political and economic environment of dual agency management.

Scope — This document would memorialize processes and protocols for operations and establish goals and objectives across disciplines, using adaptive management principles. It will describe how the monument will implement, including leveraging funding and staffing, and measure progress toward those goals and objectives.

Visitor Use Management Plan.

Rationale — Visitor use in the monument's rugged and unforgiving landscape presents many challenges, especially in terms of travel and safety. As visitor use increases, these challenges will increase in magnitude. The monument requires direction to manage increasing visitor use in a way that minimizes impacts and addresses safety while protecting the rugged backcountry values of the monument.

Scope — This plan would provide guidance on the management of visitor activities and identification of strategies for addressing visitor use issues like safety and resource impacts. These strategies would be based on an assessment of road and trail conditions and current visitor use. The plan would also address implementation of the Grand Canyon-Parashant National Monument Resource Management Plan / General Management Plan (2008), Special Recreation Permit management, exhibits, and other travel-related management. The planning effort would be preceded by the collection of visitor use study and survey.



Resource Stewardship Strategy.

Rationale — Because missions and agency priorities and policies do not always mesh well, there is a need to determine “one monument” resource goals as well as to identify resource data gaps.

Scope — The resource stewardship strategy will evaluate the major components of the monument’s fundamental and other important natural and cultural resources that must be protected into the future; establish science- and scholarship-based methods to evaluate success in protecting these resources; determine measurable targets for success; and include a comprehensive strategic plan for achieving and maintaining those targets over time. Climate change considerations will be integrated as part of this document. Particular attention will be paid to incorporation of work that other agencies and units are doing on monument resources.

Noxious Weed and Invasive Species Management Plan.

Rationale — Invasive plants such as red and downy brome are having a negative impact across the monument. It is most evident in the proliferation of large unnatural fire occurrences which are seriously impacting critical desert tortoise habitat. In addition, noxious weed occurrence is increasing across the monument, further supplanting native vegetation. Feral livestock (cattle and pigs) and wild burros are causing vegetation and water resource damage as well as damage to privately owned range improvements in the western portions of the Parashant.

Scope — The monument will develop a strategic invasive species action plan to include grazing, fuels, fire, research, and lessons learned from other similar areas. Noxious weeds will be mapped and noxious weed treatments will be identified. Feral livestock will be mapped and a removal plan developed using permittee, state, and federal resources for removal and disposal of feral animals.

High Priority Data Needs

Watershed Data.

Rationale — Watershed data, encompassing precipitation amounts and timing, hydrologic budgets, aquifer sustainability, water quality, and climate change considerations, serve to inform multiple aspects of working landscapes and natural resources, and provide managers with further guidance.

Scope — Final data product will reflect observed conditions, past trends, and future scenario models of water sustainability. Groundwater inventories will be completed to identify aquifers. Data gathering protocols will be established.

Acoustic Data.

Rationale — One of the pillars of Parashant is its remote solitude. Acoustic data would quantify natural and biological processes, as well as acoustic impacts from recreation vehicles and aircraft tourism. This data would allow the monument to monitor for severity of impacts and provide managers a basis for informed decision-making.

Scope — Acoustic monitoring will be in areas probably impacted by air touring and OHV use. Final analysis will describe baseline conditions with a focus on anthropogenic sources and impacts, as well as help to establish desired conditions and thresholds.

Rights-of-Way Data.

Rationale — Compilation of this data will help the monument avoid potential future conflicts regarding staff and visitor access through private lands. Updating and maintaining these records will assist future travel and recreation planning.

Scope — Starting with critical access roads that run through private lands, the monument will compile information on all roads. Special attention will be paid to roads with questionable records that make accurate determinations of ownership difficult. Potential R.S. 2477 right-of-way issues will be documented.

Data Management Guidelines and Structure.

Rationale — Monument data is scattered and firewalled between programs, units, and agencies. The monument needs a codified system of data sharing and filing. Poor data management keeps staff from accessing information and identifying missing information, leading to redundancy and data gaps.

Scope — Data standards across programs and agencies will be identified. This will include a shared digital filing protocol and data safeguards for sensitive information. Department-level negotiation to deal with firewall problems between the two agencies will be pursued in tandem with this effort.

Visitor Use Study and Survey.

Rationale — Visitor use and survey data are critical precursors to the visitor use management plan identified above. The information gathered will also assist the monument in a variety of other planning and management decisions.

Scope — This effort would assess the baseline conditions for visitor characteristics, use levels and patterns, visitor preferences, and motivations.

See appendix D for recently completed and ongoing planning and data collection efforts that address monument issues.

Planning Needs and Data Needs		
Planning or Data Needs	Priority (H, M, L)	Notes
Natural Resources		
Plans		
Resource stewardship strategy	H	
Noxious weed and invasive species management plan	H	
Landscape-level management plans	M	Uinkaret EIS is ongoing, need more for other large-scale areas.
Research plan	M	Prioritization of research projects.
Wilderness management plan (update)	M	
Soil preservation plan	M	Should include challenges from illegal off-roading, grazing management, fire treatments, and ecosystem health.
Fuels and fire management plan (update)	M	
Data Needs and Studies		
Watershed data	H	Includes watershed precipitation analysis, water chemistry analysis, extent of riparian access/survey, hydrologic budget data, spring inventory/GIS data, and protocols for riparian and spring protection.
Acoustic data	H	Includes baseline levels for soundscapes, and quantify both anthropogenic and natural sounds. Overall there should be a "Sound Plan" to achieve desired conditions.
Full inventory of mammals (especially small)	M	
Avian inventory	M	
Reptile/amphibian inventory	M	
Invasive plant inventory	M	
Digitize vegetation survey	M	
Air quality assessment of ecological effects	M	Air pollution effects on monument ecosystem, including excess nitrogen, sulfur, mercury/toxics deposition, and ground-level ozone.
Continued monitoring of (or access to) weather parameters (precipitation temp, storm events), ecological responses, and assessment of projected climate futures (models) for the region	M	
Paleontological survey of marine fossils	M	
Remapping of Pakoon Basin alluvial units	M	Need a more precise geologic survey.
Study of fluvial erosion on arid lands	M	
Mapping of existing research sites	M	
Analyze biological soil crust components	M	
Biological soil crust mapping	M	
Fire history	M	Some fire history is currently available in Arc Map.
Natural resource overview and assessment	M	

Planning Needs and Data Needs		
Planning or Data Needs	Priority (H, M, L)	Notes
Cultural Resources		
Plans		
Resource stewardship strategy	H	
Cultural landscape report for the Home Ranch Allotment	M	
Historic structure report for the Home Ranch Allotment	M	
Data Needs and Studies		
Cultural resource overview, assessment, and affiliation study	M	BLM and NPS have completed cultural documentation for the resources within their jurisdiction at different times and with varying levels of detail and completeness. An umbrella document is needed to (1) determine which data or plans need to be updated and (2) where documentation gaps exist for the monument.
HABS/HAER/HALS documentation for Grand Gulch Mine	M	
Archeological inventory	M	
Archives survey	M	
Mapping of collection sites	M	
Visitor Experience		
Plans		
Visitor use management plan	H	
Trail management plan	M	
Viewshed management plan	M	
Data Needs and Studies		
Visitor use study and survey	H	
Analyze historical visitation numbers	M	
Visual resource inventory (update)	M	
Night sky monitoring/analysis	M	
Trail inventory and trail difficulty ratings	M	
Monument Operations, Facilities, and Partnerships		
Plans		
Strategic and operational plan	H	
Monument partner action strategy	M	
Law enforcement operations plan	M	
Data Needs and Studies		
Rights-of-way data	H	
Data management guidelines and structure	H	
Law enforcement needs assessment (update)	M	BLM has an inventory, need update from NPS.
Community/partner assessment	M	
Improved GIS verification of infrastructure and roads	M	Could eventually allow the monument to implement real or near-time road conditions updates, using remote technology.

Part 3: Contributors

Grand Canyon-Parashant National Monument (NPS)

Rosie Pepito, Superintendent
Chad Corey, Chief Ranger
Steve Edwards, Park Ranger
Jennifer Fox, Ecologist
Amber Franklin, Interpretation
Shirley Kodele, Budget Technician
Paul Krumland, Facilities Operations Specialist
Eathan McIntyre, Physical Scientist
Terry Shaver, Maintenance
Marty Sims, Park Ranger

Grand Canyon-Parashant National Monument (BLM)

Mark Wimmer, Monument Manager
Brandon Boshell, Range Management Specialist
Jason Bulkley, Field Staff Law Enforcement Ranger
Jeff J. Hatch, Rangeland Management Specialist
Diana Hawks, Recreation, Wilderness and Cultural Resources Lead
Doriann Miller, Administrative Assistant
Wayne Monger, Outdoor Recreation Planner
David Van Alfen, Cultural Resources
Jeff Young, Lead Wildlife Biologist

BLM Arizona Strip District

Tim Burke, District Manager

NPS Pacific West Region

Brad Phillips, Planning Liaison

Other NPS Staff

Sarah Conlin, Project Manager and Natural Resource Specialist, Denver Service Center – Planning
Christine Bruins, Community Planner, Denver Service Center – Planning
Wanda Gray Lafferty, Contract Editor, Denver Service Center – Planning
Leslie Peterson, Cultural Resource Specialist, Denver Service Center – Planning
John Paul Jones, Visual Information Specialist, Denver Service Center – Planning

Appendixes

Appendix A: Presidential Proclamation and Legislative Acts for Grand Canyon-Parashant National Monument

Congressional Act of August 28, 1984 to recognize four areas as designated wilderness and components of the National Wilderness Preservation System (Grand Wash Cliffs Wilderness, Mount Logan Wilderness, Mount Trumbull Wilderness, and Paiute Wilderness) (PL 98-406, 98 Stat. 1484)

PUBLIC LAW 98-406—AUG. 28, 1984

98 STAT. 1485

Public Law 98-406
96th Congress

TITLE III

16 USC 1131
note.

SEC. 301. (a) In furtherance of the purposes of the Wilderness Act, the following lands are hereby designated as wilderness and therefore, as components of the National Wilderness Preservation System—

16 USC 1132
note.

(1) certain lands in the Arizona Strip District of the Bureau of Land Management, Arizona, which comprise approximately six thousand five hundred acres, as generally depicted on a map entitled “Cottonwood Point Wilderness—Proposed”, dated May 1983, and which shall be known as the Cottonwood Point Wilderness;

16 USC 1132
note.

(2) certain lands in the Arizona Strip District of the Bureau of Land Management, Arizona, which comprise approximately thirty-six thousand three hundred acres, as generally depicted on a map entitled “Grand Wash Cliffs Wilderness—Proposed”, dated May 1983, and which shall be known as the Grand Wash Cliffs Wilderness;

16 USC 1132
note.

(3) certain lands in the Kaibab National Forest and in the Arizona Strip District of the Bureau of Land Management, Arizona, which comprise approximately seventy-seven thousand one hundred acres, as generally depicted on a map entitled “Kanab Creek Wilderness—Proposed”, dated May 1983, and which shall be known as the Kanab Creek Wilderness;

(4) certain lands in the Arizona Strip District of the Bureau of Land Management, Arizona, which comprise approximately fourteen thousand six hundred acres, as generally depicted on a map entitled "Mt. Logan Wilderness—Proposed", dated May 1983, and which shall be known as the Mount Logan Wilderness;

16 USC 1132
note.

(5) certain lands in the Arizona Strip District of the Bureau of Land Management, Arizona, which comprise approximately seven thousand nine hundred acres, as generally depicted on a map entitled "Mt. Trumbull Wilderness—Proposed", dated May 1983, and which shall be known as the Mount Trumbull Wilderness;

16 USC 1132
note.

(6) certain lands in the Arizona Strip District of the Bureau of Land Management, Arizona, which comprise approximately eighty-four thousand seven hundred acres, as generally depicted on a map entitled "Paiute Wilderness—Proposed", dated May 1983, and which shall be known as the Paiute Wilderness;

16 USC 1132
note.

(7) certain lands in the Arizona Strip District, Arizona, and in the Cedar City District, Utah, of the Bureau of Land Management, which comprise approximately one hundred and ten thousand acres, as generally depicted on a map entitled "Paria Canyon-Vermilion Cliffs Wilderness—Proposed", dated May 1983, and which shall be known as the Paria Canyon-Vermilion Cliffs Wilderness;

16 USC 1132
note.

(8) certain lands in the Kaibab National Forest, Arizona, which comprise approximately forty thousand six hundred acres, as generally depicted on a map entitled "Saddle Mountain Wilderness—Proposed", dated May 1983, and which shall be known as the Saddle Mountain Wilderness; and

16 USC 1132
note.

(9) certain lands in the Arizona Strip District, Arizona, and in the Cedar City District, Utah, of the Bureau of Land Management which comprise approximately nineteen thousand six hundred acres, as generally depicted on a map entitled "Beaver Dam Mountains Wilderness—Proposed", dated May 1983, and which shall be known as the Beaver Dam Mountains Wilderness.

16 USC 1132
note.

(b) The previous classifications of the Paiute Primitive Area and the Paria Canyon Primitive Area are hereby abolished.

SEC. 302. (a) Subject to valid existing rights, each wilderness area designated by this title shall be administered by the appropriate Secretary in accordance with the provisions of the Wilderness Act: *Provided*, That any reference in such provisions to the effective date of the Wilderness Act shall be deemed to be a reference to the effective date of this Act, and any reference to the Secretary of Agriculture shall be deemed to be a reference to the Secretary who has administrative jurisdiction over the area.

16 USC 1131
note.

(b) Within the wilderness areas designated by this title, the grazing of livestock, where established prior to the date of enactment of this Act, shall be permitted to continue subject to such reasonable regulations, policies, and practices as the Secretary concerned deems necessary, as long as such regulations, policies, and practices fully conform with and implement the intent of Congress regarding grazing in such areas as such intent is expressed in the Wilderness Act.

Livestock.

SEC. 303. As soon as practicable after enactment of this Act, a map and a legal description on each wilderness area designated by this title shall be filed by the Secretary concerned with the Committee on Energy and Natural Resources of the United States Senate and the Committee on Interior and Insular Affairs of the House of Representatives, and each such map and description shall have the same force and effect as if included in this Act: *Provided*, That correction of clerical and typographical errors in each such legal description and map may be made by the Secretary concerned subsequent to such filings. Each such map and legal description shall be on file and available for public inspection in the Office of the Chief of the Forest Service, Department of Agriculture or in the Office of the Director of the Bureau of Land Management, Department of the Interior, as is appropriate.

Presidential Proclamation 7265 of January 11, 2000 to establish Grand Canyon-Parashant National Monument (114 Stat. 3236)

Proclamation 7265 of January 11, 2000

Establishment of the Grand Canyon-Parashant National Monument

By the President of the United States of America

A Proclamation

The Grand Canyon-Parashant National Monument is a vast, biologically diverse, impressive landscape encompassing an array of scientific and historic objects. This remote area of open, undeveloped spaces and engaging scenery is located on the edge of one of the most beautiful places on earth, the Grand Canyon. Despite the hardships created by rugged isolation and the lack of natural waters, the monument has a long and rich human history spanning more than 11,000 years, and an equally rich geologic history spanning almost 2 billion years. Full of natural splendor and a sense of solitude, this area remains remote and unspoiled, qualities that are essential to the protection of the scientific and historic resources it contains.

The monument is a geological treasure. Its Paleozoic and Mesozoic sedimentary rock layers are relatively undeformed and unobscured by vegetation, offering a clear view to understanding the geologic history of the Colorado Plateau. Deep canyons, mountains, and lonely buttes testify to the power of geological forces and provide colorful vistas. A variety of formations have been exposed by millennia of erosion by the Colorado River. The Cambrian, Devonian, and Mississippian formations (Muav Limestone, Temple Butte Formation, and the Redwall Limestone) are exposed at the southern end of the lower Grand Wash Cliffs. The Pennsylvanian and Permian formations (Calville Limestone, Esplanade Sandstone, Hermit Shale, Toroweap Formation, and the Kaibab Formation) are well exposed within the Parashant, Andrus, and Whitmore Canyons, and on the Grand Gulch Bench. The Triassic Chinle and Moenkopi Formations are exposed on the Shivwits Plateau, and the purple, pink, and white shale, mudstone, and sandstone of the Triassic Chinle Formation are exposed in Hells Hole.

The monument encompasses the lower portion of the Shivwits Plateau, which forms an important watershed for the Colorado River and the Grand Canyon. The Plateau is bounded on the west by the Grand Wash Cliffs and on the east by the Hurricane Cliffs. These cliffs, formed by large faults that sever the Colorado Plateau slicing north to south through the region, were and are major topographic barriers to travel across the area. The Grand Wash Cliffs juxtapose the colorful, lava-capped Precambrian and Paleozoic strata of the Grand Canyon against the highly faulted terrain, recent lake beds, and desert volcanic peaks of the down-dropped Grand Wash trough. These cliffs, which consist of lower and upper cliffs separated by the Grand Gulch Bench, form a spectacular boundary between the basin and range and the Colorado Plateau geologic provinces. At the south end of the Shivwits Plateau

are several important tributaries to the Colorado River, including the rugged and beautiful Parashant, Andrus, and Whitmore canyons. The Plateau here is capped by volcanic rocks with an array of cinder cones and basalt flows, ranging in age from 9 million to only about 1000 years old. Lava from the Whitmore and Toroweap areas flowed into the Grand Canyon and dammed the river many times over the past several million years. The monument is pocketed with sinkholes and breccia pipes, structures associated with volcanism and the collapse of underlying rock layers through ground water dissolution.

Fossils are abundant in the monument. Among these are large numbers of invertebrate fossils, including bryozoans and brachiopods located in the Calville limestone of the Grand Wash Cliffs, and brachiopods, pelecypods, fenestrate bryozoa, and crinoid ossicles in the Toroweap and Kaibab formations of Whitmore Canyon. There are also sponges in nodules and pectenoid pelecypods throughout the Kaibab formation of Parashant Canyon.

The Grand Canyon-Parashant National Monument contains portions of geologic faults, including the Dellenbaugh fault, which cuts basalt flows dated 6 to 7 million years old, the Toroweap fault, which has been active within the last 30,000 years, the Hurricane fault, which forms the Hurricane Cliffs and extends over 150 miles across northern Arizona and into Utah, and the Grand Wash fault, which bounds the west side of the Shivwits Plateau and has approximately 15,000 feet of displacement across the monument.

Archaeological evidence shows much human use of the area over the past centuries. Because of their remoteness and the lack of easy road access, the sites in this area have experienced relatively little vandalism. Their good condition distinguishes them from many prehistoric resources in other areas. Prehistoric use is documented by irreplaceable rock art images, quarries, villages, watchtowers, agricultural features, burial sites, caves, rockshelters, trails, and camps. Current evidence indicates that the monument was utilized by small numbers of hunter-gatherers during the Archaic Period (7000 B.C. to 300 B.C.). Population and utilization of the monument increased during the Ancestral Puebloan Period from the Basketmaker II Phase through the Pueblo II Phase (300 B.C. to 1150 A.D.), as evidenced by the presence of pit houses, habitation rooms, agricultural features, and pueblo structures. Population size decreased during the Pueblo III Phase (1150 A.D. to 1225 A.D.). Southern Paiute groups replaced the Pueblo groups and were occupying the monument at the time of Euro-American contact. Archeological sites in the monument include large concentrations of ancestral Puebloan (Anasazi or Hitsuksinom) villages, a large, intact Pueblo II village, numerous archaic period archeological sites, ancestral Puebloan sites, and Southern Paiute sites. The monument also contains areas of importance to existing Indian tribes.

In 1776, the Escalante-Dominguez expedition of Spanish explorers passed near Mount Trumbull. In the first half of the 19th century, Jedediah Smith, Antonio Armijo, and John C. Fremont explored portions of this remote area. Jacob Hamblin, a noted Mormon pioneer, explored portions of the Shivwits Plateau in 1858 and, with John Wesley Powell, in the 1870s. Clarence Dutton completed some of the first geological explorations of this area and provided some of the most stirring written descriptions. Having traversed this area by wagon at the request of the territorial legislature, Sharlot Hall recommended it for in-

clusion within the State of Arizona when it gained Statehood in 1912. Early historic sawmills provided timber that was hauled 70 miles along the Temple Trail wagon road from Mt. Trumbull down the Hurricane Cliffs to St. George, Utah. Ranch structures and corrals, fences, water tanks, and the ruins of sawmills are scattered across the monument and tell the stories of the remote family ranches and the lifestyles of early homesteaders. There are several old mining sites dating from the 1870s, showing the history of mining during the late 19th and early 20th centuries. The remote and undeveloped nature of the monument protects these historical sites in nearly their original context.

The monument also contains outstanding biological resources preserved by remoteness and limited travel corridors. The monument is the junction of two physiographic ecoregions: the Mojave Desert and the Colorado Plateau. Individually, these regions contain ecosystems extreme to each other, ranging from stark, arid desert to complex, dramatic higher elevation plateaus, tributaries, and rims of the Grand Canyon. The western margin of the Shivwits Plateau marks the boundary between the Sonoran/Mojave/Great Basin floristic provinces to the west and south, and the Colorado Plateau province to the northeast. This intersection of these biomes is a distinctive and remarkable feature. Riparian corridors link the plateau to the Colorado River corridor below, allowing wildlife movement and plant dispersal. The Shivwits Plateau is in an arid environment with between 14 to 18 inches of precipitation a year. Giant Mojave Yucca cacti proliferate in undisturbed conditions throughout the monument. Diverse wildlife inhabit the monument, including a trophy-quality mule deer herd, Kaibab squirrels, and wild turkey. There are numerous threatened or endangered species as well, including the Mexican spotted owl, the California condor, the desert tortoise, and the southwestern willow flycatcher. There are also candidate or sensitive species, including the spotted bat, the western mastiff bat, the Townsend's big eared bat, and the goshawk, as well as two federally recognized sensitive rare plant species: *Penstemon distans* and *Rosa stellata*. The ponderosa pine ecosystem in the Mt. Trumbull area is a biological resource of scientific interest, which has been studied to gain important insights regarding dendroclimatic reconstruction, fire history, forest structure change, and the long-term persistence and stability of presettlement pine groups.

Section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431) authorizes the President, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and to reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected.

WHEREAS it appears that it would be in the public interest to reserve such lands as a national monument to be known as the Grand Canyon-Parashant National Monument:

NOW, THEREFORE, I, WILLIAM J. CLINTON, President of the United States of America, by the authority vested in me by section 2 of the Act of June 8, 1906 (34 Stat. 225, 16 U.S.C. 431), do proclaim that there are hereby set apart and reserved as the Grand Canyon-Parashant National Monument, for the purpose of protecting the objects identified

above, all lands and interests in lands owned or controlled by the United States within the boundaries of the area described on the map entitled "Grand Canyon-Parashant National Monument" attached to and forming a part of this proclamation. The Federal land and interests in land reserved consist of approximately 1,014,000 acres, which is the smallest area compatible with the proper care and management of the objects to be protected.

For the purpose of protecting the objects identified above, all motorized and mechanized vehicle use off road will be prohibited, except for emergency or authorized administrative purposes.

Nothing in this proclamation shall be deemed to enlarge or diminish the jurisdiction of the State of Arizona with respect to fish and wildlife management.

The establishment of this monument is subject to valid existing rights.

All Federal lands and interests in lands within the boundaries of this monument are hereby appropriated and withdrawn from all forms of entry, location, selection, sale, or leasing or other disposition under the public land laws, including but not limited to withdrawal from location, entry, and patent under the mining laws, and from disposition under all laws relating to mineral and geothermal leasing, other than by exchange that furthers the protective purposes of the monument. Sale of vegetative material is permitted only if part of an authorized science-based ecological restoration project. Lands and interests in lands within the proposed monument not owned by the United States shall be reserved as a part of the monument upon acquisition of title thereto by the United States.

This proclamation does not reserve water as a matter of Federal law nor relinquish any water rights held by the Federal Government existing on this date. The Federal land managing agencies shall work with appropriate State authorities to ensure that water resources needed for monument purposes are available.

The Secretary of the Interior shall manage the monument through the Bureau of Land Management and the National Park Service, pursuant to applicable legal authorities, to implement the purposes of this proclamation. The National Park Service and the Bureau of Land Management shall manage the monument cooperatively and shall prepare an agreement to share, consistent with applicable laws, whatever resources are necessary to properly manage the monument; however, the National Park Service shall continue to have primary management authority over the portion of the monument within the Lake Mead National Recreation Area, and the Bureau of Land Management shall have primary management authority over the remaining portion of the monument.

The Bureau of Land Management shall continue to issue and administer grazing leases within the portion of the monument within the Lake Mead National Recreation Area, consistent with the Lake Mead National Recreation Area authorizing legislation. Laws, regulations, and policies followed by the Bureau of Land Management in issuing and administering grazing leases on all lands under its jurisdiction shall continue to apply to the remaining portion of the monument.

Nothing in this proclamation shall be deemed to revoke any existing withdrawal, reservation, or appropriation; however, the national monument shall be the dominant reservation. Warning is hereby given to all unauthorized persons not to appropriate, injure, destroy, or remove any feature of this monument and not to locate or settle upon any of the lands thereof.

IN WITNESS WHEREOF, I have hereunto set my hand this eleventh day of January, in the year of our Lord two thousand, and of the Independence of the United States of America the two hundred and twenty-fourth.

WILLIAM J. CLINTON

Appendix B: Analysis of Fundamental Resources and Values and Other Important Resources and Values

Analysis of Fundamental Resources and Values

Fundamental Resource or Value	Vast Open Undisturbed Spaces
Related Significance Statements	Significance statement 3.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> • The undeveloped condition of the monument is generally good, but there are some developments within the monument, such as historic structures, private inholdings, and abandoned mine lands, that detract from the undeveloped character of the monument. • Natural processes continue largely unimpeded. • The monument is designated as a Class II area, as authorized by the Prevention of Significant Deterioration provisions of the Clean Air Act. Daytime views of the expansive landscape and exposed geologic history are available from within the monument and key overlooks, though these views are sometimes obscured by pollution-caused haze. Grand Canyon National Park, a Class I airshed, is nearby. • Most scenic views are pristine with few modifications visible from important viewpoints. Where present, modifications include several human-made features and impacts, including nearby federal and private developments on the rim of the Grand Canyon as well as on private inholdings within the monument. These nearby developments (as well as more distant urban centers such as Las Vegas and St. George) also impact the night sky in the monument. • The monument demonstrates the best night sky quality in the region—it is designated an International Night Sky Province (Gold-Tier) by the International Dark-Sky Association. At these light levels, most observers feel they are in a natural environment. The Milky Way is visible from horizon to horizon and may show great detail. • The monument provides important habitat for nocturnal wildlife and a unique opportunity for the public to enjoy night sky resources. • The soundscape at the monument is important to the natural and cultural resources and to the visitor experience (i.e., minimizing noise to depict what the site would have been like previous to modern development). The monument's acoustic environment is predicted by the NPS Natural Sounds and Night Skies Division to be 1.4 decibels above the natural ambient sound level. This means that the listening area for wildlife and visitors is reduced by 28%. • There are four designated wilderness areas within the monument: <ol style="list-style-type: none"> 1. Grand Wash Cliffs Wilderness – A 37,030-acre wilderness area along a 12-mile stretch of Grand Wash Cliffs. 2. Mount Logan Wilderness – A 14,650-acre wilderness area 45 miles south of Colorado City, Arizona, just north of the Grand Canyon in Mohave County. 3. Mount Trumbull Wilderness – A 7,880-acre wilderness area 40 miles south of Colorado City, Arizona, just north of the Grand Canyon in Mohave County. 4. Paiute Wilderness – A 87,900-acre wilderness area, several miles southwest of St. George, Utah. It is separated by Interstate 15 from Beaver Dam Mountains Wilderness to the north. • The monument also contains 190,479 acres of proposed wilderness areas that are managed as if they are designated wilderness. <p>Trends</p> <ul style="list-style-type: none"> • Monitoring of visibility at nearby Grand Canyon National Park indicates overall improvements in visibility in the area. • Increasing nearby developments are expected to continue into the near future, some of which may be visible from the monument (i.e., cell towers, solar and wind farm developments).

Fundamental Resource or Value	Vast Open Undisturbed Spaces
<p>Current Conditions and Trends (continued)</p>	<p>Trends (continued)</p> <ul style="list-style-type: none"> Increasing frequency of fires and impacts on air pollution related to smoke and particulates, which may be increasing in part due to climate change. Between 2000 and 2014, air pollution from power plants in Arizona and highway vehicles was reduced significantly to reduce ozone and fine particulates. There have been increases in light pollution from nearby developments (i.e., commercial and residential developments in St. George and Las Vegas, etc.). The acoustic environment and soundscape at the monument are gradually becoming more impacted by anthropogenic noise from slight increases in traffic and overflights (i.e., overflights of the Grand Canyon, military and commercial air traffic, search and rescue and emergency medical services helicopter flights, etc.).
<p>Threats and Opportunities</p>	<p>Threats</p> <ul style="list-style-type: none"> Private land and community development could degrade the scenic views from certain viewpoints within the monument. Similarly, developments within the monument on private inholdings or proliferation of user-created routes may impact the monument’s undeveloped character. Upwind, human activities that disturb vegetation and soil surfaces can trigger dust emissions that degrade visibility and the expansive scenic views from within the monument. Sightseeing flights and other commercial and military flights can be seen and heard over the monument along predetermined flight corridors, negatively impacting viewsheds and natural soundscapes. Vehicle noise nearby or within the monument may similarly impact natural soundscapes. Local and distant air pollution sources, including power plants, highway vehicles, oil and gas development, wildfires, and industrial and urban areas, can degrade air quality and scenic views. At night, air pollution scatters artificial lights, increasing the effect of light pollution on the night sky. The light dome from Las Vegas is easily visible from within the monument, which degrades night sky quality and the ability to dark-adapt while looking west. Other nearby developments may similarly impact the monument’s night skies. Increasing regional population growth will lead to increasing recreational use and alter the wild, remote, and primitive nature of current recreation opportunities and settings. <p>Opportunities</p> <ul style="list-style-type: none"> Work with the NPS Natural Sounds and Night Skies Division for help interpreting the night sky, acoustic environment, and soundscape at the monument, as well as continued technical assistance. Continue and increase night sky and natural sounds programs. Continue working with federal, state, and local agencies, industry, and public interest groups, such as the Four Corners Air Quality Group and the Western Regional Air Partnership, to develop strategies to reduce air pollution and protect and restore monument resources. Partnering with potential nearby developers and planners could similarly help awareness about the importance of monument air quality and scenic views. Continue cooperative efforts to remediate abandoned mine lands within the monument. Partner with the Nevada Bureau of Land Management to determine eligibility to be a regional mitigation zone for nearby projects such as solar farms. Harness assistance from friends groups, partners, and volunteers to assist with restoration, research, education, and interpretive efforts about the monument’s undeveloped character. Expand interpretive and educational tools to communicate the connections between vast open spaces, scenic views, night sky, air quality, ecological diversity, wilderness, climate change, recreation, and human health. Continue implementing strategies identified in the monument’s 2010 climate action plan goals and environmental management system.

Fundamental Resource or Value	Vast Open Undisturbed Spaces
Data and/or GIS Needs	<ul style="list-style-type: none"> • Visitor use study and survey. • Acoustic data. • Night sky monitoring/analysis. • Air quality assessment of ecological effects. • Visual resource inventory (update).
Planning Needs	<ul style="list-style-type: none"> • Visitor use management plan. • Viewshed management plan. • Monument partner action strategy. • Resource stewardship strategy. • Wilderness management plan (update).
Laws, Executive Orders, and Regulations That Apply to the FRV, and BLM and NPS Policy-level Guidance	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • Endangered Species Act of 1973, as amended • National Invasive Species Act • Lacey Act, as amended • Migratory Bird Treaty Act (16 USC 703-712) • National Environmental Policy Act of 1969 (42 USC 4321) • Federal Noxious Weed Act of 1974, as amended • Wilderness Act of 1964 • Clean Water Act • Clean Air Act (42 USC 7401 et seq.) • Paleontological Resources Protection Act • Executive Order 12088, “Federal Compliance with Pollution Control Standards” • 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” • National Flood Insurance Program <p>BLM Policy-level Guidance</p> <ul style="list-style-type: none"> • <i>BLM Manual 1601: Land Use Planning</i> • <i>BLM Handbook H-1601-1: Land Use Planning</i> • <i>BLM Manual 6100: National Landscape Conservation System Management</i> • <i>BLM Manual 6220: National Monuments, National Conservation Areas, and Similar Designations</i> • <i>BLM Handbook H-2930-1: Recreation Permit and Fee Administration</i> • <i>BLM Handbook H-8320-1: Recreation and Visitor Services Planning</i> • <i>BLM Manual 2930: Recreation Permits and Fees</i> • <i>BLM Handbook 8342: Travel and Transportation</i> • <i>BLM Manual 1626: Travel and Transportation</i> • <i>BLM Handbook 8410-1: Visual Resource Inventory</i> • <i>BLM Manual 6320: Management of Designated Wilderness Areas</i> • <i>BLM Manual 8400: Visual Resource Management</i>

Fundamental Resource or Value	Vast Open Undisturbed Spaces
<p>Laws, Executive Orders, and Regulations That Apply to the FRV, and BLM and NPS Policy-level Guidance (continued)</p>	<p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director’s Orders)</p> <ul style="list-style-type: none"> • NPS Director’s Order 18: <i>Wildland Fire Management</i> • NPS Director’s Order 47: <i>Soundscape Preservation and Noise Management</i> • NPS Director’s Order 77-2: <i>Floodplain Management</i> • NPS <i>Management Policies 2006</i> (1.6) “Cooperative Conservation Beyond Park Boundaries” • NPS <i>Management Policies 2006</i> (3.1) “General” • NPS <i>Management Policies 2006</i> (4.1) “General Management Concepts” • NPS <i>Management Policies 2006</i> (4.1.4) “Partnerships” • NPS <i>Management Policies 2006</i> (4.4.1) “General Principles for Managing Biological Resources” • NPS <i>Management Policies 2006</i> (4.6.1) “Protection of Surface Waters and Groundwaters” • NPS <i>Management Policies 2006</i> (4.6.2) “Water Rights” • NPS <i>Management Policies 2006</i> (4.6.4) “Floodplains” • NPS <i>Management Policies 2006</i> (4.7) “Air Resource Management” • NPS <i>Management Policies 2006</i> (4.9) “Soundscape Management” • NPS <i>Management Policies 2006</i> (4.10) “Lightscape Management” • NPS <i>Management Policies 2006</i> (chapter 6) “Wilderness Preservation and Management” • NPS <i>Keeping It Wild in the National Parks User Guide</i> • NPS <i>Natural Resource Management Reference Manual 77</i> • NPS <i>Reference Manual 18: Wildland Fire Management</i> • NPS <i>Reference Manual 41: Wilderness Stewardship</i> • Special Directive 93-4 “Floodplain Management, Revised Guidelines for National Park Service Floodplain Compliance” (1993)



Fundamental Resource or Value	Geological Record
Related Significance Statements	Significance statement 1.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> • The monument staff's ongoing efforts are currently adding to the body of knowledge of geologic and paleontological resources within the monument. • The geology was mapped in the 1990s, and research and inventorying continues to be conducted on geology and cave and karst formations. It is estimated 33% of the potential cave leads, located in remote areas, remain to be inventoried. • Volcanic features include lava flows, cinder cones, pyroclastic deposits, lava falls, lava tubes and rafted lava, and solidified lava transported by subsequent flows. Volcanic activity has occurred as recently as about 1,000 years ago as evidenced by pottery sherds in basalt flows. • Paleozoic invertebrates were referenced specifically in the proclamation for the monument—among these are bryozoans and brachiopods in the Calville Limestone of the Grand Wash Cliffs and brachiopods, pelecypods, fenestrate bryozoa, and crinoid ossicles in the Toroweap and Kaibab formations of Whitmore Canyon. There are also sponges in nodules and pectenoid pelecypods throughout the Kaibab Formation of Parashant Canyon. Excavations on packrat middens provides some information, but much of Parashant area paleontology is not well inventoried. • There are many unknowns concerning the caves and karst at the monument, although professional judgement surmises that the current condition and trends of these resources are stable. Caves are being documented as they are discovered, and research within various disciplines is sought and conducted on important facets such as bats and their hibernation sites. <p>Trends</p> <ul style="list-style-type: none"> • Geologic processes continue unimpeded (i.e., erosion, rifting, uplifting). • A greater understanding of the geologic and paleontological resources within the monument is achieved through continued research.
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> • While weathering and erosion are a natural geological process, increased or altered weathering and erosion as a result of climate change or anthropogenic impacts has negative impacts on the scenic quality of the geology of the monument. • Illegal trespass into caves could lead to vandalism and theft of or damage to resources. • There is some concern over trash being dumped into sinkholes. • Breccia pipe mining unearths mine ores of concentrated metals such as copper and uranium, which are toxic to organisms via air and water transmission. • Looting of paleontological resources is often a problem, as collecting may be legal in some areas nearby or adjacent to the monument, but illegal within the monument. <p>Opportunities</p> <ul style="list-style-type: none"> • Increased study and education regarding the monument's geology and paleontology, potentially including field schools, outdoor laboratories, and new interpretative programs and media. • Increased sharing of data, such as among the Bureau of Land Management and National Park Service and the US Geological Survey, which has some seismometers in the monument. • Discovery, survey, and inventory of previously unknown caves, including opportunities to study and understand karst systems and landscapes within the monument. • Coordinate with NPS Geologic Resources Division to compile and digitize the existing US Geological Survey maps.

Fundamental Resource or Value	Geological Record
Data and/or GIS Needs	<ul style="list-style-type: none"> • Remapping of Pakoon basin alluvial units. • Study of fluvial erosion on arid lands. • Paleontological survey of marine fossils.
Planning Needs	<ul style="list-style-type: none"> • Resource stewardship strategy.
Laws, Executive Orders, and Regulations That Apply to the FRV, and BLM and NPS Policy-level Guidance	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • Clean Water Act of 1972 • Clean Air Act (42 USC 7470(2)) • 1988 Federal Cave Resources Protection Act • Paleontological Resources Protection Act • Endangered Species Act of 1973, as amended • National Environmental Policy Act of 1969 (42 USC 4321) • National Parks Omnibus Management Act of 1998 • “Parks, Forests, and Public Property” (36 CFR 36) • Secretarial Order 3289, “Addressing the Impacts of Climate Change on America’s Water, Land, and other Natural and Cultural Resources” <p>BLM Policy-level Guidance</p> <ul style="list-style-type: none"> • <i>BLM Manual 1601: Land Use Planning</i> • <i>BLM Handbook H-1601-1: Land Use Planning</i> <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director’s Orders)</p> <ul style="list-style-type: none"> • <i>NPS Management Policies 2006</i> (4.6.1, 4.6.2, 4.6.4 and 4.8.1.1) • <i>NPS Natural Resource Management Reference Manual 77</i> • <i>NPS A Call to Action: Preparing for a Second Century of Stewardship and Engagement</i>



Fundamental Resource or Value	Continuum of Human Use of the Monument
Related Significance Statements	Significance statements 4, 6, and 7.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> • The monument protects a number of prehistoric resources and archeological sites, although only 6% of BLM lands and 12.3% of NPS lands have been inventoried. Within this small percentage, over 1,500 sites been documented and the majority of the resources are in good condition. • The monument protects petroglyphs (pecked or incised figures on rocks) and pictographs (painted figures). One of the largest known petroglyph sites on the Arizona Strip is Nampaweap. Some of the elements at Nampaweap include: anthropomorphs, zoomorphs, and abstract designs. • The monument protects a number of sawmills dating back to the early 1870s. Logging actively occurred in the area until the 1960s at more than a dozen sawmills. • Today, some relatively complete buildings and structures still stand from the mining history in the monument, including a bunkhouse and adobe smelter at Grand Gulch Mine. Some structures and equipment are on private land. Generally, these structures are in fair to poor condition. • Livestock grazing has held an important place in history on the Arizona Strip since the 1850s. Historic structures associated with ranching and grazing include structures at the Waring Ranch and Tassi Ranch (such as fences, corrals, houses, barns, sheds, irrigation systems, etc.). These structures are generally in fair to poor condition. • Today, there are 33 active grazing allotments, 4 closed allotments, and 2 forage reserves within the Parashant. There are 24 permittees. Grazing remains an important component of the multiple-use management strategies on the monument, although few full-time residents live in this remote area today. • The monument issues special recreation permits (BLM staff) and commercial use authorizations (NPS staff) in coordination with the Arizona Game and Fish Department to guide trophy mule deer hunting. • Some portions of the monument survive as sacred, spiritual, or ancestral sites for Southern Paiute and other American Indians, although the monument does not have any officially designated traditional cultural properties. For example, Mt. Turnbull is traditionally important to a number of tribes. • Traditional cultural use still persists within the monument. Tribes use the monument for education, gatherings, and collecting traditional resources. • The monument currently has limited museum and archival facilities on-site. Artifacts, objects, and archival materials, including objects waiting to be catalogued, are housed at the Lake Mead National Recreation Area museum collections repository, Southern Utah University, and various other federal and state institutions. • To date, the monument's collections consist largely of cultural artifacts, paleontological specimens, vascular plants, lichens and mosses, historic documents, photographs, manuscripts, documentation of the administrative history of the monument, and related materials. These collections are generally in good condition. • Some of the monument's collections have not been formally catalogued into national databases. • The collections are mainly used for research and exhibit purposes with some items on display at the Interagency Information Center in St. George, Utah. <p>Trends</p> <ul style="list-style-type: none"> • BLM and NPS prehistoric and historic resources are either stable or subject to natural decline in condition. • There is currently no documented increase in human-caused disturbances on cultural resources, but anecdotal evidence suggests negative human-caused impacts to cultural resources is increasing.

Fundamental Resource or Value	Continuum of Human Use of the Monument
<p>Threats and Opportunities</p>	<p>Threats</p> <ul style="list-style-type: none"> • There are different systems for documentation of cultural resources for the Bureau of Land Management and National Park Service, and sharing of information is often difficult between the two systems. • Current and former property owners continue to place nonagency-approved interpretive signs regarding local history at various places within the monument. These signs often are not consistent with the quality of signs designed, located, and maintained by the monument staff, as they vary widely in durability, level of upkeep, and relevance to the interpretive themes of Parashant National Monument. • Increased visitor impacts on cultural sites within the monument due to increasing visitation levels. These impacts may include proliferation of campsites in sensitive areas with potential impacts on archeological resources, increased vandalism, and illegal collection of cultural resources. • A variety of factors contribute to the erosion of petroglyphs including wind, rain, extreme temperatures, plant growth, and rock type. However, the single most devastating factor is human impact. Bullet holes, graffiti, and removal or attempted removal of petroglyph panels are all examples of vandalism that have occurred. Oil from hands and wear caused by stepping on the petroglyphs also causes irreparable harm to these fragile resources. • Increase in mean annual temperature, drought events, and storm frequency and intensity projected for the region due to climate change could impact historic structures and petroglyphs via increased erosion, wildfires, and invasive species. • Structural and wildland fire represent a significant threat to historic structures within the monument. • Keeping up with road and route maintenance is difficult with insufficient staff and funding. This negatively impacts the ability of users of the monument. <p>Opportunities</p> <ul style="list-style-type: none"> • Continue actively working with the Arizona Site Steward program, local universities, and proactive law enforcement to study and protect cultural resources. • Continue to provide education about cultural resources to local avocational archeological societies and schools. • Examine strategies to increase and streamline data sharing between the BLM and NPS staff. BLM structures are currently included in a shadow database of the NPS List of Classified Structures for the monument. • Streamline the grazing permit renewal process. • Seek out increased education, interpretation, partnership, and research opportunities regarding human use of the landscape. • Continue working with traditionally associated tribes to identify and protect areas of tribal importance.
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • Cultural resource overview, assessment, and affiliation study. • Historic American Buildings Survey (HABS) / Historic American Engineering Record (HAER) / Historic American Landscapes Survey (HALS) for Grand Gulch Mine. • Archeological inventory. • Archives survey. • Mapping of collection sites. • Rights-of-way data.
<p>Planning Needs</p>	<ul style="list-style-type: none"> • Resource stewardship strategy. • Cultural landscape report for the Home Ranch Allotment. • Historic structure report for the Home Ranch Allotment.

Fundamental Resource or Value	Continuum of Human Use of the Monument
<p>Laws, Executive Orders, and Regulations That Apply to the FRV, and BLM and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • Antiquities Act of 1906 • Taylor Grazing Act of 1934, as amended • Historic Sites, Buildings, and Antiquities Act of 1935 • National Historic Preservation Act of 1966, as amended (54 USC 300101 et seq.) • Archeological and Historic Preservation Act of 1974 • American Indian Religious Freedom Act of 1978 • Archaeological Resources Protection Act of 1979 • Native American Graves Protection and Repatriation Act of 1990 • Museum Act (54 USC 102501 through 102504) • Religious Freedom Restoration Act of 1993 • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • Executive Order 13007, "Indian Sacred Sites" • Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" • "Curation of Federally-Owned and Administered Archaeological Collections" (36 CFR 79) • "Protection of Historic Properties" (36 CFR 800) <p>BLM Policy-level Guidance</p> <ul style="list-style-type: none"> • BLM <i>Manual 1601: Land Use Planning</i> • BLM <i>Manual 4180: Rangeland Health Standards</i> • BLM <i>Manual 8100: The Foundation For Managing Cultural Resources</i> • BLM <i>Manual 8110: Identifying and Evaluating Cultural Resources</i> • BLM <i>Manual 8120: Tribal Consultation under Cultural Resources</i> • BLM <i>Manual 8130: Planning for Uses of Cultural Resources</i> • BLM <i>Handbook H-1601-1: Land Use Planning</i> • BLM <i>Handbook H-3203-1: Leasing Terms</i> • BLM <i>Handbook H-4180-1: Rangeland Health Standards</i> • BLM <i>Handbook H-8120-1: General Procedural Guidance for Native American Consultation</i> <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</p> <ul style="list-style-type: none"> • Director's Order 24: <i>NPS Museum Collections Management</i> • Director's Order 28: <i>Cultural Resource Management</i> • Director's Order 28A: <i>Archeology</i> • NPS <i>Management Policies 2006</i> (chapter 5) "Cultural Resource Management" • <i>The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation</i> • <i>Department of the Interior Policy on Consultation with Indian Tribes</i> • NPS <i>Museum Handbook</i>, parts I, II, and III



Fundamental Resource or Value	Ecological Diversity
Related Significance Statements	Significance statement 2.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> The monument provides important habitat for mule deer, desert bighorn sheep, Merriam’s turkey, mountain lion, coyote, bobcat, a variety of small mammals, many species of bats, numerous reptiles, and over 200 species of birds including raptors and neotropical migrants. The monument is within the habitat range for a number of special status species, including the northern goshawk, a special status species in Arizona. Others, such as the Mexican spotted owl and California condor, are listed by the federal government as threatened or endangered. However, the monument has not recorded any of these species nesting or spending extended periods of time on the monument. The Mojave Desert biome supports the threatened desert tortoise and includes critical habitat for the recovery of this species. Other species that are candidates for listing or are otherwise recognized as sensitive/ special status include the spotted bat, greater western mastiff bat, Townsend’s big-eared bat, relict leopard frog, Grand Wash springsnail, and native fish such as the speckled dace. The monument can be divided into the following vegetation types: desert shrub; grassland/sagebrush mix; sagebrush flats; pinyon and juniper woodland; and ponderosa pine community. The desert shrub portions of the monument have been highly damaged due to fire and invasive plant and animal species, although some of these areas remain intact. The pinyon and juniper woodlands and sagebrush areas have increased the need for vegetation manipulation to allow natural processes such as fire to continue. Additionally, the ponderosa pine community (particularly at Mt. Dellenbaugh) is very thick and has a high threat of catastrophic crown fire. <p>Trends</p> <ul style="list-style-type: none"> Dominant vegetation species seem to be relatively stable. The monument has seen increases in invasive or nonnative plants, particularly bromes like red brome or cheatgrass / downy brome. Special status species within the monument are generally in stable condition.
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> Increase in mean annual temperature, drought events, and storm frequency/intensity projected for the region due to climate change could impact ecological diversity via changes in species composition, increases in wildfires, and invasive species. Noxious weeds and other invasive species have become established within the monument, and if left uncontrolled, have the potential to rapidly infest and displace native plants and plant communities that provide valuable forage and habitat for wildlife and livestock. Additionally, burros and feral horses represent animal species that may outcompete with other animals or change vegetation structure within the monument. Local and distant air pollution sources, including power plants, highway vehicles, oil and gas development, and industrial and urban areas, contribute to air pollution impacts on monument ecological diversity. The monument’s arid ecosystem, shrublands, grasslands, and lichen may be particularly vulnerable to nutrient enrichment effects of excess atmospheric nitrogen deposition. Excess nitrogen can help invasive annual grasses to grow faster and out-compete native vegetation adapted to lower nitrogen levels, and can also decrease water use efficiency in plants such as big sagebrush.

Fundamental Resource or Value	Ecological Diversity
<p>Threats and Opportunities (continued)</p>	<p>Threats (continued)</p> <ul style="list-style-type: none"> • Ozone often reaches levels that can cause injury to ozone-sensitive plants. There are approximately 10 ozone-sensitive plants in the park including ponderosa pine (<i>Pinus ponderosa</i>), desert willow (<i>Salix exigua</i>), and skunkbush (<i>Rhus trilobata</i>). • Airborne toxics, including mercury, can deposit with rain or snow and accumulate in birds, mammals, amphibians, and fish, resulting in possible reduced foraging efficiency, survival, and reproductive success. • Impacts associated with increasing recreation such as loss of vegetation at campsites due to trampling and firewood gathering, construction of fire rings and pits, litter and human waste, and creation of new roads and trails. • Unauthorized visitor uses such as off-route off-highway vehicle use, unauthorized grazing, unpermitted collecting, and poaching negatively affect the plants and animals in the monument. • Noise from aircraft/vehicles negatively impacts a number of animal species. <p>Opportunities</p> <ul style="list-style-type: none"> • Continue pursuing opportunities for education, interpretation, research, and partnerships related to the ecological diversity of the monument. • Continue to involve youth in ecological restoration and research programs and communicating important messages about the monument's diversity. • Potentially use biological control methods to help alleviate some negative impacts on the biodiversity of the monument, particularly related to invasive plants. • Examine strategies to increase and streamline data sharing between the BLM and NPS staff, as well as other agencies and partners such as the US Fish and Wildlife Service. • Continue to cooperate with the US Fish and Wildlife Service and Arizona Game and Fish Department to ensure all actions within the monument comply with the Endangered Species Act. • Continue to undertake active management programs to inventory, monitor, restore, and maintain listed species, control detrimental nonnative species, control any deleterious public use, and reestablish extirpated populations as necessary to maintain the species and their habitats.
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • Full inventory of mammals (especially small). • Avian inventory. • Reptile/amphibian inventory. • Invasive plant inventory. • Digitize vegetation survey. • Fire history. • Natural resource overview and assessment. • Continued monitoring of (or access to) weather parameters (precipitation temp, storm events), ecological responses, and assessment of projected climate futures (models) for the region. • Air quality assessment of ecological effects.
<p>Planning Needs</p>	<ul style="list-style-type: none"> • Resource stewardship strategy. • Noxious weed and invasive species management plan. • Landscape-level management plans. • Research plan. • Fuels and fire management plan (update).

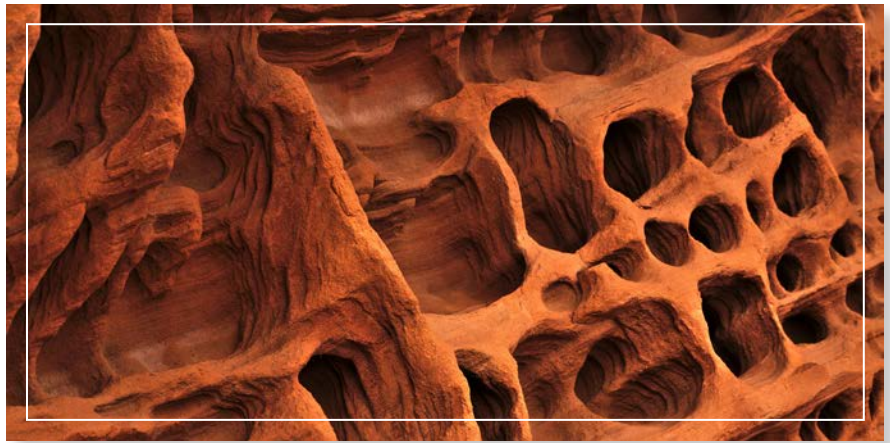
Fundamental Resource or Value	Ecological Diversity
<p>Laws, Executive Orders, and Regulations That Apply to the FRV, and BLM and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • Endangered Species Act of 1973, as amended • National Invasive Species Act • Lacey Act, as amended • Migratory Bird Treaty Act (16 USC 703-712) • National Environmental Policy Act of 1969 (42 USC 4321) • Federal Noxious Weed Act of 1974, as amended • Wild Free-Roaming Horses and Burros Act of 1971 • Clean Water Act • Clean Air Act (42 USC 7401 et seq.) • Executive Order 12088, "Federal Compliance with Pollution Control Standards" • 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" • National Flood Insurance Program <p>BLM Policy-level Guidance</p> <ul style="list-style-type: none"> • <i>BLM Manual 1601: Land Use Planning</i> • <i>BLM Manual 4180: Rangeland Health Standards</i> • <i>BLM Manual 6840: Special Status Species Management</i> • <i>BLM Handbook H-1601-1: Land Use Planning</i> • <i>BLM Handbook H-1742-1: Burned Area Emergency Stabilization and Rehabilitation</i> • <i>BLM Handbook H-3203-1: Leasing Terms</i> • <i>BLM Handbook H-4180-1: Rangeland Health Standards</i> • <i>BLM Handbook H-9214-1: Prescribed Fire Management</i> <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</p> <ul style="list-style-type: none"> • NPS Director's Order 18: <i>Wildland Fire Management</i> • NPS Director's Order 77-2: <i>Floodplain Management</i> • NPS <i>Management Policies 2006</i> (1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS <i>Management Policies 2006</i> (4.1) "General Management Concepts" • NPS <i>Management Policies 2006</i> (4.1.4) "Partnerships" • NPS <i>Management Policies 2006</i> (4.4.1) "General Principles for Managing Biological Resources" • NPS <i>Management Policies 2006</i> (4.6.1) "Protection of Surface Waters and Groundwaters" • NPS <i>Management Policies 2006</i> (4.6.2) "Water Rights" • NPS <i>Management Policies 2006</i> (4.6.4) "Floodplains" • NPS <i>Management Policies 2006</i> (4.7) "Air Resource Management" • NPS <i>Management Policies 2006</i> (4.7.2) "Weather and Climate" • NPS <i>Management Policies 2006</i> (4.9) "Soundscape Management" • NPS <i>Management Policies 2006</i> (4.10) "Lightscape Management" • NPS <i>Natural Resource Management Reference Manual 77</i> • NPS <i>Reference Manual 18: Wildland Fire Management</i> • Special Directive 93-4 "Floodplain Management, Revised Guidelines for National Park Service Floodplain Compliance" (1993)



Fundamental Resource or Value	Cooperative Management of the Monument
Related Significance Statements	All significance statements.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> NPS and BLM staffs cooperatively manage the monument, including cross-supervision of staff and leveraging funds and staffing from both agencies for management. <p>Trends</p> <ul style="list-style-type: none"> The cooperative management of the monument has benefitted from the increasingly savvy strategies regarding using agency-specific funding sources and processes in a strategic way to meet the monument's needs.
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> Fluctuating funding and staffing levels shift operation and management pressures depending on which agency has more resources. This affects both large-scale monument operations as well as site specific projects (i.e., discrete research or restoration projects, etc.). Lack of integration of agency-specific systems (such as Internet networks, data gathering, inventory databases, etc.) makes sharing information and working together in one office difficult and complex. Often database access cannot be granted to staff from agency to agency because of firewalls and other restrictions intended to protect sensitive information from being shared publicly. This contributes to some duplication of effort (i.e., BLM staff needing to upload facilities conditions in one database and NPS staff uploading facilities conditions in another). Each agency has different missions, goals, and policies, so melding these goals to work together to manage the monument is often challenging. <p>Opportunities</p> <ul style="list-style-type: none"> The monument has been finding innovative ways to partner, plan, and optimize their partnership, particularly through the Service First authority and several other local memorandums of understanding between law enforcement that identify cross-jurisdiction authority. The monument has been savvier about networking, building external partnerships, and leveraging the available resources of external partners to help support protection of the monument.

Fundamental Resource or Value	Cooperative Management of the Monument
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • Rights-of-way data. • Data management guidelines and structure. • Law enforcement needs assessment (update). • Community/partner assessment. • Improved GIS verification of infrastructure and roads.
<p>Planning Needs</p>	<ul style="list-style-type: none"> • Strategic and operational plan. • Monument partner action strategy. • Law enforcement operations plan.
<p>Laws, Executive Orders, and Regulations That Apply to the FRV, and BLM and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • “Cooperative Action and Sharing of Resources by Secretaries of the Interior and Agriculture” (USC 43 1703) <p>BLM Policy-level Guidance</p> <ul style="list-style-type: none"> • <i>A Desk Guide to Cooperating Agency Relationships</i> (2009) • <i>BLM Manual 1278: External Access to BLM Information</i> • <i>BLM Manual 1283: Data Administration and Management</i> <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director’s Orders)</p> <ul style="list-style-type: none"> • <i>NPS Management Policies 2006</i> (1.6) “Cooperative Conservation Beyond Park Boundaries” • <i>NPS Management Policies 2006</i> (1.10) “Partnerships” • <i>NPS Management Policies 2006</i> (2.3.1.4) “Science and Scholarship” • <i>NPS Management Policies 2006</i> (5.1) “Research” • <i>NPS Management Policies 2006</i> (chapter 7) “Interpretation and Education” • Director’s Order 6: <i>Interpretation and Education</i>





Fundamental Resource or Value	Scientific Research
Related Significance Statements	Significance statement 5.
Current Conditions and Trends	<p>Conditions</p> <ul style="list-style-type: none"> • The monument is a fantastic outdoor laboratory with diverse opportunities for scientific study. • The monument works with multiple government agencies and partners to pursue scientific investigation. • Scientific research is ongoing and supports a wide array of fields, including but not limited to: desert vegetation, post fire rehabilitation, springsnail trends, white nose syndrome, bat hibernacula, forestry, archeology, paleontology, and microbiology. <p>Trends</p> <ul style="list-style-type: none"> • Requests for permits to conduct research within the monument include increasingly diverse topic areas. • The monument is teaming with an increasing number of partners for scientific study.
Threats and Opportunities	<p>Threats</p> <ul style="list-style-type: none"> • There are few partners that help with funding for research in the monument, in part due to their own lack of funding in addition to insufficient funds for BLM and NPS research. • The monument does not currently have scientific research efforts prioritized—this often results in projects being funded or undertaken that do not take into account previous and concurrent research conducted on the monument or overarching research needs and concerns. • Research in the monument is inherently difficult from a logistic and conditions standpoint—it’s extremely difficult to travel to many places within the monument due to route conditions and the mosaic of private and public land. Additionally, the conditions are often harsh and unforgiving. A project that involves routine monitoring or on-site work would be difficult to implement for these reasons. <p>Opportunities</p> <ul style="list-style-type: none"> • Maintain current partnership and fund new partnerships for research. For example, continue collaborating with the NPS Mojave Desert Network Inventory and Monitoring Program for desert springs, selected large springs, weather and climate, and integrated uplands monitoring. • Continue to publish and share results and discoveries as a result of research. • Increase communication with education and interpretive staff for future programs. • Expand certain important research efforts, including climate change and white nose syndrome studies.

Fundamental Resource or Value	Scientific Research
Data and/or GIS Needs	<ul style="list-style-type: none"> • Mapping existing research sites. • Mapping collection sites.
Planning Needs	<ul style="list-style-type: none"> • Research plan.
Laws, Executive Orders, and Regulations That Apply to the FRV, and BLM and NPS Policy-level Guidance	<p>Laws, Executive Orders, and Regulations That Apply to the FRV</p> <ul style="list-style-type: none"> • National Historic Preservation Act of 1966, as amended (54 USC 300101 et seq.) • Antiquities Act of 1906 • Archeological and Historic Preservation Act of 1974 • Archaeological Resources Protection Act of 1979 • American Indian Religious Freedom Act of 1978 • Museum Act of 1955, as amended • Paleontological Resources Preservation Act • 1988 Federal Cave Resources Protection Act • Endangered Species Act of 1973, as amended • National Invasive Species Act • Lacey Act, as amended • Federal Noxious Weed Act of 1974, as amended • Clean Water Act • Clean Air Act • Executive Order 13112, "Invasive Species" • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • Executive Order 13007, "American Indian Sacred Sites" • "Curation of Federally Owned and Administered Archeological Collections" (36 CFR 79) • "Protection of Historic Properties" (36 CFR 800) <p>BLM Policy-level Guidance</p> <ul style="list-style-type: none"> • <i>BLM Manual 1278: External Access to BLM Information</i> • <i>BLM Manual 1283: Data Administration and Management</i> • <i>BLM Manual 9160: Mapping Sciences</i> • <i>BLM Handbook H-1283-1: Data Administration and Management (Public)</i> <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</p> <ul style="list-style-type: none"> • <i>NPS Management Policies 2006 (2.3.1.4) "Science and Scholarship"</i> • <i>NPS Management Policies 2006 (5.1) "Research"</i>



Analysis of Other Important Resources and Values

Other Important Resource or Value	Rugged and Remote Recreation
<p>Current Conditions and Trends</p>	<p>Conditions</p> <ul style="list-style-type: none"> • The Interagency Information Center in St. George, Utah, is the primary visitor contact station for the monument. • According to visitor surveys from 2011, the main recreational activities in order of estimated number of participants are viewing scenery, wildlife, and cultural sites; driving for pleasure; hiking and other nonmotorized travel; camping; hunting; and off-highway vehicle travel. • A number of main visitor destinations in the monument include Pakoon Springs, Tassi Ranch, Grand Gulch Mine, Mt. Trumbull/Mt. Logan, Twin Point Overlook, Kelly Point Overlook, Whitmore Canyon Overlook, Hells Hole, and Nampaweap. • There are just a few designated hiking/backpacking trails in the monument (Paiute Trail, Mt. Trumbull Trail, Mt. Logan Trail, Mt. Logan Overlook, Middle Bench Trail, Mt. Dellenbaugh Trail, and Temple Trail). These trails offer 37 miles of recreation. Visitors are also permitted to pursue cross-country (off-trail) travel. • There are no developed campgrounds within the monument. Visitors may camp along designated routes at existing undeveloped sites where previous camping use is evident or in backcountry areas off-routes for nonmotorized camping. • Big game hunting for mule deer, wild turkey, pronghorn, and bighorn sheep occurs each year on the Arizona Strip, through hunting permits and licenses obtained from the Arizona Game and Fish Department, with whom the monument cooperatively manages habitat. • Rough roads, erratic weather, logistics, time requirements, and transportation costs due to immense distances to and within the monument combine to make traditional personal services, such as ranger-led interpretive tours, impractical. Instead, the Parashant interpretive team has focused on hosting youth camps, organizing group tours, staging special events, participating in the interagency brown bag lecture program, and presenting off-site programs to interpret the monument to visitors. <p>Trends</p> <ul style="list-style-type: none"> • Obtaining accurate visitation counts is difficult at best; however, the statistics available indicate a steady rise in visitation each year as the monument becomes better known and more popular. This may also be attributed to the growth projections in the southwestern United States, growth and continued urbanization of nearby communities in southern Nevada and southwestern Utah, increased participation of people in recreational pursuits on public lands over time (including other nearby BLM and NPS units), and increased ownership of four-wheel-drive and off-highway vehicles. • There has been increased demand for special recreation permits and commercial use authorizations for guided commercial hunting, though there is a finite number of private licenses from the Arizona Game and Fish Department for hunting. The number of hunters within the monument is probably stable. • Drier winters have allowed longer seasons of access to the monument for visitors. • Regional visitation trends are up significantly and the typical tourism shoulder season has expanded.

Other Important Resource or Value	Rugged and Remote Recreation
<p>Threats and Opportunities</p>	<p>Threats</p> <ul style="list-style-type: none"> • Visitors must make long, slow journeys to visit key sites in the monument; few of these journeys can be accomplished within one day. • Monument roads— hazardous at best—can change to disaster zones in an instant due to flash flooding or precipitation events (rain or snow). • Rough roads can create unanticipated mechanical problems and flat tires. • Directions and wayfinding, misjudging travel time on rough roads, and over-reliance on GPS technology may also increase the risk of an unsafe visit. • Rough trails, steep inclines, rocky terrain, venomous reptiles, and attractive but risky personal challenges at every turn await all monument visitors, whether they are prepared and physically fit, or ill-prepared and inexperienced in the ways of the backcountry. • The arid climate, soaring temperatures, and lack of water can (and have) led to tragedy for some monument visitors. • Visitors who get into trouble inside the monument have few options for getting help. Gasoline, spare tires, water, food, cell phone access, and first-aid are unavailable in the monument. • Other visitor safety concerns include potential injuries from unmitigated abandoned mine lands within the monument. • Hunting, especially for trophy mule deer, is allowed in the monument. Hunting in some areas, such as Pakoon Springs, can become a conflict with nonhunting recreational uses such as hiking, photographing wildlife, and camping. • Other usage conflicts stem from the need to protect monument resources. For example, complex gate systems discourage cattle and wild burros from tramping through the grounds at Tassi Ranch and Pakoon Springs. Similarly, gate structures at certain trailheads intend to reserve those trails for hikers and/or equestrians only, excluding motorized vehicles. • Differences in BLM and NPS regulations are creating confusion among users. • Ground-level ozone sometimes reaches levels that can make breathing difficult for sensitive groups. <p>Opportunities</p> <ul style="list-style-type: none"> • Partner with off-highway vehicle groups regarding responsible and safe use of off-highway vehicles in the monument. • Continued coordination with Arizona Game and Fish Department for guidance related to hunting in the monument. • Continued education and outreach to monument user groups to encourage responsible and safe use of the monument. • Potentially consider installation of small, low-impact toilets in prime visitor destinations to reduce human waste (i.e., particularly at Nampaweap and/or Mt. Logan Overlook). • Consider designated group and individual camping sites to reduce visitor impacts in more popular areas. • Design and implement vegetation improvement projects to increase habitat quality to support visitor hunting experiences. • Increase coordination related to road management and maintenance between BLM and NPS staff. This would be coupled with achieving proposed improvements to several roads, including the Pocum Wash / Black Canyon section of BLM 1007 Road. • Provide for real- or near-time road conditions updates using remote technology.
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • Visitor use study and survey. • Analyze historical visitation numbers. • Trail inventory and trail difficulty ratings.

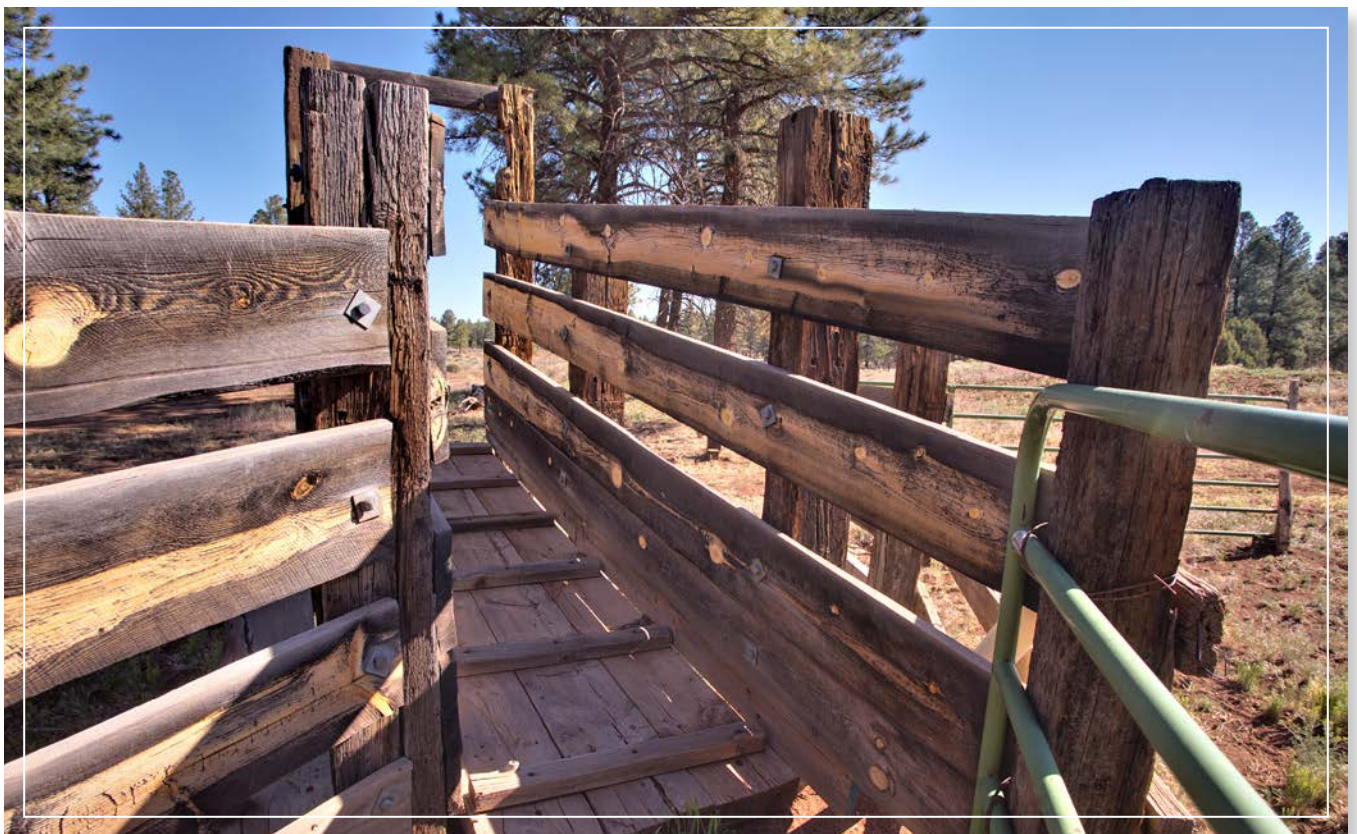
Other Important Resource or Value	Rugged and Remote Recreation
<p>Planning Needs</p>	<ul style="list-style-type: none"> • Visitor use management plan. • Trail management plan.
<p>Laws, Executive Orders, and Regulations That Apply to the OIRV, and BLM and NPS Policy-level Guidance</p>	<p>Laws, Executive Orders, and Regulations That Apply to the OIRV</p> <ul style="list-style-type: none"> • Americans with Disabilities Act of 1990 (28 CFR 36) • Architectural Barriers Act of 1968 • Rehabilitation Act of 1973 • NPS Concessions Management Improvement Act of 1998 • Clean Air Act (42 USC 7470(2)) • Architectural Barriers Act Accessibility Standards 2006; 36 CFR §1191.1 <p>BLM Policy-level Guidance</p> <ul style="list-style-type: none"> • BLM <i>Manual 1601: Land Use Planning</i> • BLM <i>Handbook H-1601-1: Land Use Planning</i> • BLM <i>Manual 6100: National Landscape Conservation System Management</i> • BLM <i>Manual 6220: National Monuments, National Conservation Areas, and Similar Designations</i> • BLM <i>Handbook H-8320-1: Recreation and Visitor Services Planning</i> BLM <i>Handbook 8342: Travel and Transportation</i> • BLM <i>Manual 1626: Travel and Transportation</i> <p>NPS Policy-level Guidance (NPS Management Policies 2006 and Director's Orders)</p> <ul style="list-style-type: none"> • Director's Order 6: <i>Interpretation and Education (2005)</i> • Director's Order 42: <i>Accessibility for Visitors with Disabilities in National Park Service Programs and Services</i> • NPS <i>Management Policies 2006 (4.7) "Air Resource Management"</i> • NPS <i>Management Policies 2006 (chapters 7, 8, 9, and 10)</i> • NPS <i>Transportation Planning Guidebook</i> • NPS <i>A Call to Action: Preparing for a Second Century of Stewardship and Engagement</i>





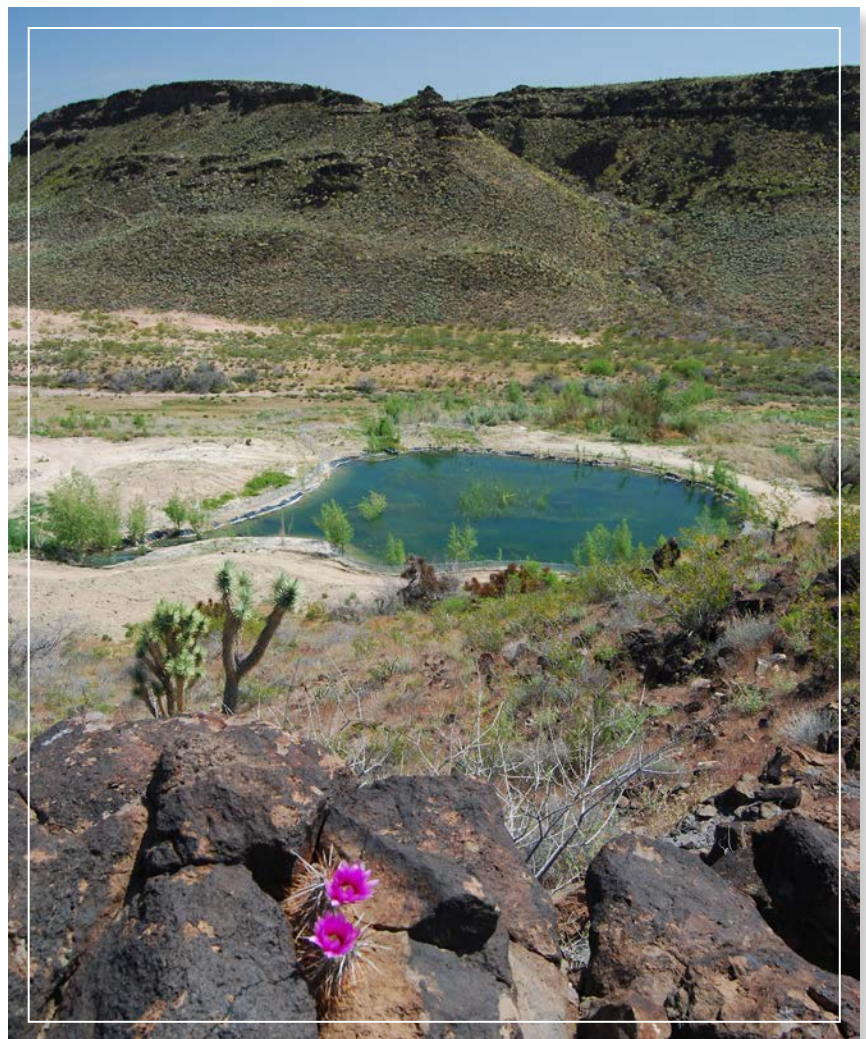
Other Important Resource or Value	Soils
<p>Current Conditions and Trends</p>	<p>Conditions</p> <ul style="list-style-type: none"> • Crypto-biological soil crusts are prevalent in the monument—they are delicate systems combining physical, chemical, and biological features. In some areas, the crypto-biological soil crusts are up to a meter in depth. • Generally, much of the crypto-biological soil crusts within the monument have been affected by past grazing, fire, and off-highway vehicle use. <p>Trends</p> <ul style="list-style-type: none"> • Soil integrity is affected by erosion, particularly in areas impacted by previous fires and past and continued grazing use. However, the rate of erosion and degradation of soil integrity is largely unknown.
<p>Threats and Opportunities</p>	<p>Threats</p> <ul style="list-style-type: none"> • Local and distant air pollutant sources, including power plants, highway vehicles, oil and gas development, and nearby industrial and urban areas, contribute to air pollution impacts on soil fertility. The addition of nitrates and sulfates from human-made pollutants modifies the natural occurrence of these nutrients in soils and adversely affects ecosystem health. • Vegetation changes from climate change and invasive species may negatively affect soil deposition or erosion rates within the monument. • Increase in mean annual temperature, drought events, and storm frequency/intensity projected for the region due to climate change could impact soils via increased wildfire and erosion events. • Crypto-biological soil crusts are easily degraded or destroyed by trampling, by both animals and humans. A history of cattle grazing in the monument, continued cattle grazing, and the current increasing visitor use have led to possible widespread destruction of these crusts. However, mitigation can be used to reduce affected areas. • In some areas, an increase in off-highway vehicle use has led to the destruction of crypto-biological soil crusts, leaving ruts and tire tracks that will remain for many years to come. <p>Opportunities</p> <ul style="list-style-type: none"> • Undergo restoration efforts to minimize damage caused by erosion, cattle grazing, and off-highway vehicle use. • Enforce off-highway vehicle use on designated travel corridors only, partially through implementation and enforcement of the travel management plan as well as through continued outreach and education about impacts. • Consider mitigation measures to reduce damage to vegetation and soils caused by cattle grazing. • Partner with universities, nonprofits, and others such as the Natural Resources Conservation Service for continued research and data sharing regarding soils.

Other Important Resource or Value	Soils
Data and/or GIS Needs	<ul style="list-style-type: none"> • Remapping of Pakoon Basin alluvial units. • Study of fluvial erosion on arid lands. • Analyze biological soil crust components. • Biological soil crust mapping.
Planning Needs	<ul style="list-style-type: none"> • Soil preservation plan.
Laws, Executive Orders, and Regulations That Apply to the OIRV, and BLM and NPS Policy-level Guidance	<p>Laws, Executive Orders, and Regulations That Apply to the OIRV</p> <ul style="list-style-type: none"> • National Environmental Policy Act of 1969 (42 USC 4321) • Clean Air Act • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" <p>BLM Policy-level Guidance</p> <ul style="list-style-type: none"> • BLM <i>Manual 1601: Land Use Planning</i> • BLM <i>Manual 4180: Rangeland Health Standards</i> • BLM <i>Handbook H-1601-1: Land Use Planning</i> • BLM <i>Handbook H-1742-1: Burned Area Emergency Stabilization and Rehabilitation</i> • BLM <i>Handbook H-3203-1: Leasing Terms</i> • BLM <i>Handbook H-4180-1: Rangeland Health Standards</i> • BLM <i>Handbook H-9214-1: Prescribed Fire Management</i> <p>NPS Policy-level Guidance (NPS <i>Management Policies 2006</i> and Director's Orders)</p> <ul style="list-style-type: none"> • NPS <i>Management Policies 2006</i> (4.8.2.4) "Soil Resource Management" • NPS <i>Natural Resource Management Reference Manual 77</i>



Other Important Resource or Value	Hydrology / Springs / Karst
<p>Current Conditions and Trends</p>	<p>Conditions</p> <ul style="list-style-type: none"> • There is no significant perennial water body in the monument (i.e., with flows longer than a mile) that monument staff are aware of. However, Parashant Wash and other washes will run briefly after heavy precipitation. • Water for livestock and wildlife is captured from precipitation in catchments or from surface runoff or springs in earth tanks and reservoirs. Many natural springs exist in the monument (276), and most (about 90%) of these have been developed for livestock watering. These springs are often in need of restoration to a natural riparian state. • Additionally, about 95% of the surface water in the monument is appropriated to water rights. Water wells have been dug or drilled at Lake Flat, Pine Ranch, and Oak Grove. These wells are typically in a stable or natural state, although water is typically not potable from these sources. • The Shivwits Plateau is the ultimate source of several drainages subdivided into approximately 25 smaller watersheds that flow into the Colorado River system. • The karst of the monument is about 10% inventoried, as most of the karst is subsurface. The effect of this geology on springs as a conduit to springs is often unknown, as water seeps through the karst to limestone aquifers in unpredictable ways. <p>Trends</p> <ul style="list-style-type: none"> • Reduced precipitation, probably as a component of a changing climate, will reduce aquifer recharge and may reduce discharge rates, alter spring head activity, and shift location of springs. • Water quality parameters such as pH and dissolved oxygen and nutrients, are in a stable condition.
<p>Threats and Opportunities</p>	<p>Threats</p> <ul style="list-style-type: none"> • Increase in mean annual temperature, drought events, storm frequency/intensity projected for the region due to climate change could impact both surface and groundwater hydrology by altering aquifer recharge, seasonal flows, and/or increasing flash flood events. • There is a potential for groundwater depletion outside the monument boundary that might impact individual springs and flows within the monument. • Over-diversion of spring water through developed springs and illegal groundwater wells may negatively affect riparian areas within the monument. • Inadequate human waste disposal is an issue as it relates to water quality in certain areas. • Cattle waste products introduce hormones and nitrates, which impact surface water and aquifer qualities. <p>Opportunities</p> <ul style="list-style-type: none"> • Potential to obtain water rights in the future to protect groundwater and spring water within the monument. • Work with water rights permittees to implement new water diversion and conservation practices. • Potential to interpret historic water use, water conservation, and hydrology at specific locations like Pakoon Springs and Tassi Ranch and Springs. • Perform expanded research on the karst topography's effect on springs, water quality, and hydrology. Expand research opportunities for third parties. • Implement a shared database between BLM and NPS staff for water data.
<p>Data and/or GIS Needs</p>	<ul style="list-style-type: none"> • Watershed data. • Continued monitoring of (or access to) weather parameters (precipitation temp, storm events), ecological responses, and assessment of projected climate futures (models) for the region.

Other Important Resource or Value	Hydrology / Springs / Karst
Planning Needs	<ul style="list-style-type: none"> Resource stewardship strategy.
Laws, Executive Orders, and Regulations That Apply to the OIRV, and BLM and NPS Policy-level Guidance	<p>Laws, Executive Orders, and Regulations That Apply to the OIRV</p> <ul style="list-style-type: none"> National Environmental Policy Act of 1969 (42 USC 4321) Clean Water Act Executive Order 11514, "Protection and Enhancement of Environmental Quality" Executive Order 12088, "Federal Compliance with Pollution Control Standards" Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" <p>BLM Policy-level Guidance</p> <ul style="list-style-type: none"> BLM <i>Manual 1601: Land Use Planning</i> BLM <i>Handbook H-1601-1: Land Use Planning</i> <p>NPS Policy-level Guidance (NPS <i>Management Policies 2006</i> and <i>Director's Orders</i>)</p> <ul style="list-style-type: none"> NPS <i>Management Policies 2006</i> (4.4) "Biological Resource Management" NPS <i>Management Policies 2006</i> (4.6.1) "Protection of Surface Waters and Groundwaters" NPS <i>Management Policies 2006</i> (4.8.1.2) "Karst" NPS <i>Natural Resource Management Reference Manual 77</i>



Appendix C: Inventory of Special Mandates, Special Designations, and Administrative Commitments

Special Mandates and Special Designations					
Name	Mandate or Designation	Start Date – Expiration Date	Stakeholders	Purpose	Notes
Joint BLM and NPS Management of the Monument (Presidential Proclamation 7265)	Presidential Proclamation	2000 – Ongoing	NPS, BLM	Presidential Proclamation 7265 (January 11, 2000), which established Grand Canyon-Parashant National Monument, was issued under the Antiquities Act of 1906 (34 Stat. 225, 16 USC 431) and governs the joint BLM and NPS management of how the provisions of the Federal Land Policy and Management Act of 1976 and the Organic Act of 1916 are to be applied within the monument.	Stipulates that the National Park Service shall continue to have primary management authority over the portion of the monument within Lake Mead National Recreation Area, and the Bureau of Land Management shall have primary management authority over the remaining portion of the monument.
Grazing	Presidential Proclamation Taylor Grazing Act 1930	2000 – Ongoing	Grazing permittees	As set forth in Presidential Proclamation 7265 (January 11, 2000), the Bureau of Land Management shall continue to issue and administer grazing leases in the portion of the monument within Lake Mead National Recreation Area, consistent with the Lake Mead National Recreation Area authorizing legislation.	Laws, regulations, and policies followed by the Bureau of Land Management in issuing and administering grazing leases on all lands under its jurisdiction shall continue to apply to the remaining portion of the monument. Additionally there are around 24 permits and the Rangeland Management Division is responsible for managing the permits.
Mining / Mineral Leasing Act	Presidential Proclamation	2000 – Ongoing	Private mineral estate holders	Presidential Proclamation 7265 (January 11, 2000), which established Grand Canyon-Parashant National Monument, withdrew monument lands from mineral location, entry, and patent under the mining laws, subject to valid existing rights.	There are no active mining claims on federal ground within the monument. However, nonfederal mineral estate exists in the monument and is not subject to the decisions in the resource/general management plans.

Special Mandates and Special Designations					
Name	Mandate or Designation	Start Date – Expiration Date	Stakeholders	Purpose	Notes
Designated Wilderness (PL 98-406, 98 Stat. 1484)	Legislation	1984 – Ongoing	NPS, BLM	Recognize four areas as designated wilderness and components of the National Wilderness Preservation System (Grand Wash Cliffs Wilderness, Mount Logan Wilderness, Mount Trumbull Wilderness, and Paiute Wilderness).	These areas have been set aside for “solitude or a primitive and unconfined type of recreation,” as well as “ecological, geological, or other features of scientific, educational, scenic, or historical value.” They also provide habitat for wildlife and plants, including endangered and threatened species.
Proposed Wilderness	Lake Mead Wilderness Proposal (1979); Lake Mead General Management Plan (1986); Parashant National Monument Resource Management Plan and General Management Plan (2008)	1979, 1986, and 2008 – Ongoing	NPS	190,479 acres are, and will continue to be, managed as proposed wilderness, although at this time, no congressionally established wilderness is on NPS lands. There are 66,350 acres of land within the Shivwits unit, which are subject to mineral reservations and surface repurchase rights held by Santa Fe Industries. The National Park Service intends to acquire these rights in the near future. It is proposed that this area be designated as a potential wilderness addition until the purchase of outstanding rights is consummated.	Wilderness proposals and management decisions on NPS lands established in the 1986 Lake Mead GMP and 1979 Lake Mead Wilderness Proposal are incorporated in the monument’s approved resource management plan and general management plan (2008).
Parashant International Night Sky Province-Window to the Cosmos	Special designation	2014 – Ongoing	International Dark Sky Association, NPS, BLM	Recognized by the International Dark Sky Association as the Parashant International Night Sky Province-Window to the Cosmos.	The monument remains one of the most remote areas in the contiguous United States and earned the International Dark Sky Park Gold-tier status—the highest level of award representing the darkest skies.

Special Mandates and Special Designations					
Name	Mandate or Designation	Start Date – Expiration Date	Stakeholders	Purpose	Notes
Enjoy the View park	Special designation	2012 – Ongoing	NPS	As part of the NPS <i>A Call to Action</i> 2012, Parashant NM was chosen as one of 10 parks to lead collaborative efforts in creating viewshed cooperatives with other federal agencies, tribes, and local partners to assess air pollutants and preserve treasured viewsheds and natural and cultural resources.	Inventory of viewsheds including background scenic qualities that lie outside the monument boundary is important as multipurpose interest increases in windfarms, resorts, and other developments.
Designated critical habitat for desert tortoise	<i>Federal Register</i> Doc. 94-2694	1994 – Ongoing	Federal, state, private, and tribal lands within designated area	Critical habitat designation provides additional protection under section 7 of the Endangered Species Act with regard to activities that require federal agency action.	



Administrative Commitments			
Title / Agency / Organization	Purpose / Description	Expiration Date	Responsible Party
Memorandums of Understanding			
Intergovernmental Internship Cooperative	Provide a work and project-based internship and service learning program to serve the southern Utah region by matching the needs of land management government agencies with college students and departments seeking meaningful opportunities.	1/9/14–1/9/17	Bureau of Land Management, National Park Service, Bureau of Indian Affairs, US Forest Service, Natural Resources Conservation Service, Paiute Indian Tribe of Utah, Kaibab Band of Paiute Indians, Utah Dept. of Natural Resources, Utah Dept. of Workforce Services, Dixie State University, Southern Utah University
Desert Landscape Conservation Cooperative	The Desert Landscape Conservation Cooperative is a regional partnership that seeks to provide scientific and technical support, coordination, and communication to resource managers and the broader community to address climate change and other landscape-scale ecosystem stressors.	Ongoing	Representatives from federal, state, and local government agencies
Arizona Game and Fish Department Agreement with BLM and NPS	State agreement that identifies mutual cooperation between Arizona Game and Fish Department and the National Park Service for the purpose of sharing resources, information, personnel, and projects. The cooperation between the two entities works toward improved protection of wildlife and land resources through joint patrols, intelligence sharing, yearly meetings highlighting changes to state laws, and collaboration with projects within the monument to improve habitat.	Ongoing	Arizona Game and Fish Department, Bureau of Land Management, National Park Service
Beaver Dam – Littlefield, Arizona	Grand-Canyon Parashant National Monument and the fire department of Beaver Dam and Littlefield, Arizona, entered into a mutually beneficial agreement that enabled the monument to use an existing repeater site (the Scrub repeater) for improved radio communications with the Las Vegas Interagency Communications Center based out of Lake Mead National Recreation Area. Grand Canyon-Parashant National Monument and Lake Mead National Recreation Area constructed and installed an antennae tower and added additional solar power at the site. The Beaver Dam-Littlefield fire department benefits through the use of antennae and the increased power capabilities the solar paneling has provided.	Ongoing	Parashant National Monument, fire department of Beaver Dam and Littlefield, Arizona
Seven Springs Ranch	Allows monument staff to access spring locations on private property easement for the purpose of water quality and ecological monitoring.	May 2019	Bureau of Land Management, National Park Service, Seven Springs Ranch

Administrative Commitments			
Title / Agency / Organization	Purpose / Description	Expiration Date	Responsible Party
Memorandums of Understanding (continued)			
Arizona Strip – Washington County School District	Offering two outdoor programs for high school and middle school students, partnering with local, federal, and state agencies, cities, tribes, and individuals. The two programs are the high school Color Country Natural Resource Camp and the middle school Day in the Desert.	May 2019	BLM Arizona Strip District Office, Washington County School District
Memorandum of Understanding for the Mt. Trumbull Area of the Grand Canyon-Parashant National Monument	Continuing research on ponderosa pine and pinyon-juniper ecosystems including fire regimes, faunal composition and health, and vegetation.	Needs to be renewed	BLM Arizona Strip District Office, Arizona Game and Fish Department, Northern Arizona University Ecological Restoration Institute
Memorandums of Agreement			
None identified			
Intergovernmental Agreements			
Arizona Site Steward Program	Supports cultural resource protection, preservation, and education through a corps of statewide volunteers with the cooperation of public land managers of Arizona. Approximately 75 trained volunteers monitor archeological and historic sites to detect and deter theft and vandalism. They also assist agency archeologists in mapping sites, recording rock art, building protective fences around sites, and field surveys.	N/A	Arizona State Parks Board/State Historic Preservation Office, Arizona State Land Department, Bureau of Land Management, US Forest Service- Southwestern Region, the Hopi Tribe Additionally, other agencies, city and county entities, and non-profit organizations in Arizona through signed individuals intergovernmental agreements later, including the National Park Service
Interagency Agreements			
Grand Canyon Parashant National Monument Service First Mutual Agreement	The Service First Agreement allows federal government agencies to share resources across jurisdictional boundaries. Parashant NM is a Service First organization jointly managed by the BLM and NPS. Agreement #P12PG70074 and MOU-AZ-2012-01.	1/5/12–1/5/27	BLM Arizona Strip District Office and NPS-Lake Mead National Recreation Area
Research Agreements	Agreements with various state and federal entities to conduct research on a broad range of monument objects.	Various	Grand Canyon-Parashant National Monument, US Geological Survey, Arizona Game and Fish Department, US Forest Service, National Park Service-Mojave Desert Inventory and Monitoring Network

Administrative Commitments			
Title / Agency / Organization	Purpose / Description	Expiration Date	Responsible Party
Interagency Agreements (continued)			
Interagency Agreements Related to Law Enforcement and Emergency Services	<p>Grand Canyon-Parashant National Monument cooperates with a variety of other agencies through many different memorandums of understanding and general agreements. The Service First authority is the premier agreement that enables Grand Canyon-Parashant National Monument rangers to work in conjunction with the BLM rangers from Arizona, Utah, and Nevada. There are also memorandums of understanding that identify additional land management agencies in the area and designates authority among the agencies and their law enforcement staff. The list includes National Park Service sites through southern Utah and northern Arizona, the Dixie National Forest, and the BLM through the St. George, Arizona Strip, Grand Staircase Escalante, Cedar City, and Las Vegas field offices.</p> <p>The Grand Canyon-Parashant National Monument also has working relationships with the Mojave County Sheriff's Office to provide assistance and use resources related to law enforcement and search and rescue needs. The monument also works closely with Arizona Game and Fish to provide and gain assistance with wildlife-related activities within monument boundaries.</p>	Ongoing	Varies by agreement
Mojave Desert Initiative	The Mojave Desert Initiative was established as a forum for government agencies and other partners to collaboratively address wildfire and invasive species issues within a defined ecoregion of the northeast Mojave Desert.	Ongoing	Bureau of Land Management, National Park Service, US Fish and Wildlife Service, US Geological Survey, Nevada Dept. of Wildlife, Utah Dept. of Natural Resources, Arizona Game and Fish Department, Washington County, Great Basin Institute
Mojave Desert Network Coordination	Grand Canyon-Parashant National Monument coordinates and collaborates with other NPS units in the Mojave Desert Network (LAKE, DEVA, GRBA, JOTR, MANZ, MOJA, TUSK).	Ongoing	Death Valley National Park (DEVA), Great Basin National Park (GRBA), Joshua Tree National Park (JOTR), Manzanar National Historic Site (MANZ), Mojave National Preserve (MOJA), Parashant National Monument (PARA), Tule Springs Fossil Beds National Monument (TUSK)

Administrative Commitments			
Title / Agency / Organization	Purpose / Description	Expiration Date	Responsible Party
Cooperative Agreements			
Interagency Visitor Center in St. George, Utah	Coordinated management and operation of interagency visitor center. This agreement is used to combine funds for an information center manager.	6/30/2016	Arizona and Utah BLM, US Forest Service, and National Park Service
Internships and Youth Programs through Colorado Plateau Cooperative Ecosystem Studies Units (CESU) National Network	Multiple cooperative agreements initiated through the Intergovernmental Internship Cooperative to accomplish work and project-based internship and service-learning programs.	Varies by agreement	Bureau of Land Management, National Park Service, Bureau of Indian Affairs, US Forest Service, Natural Resources Conservation Service, Paiute Indian Tribe of Utah, Kaibab Band of Paiute Indians, Utah Dept. of Natural Resources, Utah Dept. of Workforce Services, Dixie State University, Southern Utah University, Great Basin Institute
Dixie-Arizona Strip Interpretive Association	Enhance the understanding of the Arizona Strip and Southern Utah region, including its history and natural resources. Provides interpretation, education, and customer service-related materials to area visitors while assisting, where possible, with project funding. Agreement no. L11AC20141.	6/30/2016	Arizona and Utah Bureau of Land Management, US Forest Service, and National Park Service
General Agreements			
Tribal Interests	36 tribal entities claim an affiliation with Parashant National Monument and are consulted on issues of mutual concern.	Ongoing	Affiliated tribes
Special Monument Uses			
Special Use Permits (NPS), Special Recreational Permits (BLM), and Commercial Use Authorizations	The monument issues around 5 commercial use authorizations and 40 special use permits or special recreation permits in a single year for special events and special uses that provide a benefit to an individual, group, or organization rather than to the public at large. In addition, two, three-year commercial film permits are in use.	Varies by agreement	Public, CUA program
Rights-of-Way	There are 20 land use authorizations in the monument, all of which are issued by the BLM. Seventeen of the authorizations are rights-of-way, with only two of those issued to private entities and the remaining issued to government agencies. In addition, one long-term pipeline lease is presently authorized.	Varies by agreement	Varies by agreement
Private Inholdings	There are approximately 12 private land inholdings within the monument with an unknown number of landowners.	N/A	Varies by in-holding

Appendix D: Past and Ongoing Monument Planning and Data Collection Efforts

The monument is engaged in several previously funded and ongoing plans that rank as high-priority.

- Cave management plan
- Administrative history
- Cultural landscape report and historic structure report for Tassi Ranch

Additionally, the monument has completed a number of past planning and data collection efforts that help inform understanding and management of the monument.

Planning Document and Data Collection Effort	Year
NPS. <i>Lake Mead NRA Wilderness Proposal.</i>	1979
Lane, M.E. <i>Mineral investigation of the Pigeon Canyon, Nevershine Mesa, and Snap Point Wilderness Study Areas (BLM), Mohave County, Arizona.</i>	1984
NPS. <i>Lake Mead NRA General Management Plan and Final Environmental Impact Statement.</i>	1986
NPS. <i>Lake Mead NRA Minerals Management Plan.</i>	1986
NPS. <i>Land Protection Plan for Lake Mead NRA.</i>	1987
<i>Man, Models, and Management (an archeological overview of the Arizona Strip and management of its cultural resources).</i>	1989
BLM. <i>Final Wilderness Management Plan: Paiute and Beaver Dam Mountains Wilderness.</i>	1990
BLM. <i>Final Wilderness Management Plan for the Grand Wash Cliffs Wilderness.</i>	1990
BLM. <i>Mt. Trumbull Wilderness and Mt. Logan Wilderness – Wilderness Management Plan.</i>	1990
BLM. <i>BLM Vegetation Treatment Final EIS.</i>	1991
BLM. <i>Arizona Strip District Resource Management Plan.</i>	1992
BLM. <i>Shiwits Resource Area Implementation Plan for the Arizona Strip District, Approved Resource Management Plan.</i>	1992
Reynolds, R. T. and Others. <i>Management recommendations for the northern goshawk in the southwestern United States.</i> Fort Collins, CO.	1992
US Fish and Wildlife Service. <i>Desert Tortoise (Mojave Population) Recovery Plan.</i>	1994
BLM. <i>Mt. Trumbull Resource Conservation Area Plan.</i>	1995
NPS. <i>Lake Mead NRA Burro Management Plan and Final EIS.</i>	1995
US Fish and Wildlife Service. <i>Recovery Plan for the California Condor.</i>	1996
BLM and NPS. <i>Grand Canyon-Parashant National Monument Interdisciplinary Management Plan.</i>	1997
BLM. <i>Arizona Strip Resource Management Plan, Mojave Desert Amendment.</i>	1998
Grubb, T. G. and Others. <i>Logging Truck Noise Near Nesting Northern Goshawks.</i> Fort Collins, CO.	1998
US Fish and Wildlife Service. <i>Biological Opinion for the Arizona Strip RMP-Mojave Amendment.</i>	1998

Planning Document and Data Collection Effort	Year
Herder, Michael J. and Jennifer G. Jackson. <i>Impacts of the Mt. Trumbull Ecosystem Restoration Project on Forest Dwelling Bats</i> . St. George, UT.	1999
Billingsley, G.H., and Workman, J.B. <i>Geologic map of the Littlefield 30' x 60' quadrangle, Mojave County, Northwestern Arizona: U.S. Geological Survey Geologic Investigations Map 2628, scale 1;100,000.</i>	2000
BLM and Arizona Game and Fish Department. <i>Arizona Strip Desert Bighorn Sheep Management Plan.</i>	2001
Billingsley, G. H. and Others. <i>Geologic map of part of the Uinkaret Volcanic Field, Mohave County, Northwestern Arizona.</i>	2001
Knox, S. C. and Others. <i>Habitat associations of the sagebrush lizard (Sceloporus graciosus): potential responses of an ectotherm to ponderosa pine forest restoration treatments. Pages 95–98. In Author unknown: Ponderosa pine ecosystem restoration and conservation: steps toward stewardship, Proceedings RMRS-P-22.</i> Flagstaff, AZ.	2001
US Fish and Wildlife Service. <i>Southwestern Willow Flycatcher (Empidonax traillii extimus) Final Recovery Plan.</i>	2002
Scoles, Sara J., Todd C. Esque, Lesley A. DeFalco, Sara E. Eckert, and Dustin F. Haines. <i>Evaluating Options for Revegetation Following a Catastrophic Fire in a Pinyon-Juniper Community at Grand Canyon / Parashant National Monument.</i>	2002
Austin, W. and Others. <i>A review of the first five years of the California condor reintroduction program in northern Arizona.</i>	2002
The Nature Conservancy of Nevada and US Fish and Wildlife Service. <i>Site Conservation Plan for the Gold Butte Pakoon Desert Wildlife Management Area in the Northeastern Mojave Recovery Unit.</i> Final Draft. Las Vegas, NV.	2002
NPS. <i>Lake Management Plan: Lake Mead NRA.</i>	2003
Moore, K. and Others. <i>Mt. Trumbull ponderosa pine ecosystem restoration project. Pages 117–132. In Fire, fuel treatments, and ecological restoration: conference proceedings; 2002 16–18 April.</i> Fort Collins, CO. April 16–18.	2003
Billingsley, G. H. and J. L. Wellmeyer. <i>Geologic Summary (Geologic Map of the Mount Trumbull 30' x 60' Quadrangle, Mohave and Coconino Counties, Northwestern Arizona).</i>	2003
Scoles, Sara J., Todd C. Esque, Lesley A. DeFalco, Sara E. Eckert and Dustin F. Haines. <i>Cheatgrass and Red Brome Abundance Following Post-Fire Revegetation Treatments in a Pinyon-Juniper Community at Parashant National Monument.</i> Henderson, NV.	2003
Blomquist, Sean M., Daniel A. Cox and Michael J. Sredl. <i>Inventory and Habitat Assessment of the Relict Leopard Frog (Rana onca) in Arizona.</i> Phoenix, AZ.	2003
NPS. <i>NPS Cultural Landscapes Inventory: Waring Ranch, Grand Canyon-Parashant National Monument.</i>	2003
Mortier, Mark L. <i>Parashant National Monument Historic Preservation Report: Condition Assessment and Preservation Recommendations – Grand Gulch Mine and Pine Well Ranch.</i> Santa Fe, NM.	2003
Covington, Sid. <i>Grand Canyon-Parashant National Monument Geologic Resources Management Issues Scoping Summary.</i>	2003
NPS. <i>Grand Canyon-Parashant National Monument Superintendent's Report, Fiscal Year 2003.</i>	2003
Billingsley, G.H., and Wellmeyer, J.L. <i>Geologic map of the Mount Trumbull 30' X 60' quadrangle, Mohave and Coconino Counties, northwestern Arizona: U.S. Geological Survey Geologic Investigations Series I-2766, scale 1:100,000.</i>	2003

Planning Document and Data Collection Effort	Year
BLM. <i>Arizona Statewide Land Use Plan Amendment for Fire, Fuels, and Air Quality Management, Finding of No Significant Impact and Environmental Assessment.</i>	2004
Billingsley, George H., L. Sue Beard, Susan S. Priest, Jessica L. Wellmeyer, and Debra L. Block. <i>Geologic Map of the Lower Grand Wash Cliffs and Vicinity, Mohave County, Northwestern Arizona.</i>	2004
Sipe, C. <i>Report on surveying for northern goshawks on Shivwits Plateau, Lake Mead National Recreation Area.</i> Unpublished Report-647596.	2004
Thomson, J. L. and Others. <i>Protecting Northern Arizona's National Monuments: The Challenge of Transportation Management.</i> Washington, DC.	2004
Santucci, V.L. and A.L. Koch, <i>Paleontological Resource Inventory and Monitoring, Mojave Desert Network.</i> National Park Service TIC# D-305. 1-50.	2004
Atwood, N. Duane, Larry C. Higgins and Stanley L. Welsh. <i>Annotated List of Vascular Plants for the BLM Portion of the Grand Canyon-Parashant NM (Arizona Strip), Mohave County, AZ.</i>	2005
Sada, Donald W. <i>Abundance, Distribution, and Habitat Use of the Grand Wash Springsnail (Pyrguopsis bacchus), Grand Canyon-Parashant National Monument, Arizona.</i> Reno, NV.	2005
Relict Leopard Frog Conservation Team. <i>Conservation Agreement and Rangewide Conservation Assessment and Strategy for the Relict Leopard Frog (Rana onca).</i>	2005
Cablk, Mary E. <i>Protecting the Threatened Desert Tortoise: A Plan for Primary Survey, Management and Monitoring in Parashant National Monument and Grand Canyon National Park.</i> Reno, NV.	2005
Heister, K. M. and Others. <i>Mojave Inventory and Monitoring Network Phase I Report.</i> Fort Collins, CO.	2005
Austin, D. and Others. <i>Yanawant: Paiute Places and Landscapes in the Arizona Strip; Volume Two of the Arizona Strip Landscapes and Place Name Study.</i> Bureau of Applied Research in Anthropology. Tucson, AZ.	2005
Bedford, D. R., A. L. Chung-MacCoubrey, T. C. Esque, K. M. Heister, D. L. Hughson, D. M. Miller, C. J. Palmer, J. R. Siderius, R. E. Truitt, V. A. Truitt, and R. H. Webb. <i>Mojave Inventory and Monitoring Network Phase II Report.</i> Fort Collins, CO.	2006
Wightman, Catherine S. and R. Fenner Yarborough. <i>Short-term wildlife responses to ponderosa pine forest restoration treatments in the Mt. Trumbull area, Arizona.</i> Phoenix, AZ.	2006
Billingsley, G.H., Block, D.L., and Dyer, H.C. <i>Geologic map of the Peach Springs 30' x 60' quadrangle, Mohave and Coconino Counties, northwestern Arizona: U.S. Geological Survey Scientific Investigations Map 2900.</i>	2006
Arizona Strip District. <i>Biological assessment for the Grand Canyon – Parashant National Monument, Vermillion Cliffs National Monument, and Arizona Strip Field Office Resource Management Plans (RMPs) and EIS.</i>	2007
Beard, L.S., Anderson, R.E., Bohannon, R.G., Brady, R.J., Castor, S.B., Duebendorfer, E.M., Faulds, J.E., Felger, T.J., Howard, K.A., Kuntz, M.A., and Williams, V.S. <i>Preliminary geologic map of the Lake Mead 30' x 60' quadrangle, Clark County, Nevada, and Mohave County, Arizona: U.S. Geological Survey, Open-File Report OF-2007-1010, scale 1:100,000.</i>	2007
<i>Grand Canyon-Parashant National Monument General Management Plan, Final Environmental Impact Statement, Records of Decision.</i>	2008
Belnap, J. and Others. <i>Monitoring Ecosystem Quality and Function in Arid Settings of the Mojave Desert, Recoverability and Vulnerability of Desert Ecosystems.</i> Reston, VA.	2008

Planning Document and Data Collection Effort	Year
Stevens, Lawrence and Roderic A. Parnell. <i>Baseline Assessment of the Inventory of Vertebrates and Vascular Plants of Parashant National Monument: Lake Mead National Recreation Area Section</i> . Flagstaff, AZ.	2008
Sada, Donald W. and Cory A. Jacobs. <i>Environmental and Biological Characteristics of Springs in Grand Canyon-Parashant National Monument, Arizona</i> . Reno, NV.	2008
NPS. <i>NPS Cultural Landscapes Inventory: Tassi Ranch, Grand Canyon-Parashant National Monument</i> .	2008
Chung-MacCoubrey, A. L., R. E. Truitt, C. C. Caudill, T. J. Rodhouse, K. M. Irvine, J. R. Siderius, and V. K. Chang. <i>Mojave Desert Network vital signs monitoring plan</i> . Fort Collins, CO.	2008
Gottfried, Gerald J.; Shaw, John D.; Ford, Paulette L., compilers. <i>Ecology, management, and restoration of piñon-juniper and ponderosa pine ecosystems: combined proceedings of the 2005 St. George, Utah, and 2006 Albuquerque, New Mexico, workshops</i> . Fort Collins, CO.	2008
Billingsley, G.H., Priest, S.S., and Felger, T.J. <i>Geologic map of the Fredonia 30' x 60' quadrangle, Mohave and Coconino Counties, northern Arizona: U.S. Geological Survey Scientific Investigations Map 3035, scale 1;100,000</i> .	2008
University of Nevada. <i>Archaeological Inventory, Site Assessment, and Data Management, Lake Mead National Recreation Area and Parashant National Monument</i> . Las Vegas, NV.	2009
Dingman, Sandee. <i>Draft Interagency Vegetation Management Plan for Shivwits Plateau</i> .	2009
Fertig, Walter. <i>Annotated Vascular Plant Database Grand Canyon Parashant National Monument, Phase 1 Report</i> . Kanab, UT.	2010
Historic American Landscape Survey Report for Tassi Ranch.	2010
Historic American Landscape Survey Report for Pine Ranch.	2011
Historic American Landscape Survey Report for Waring Ranch.	2011
Mojave Desert Network. <i>Mojave Desert Network: Climate Change Resource Brief</i> .	2012
Grand Canyon-Parashant National Monument Long-range Interpretive Plan.	2012
NPS Inventory and Monitoring Program. Soil Resource Inventory. National Park Service – SRI – Soil Survey Geographic (SSURGO) for National Park Service Units. Geospatial Dataset-2190427.	2013
Deur, D. PhD, R. Lahoff, and D. Confer. <i>North Rim Homelands: An Ethnographic Overview and Assessment Relating To Tribes Associated with Grand Canyon-Parashant National Monument</i> .	2014
Grand Canyon-Parashant National Monument Superintendent's Compendium of Designations, Closures, Permit Requirements and Other Restrictions Imposed Under Discretionary Authority.	2014
Pan, J. J., and N. Tallent. <i>Mojave Desert Network integrated upland monitoring: 2012 pilot study for Grand Canyon-Parashant National Monument</i> . Fort Collins, CO.	2014
Moret, G. J. M., C. C. Caudill, and M. L. Levandowski. <i>Mojave Desert Network selected large springs pilot study: Texas Spring springsnail and benthic macroinvertebrate data</i> . Fort Collins, CO.	2014
NPS. Kearsley, M.J. et al. <i>Grand Canyon National Park-Grand Canyon / Parashant National Monument vegetation classification and mapping project</i> . Natural Resource Report. NPS/GRCA/NRR-National Park Service. Fort Collins, CO. Published Report-2221240.	2015

Pacific West Region Foundation Document Recommendation Grand Canyon-Parashant National Monument

January 2016

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

RECOMMENDED

Rosie Pepito, Superintendent, Grand Canyon-Parashant National Monument

Date

RECOMMENDED

Mark Wimmer, Monument Manager, Grand Canyon-Parashant National Monument

Date

APPROVED

Martha J. Lee, Acting Regional Director, Pacific West 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.

PARA 666/130852
January 2016

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