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

Foundation Document

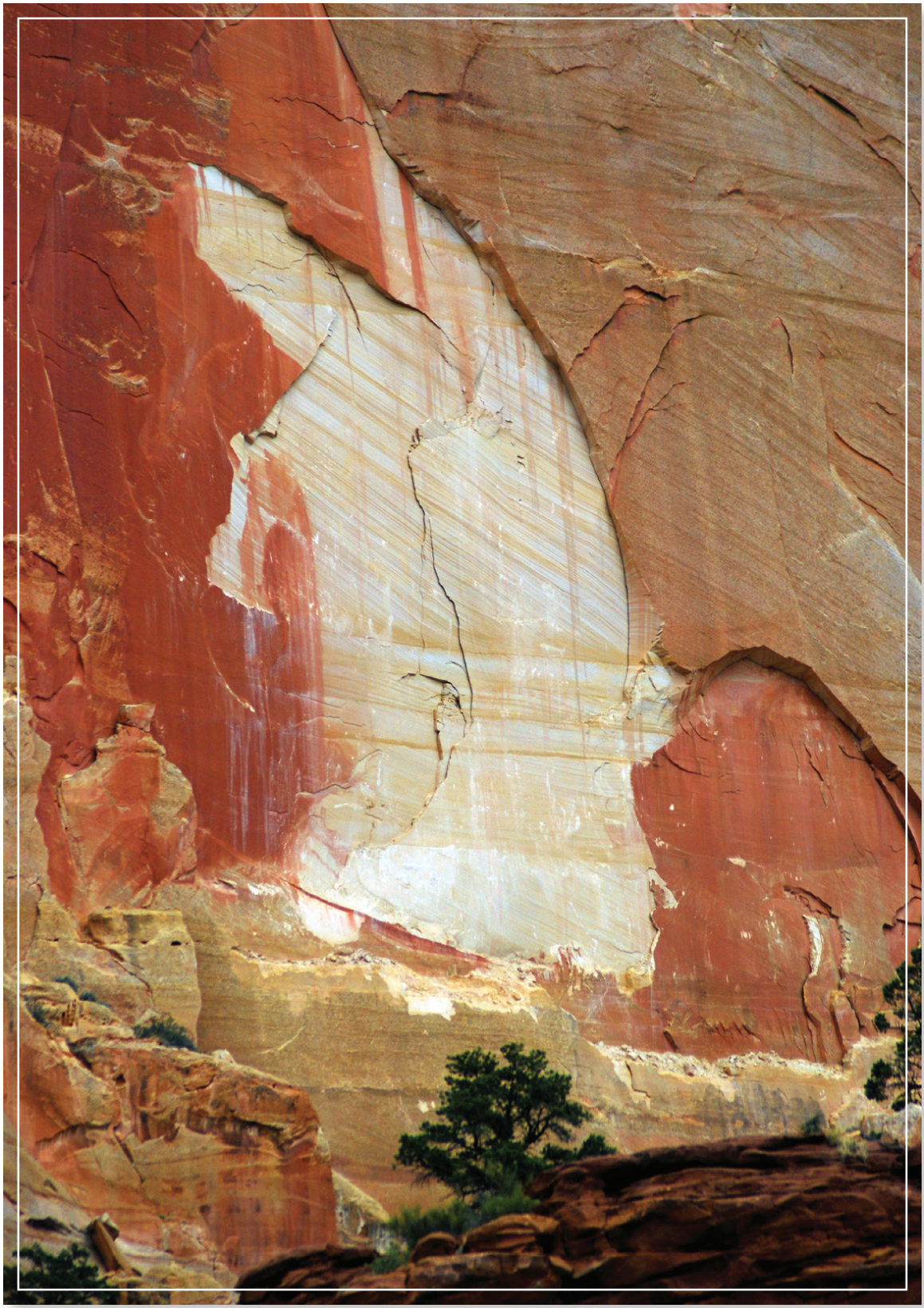
Capitol Reef National Park

Utah

January 2018

FISHLAKE NATIONAL FOREST
FISHLAKE NATIONAL FOREST
DIXIE NATIONAL FOREST
GRAND STAIRCASE-ESCALANTE NATIONAL MONUMENT
GLEN CANYON NATIONAL RECREATION AREA
BOULDER MOUNTAIN
MIDDLE DESERT
CATHEDRAL VALLEY
NORTH CAINEVILLE REEF
SOUTH DESERT
WATERPOCKET FOLD
STRIKE VALLEY
CIRCLE CLIFFS
Cathedral Valley
Upper Cathedral Valley Overlook
Cathedral Junction
Gypsum Sinkhole
Hartnet Junction
Upper South Desert Overlook
Temple of the Sun
Temple of the Moon
Lower South Desert Overlook
Oil Well Bench Road
Hartnet Road
Cathedral Valley Road
Road closed during winter
Twin Rocks
Orientation Pullout
Chimney Rock
Visitor Center
Panorama Point
Goosenecks Overlook
Sunset Point
Fruita
Gifford House
SEE DETAIL MAP ABOVE
Cassidy Arch
Grand Wash
Ferns Nipple
Scenic Drive
Capitol Gorge
Golden Throne
Orientation Pullout
Behunin Cabin
Notom
Notom-Bullfrog Road
Torrey
Teasdale
Grover
Bicknell
Caineville
Hanksville
Fremont River
Muddy Creek
Singletree
Larb Hollow Overlook
Pleasant Creek
Oak Creek
Lower Bowns Reservoir
Steep Creek Overlook
Homestead Overlook
Extremely rough unmaintained 4WD road
Sandy Creek Benches
Cedar Mesa
Bitter Creek Divide
Tarantula Mesa
Swap Mesa
Strike Valley Overlook
Burr Trail Road
Burr Trail Switchbacks
Surprise Canyon
Headquarters Canyon
Post Corral
Eggnog Junction
Halls Creek Overlook
Brimhall Bridge
Halls Creek Narrows
Clay Point
Ticaboo
Boulder
Anasazi State Park
Deer Creek
Calf Creek
Big Bown Bench
Starr Springs
To Henry Mountains Extremely rough 4WD roads
To Hite Crossing, Glen Canyon NRA, and Natural Bridges NM
To Goblin Valley SP and 70
To Escalante and Bryce Canyon NP
To Bullfrog Marina, Glen Canyon NRA
North
5 Kilometers
5 Miles
Unpaved road
Unpaved road (high clearance 4-wheel drive recommended)
Overlook
Distance indicator
Ranger station
Picnic area
Campground
Primitive campground (no water)
Star gazing

Contents



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 Virgin Islands. These units include, but are not limited to, national parks, monuments, battlefields, military parks, historical parks, historic sites, lakeshores, seashores, recreation areas, scenic rivers and trails, and the White House. The variety and diversity of park units throughout the nation require a strong commitment to resource stewardship and management to ensure both the protection and enjoyment of these resources for future generations.

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

Introduction

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

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

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

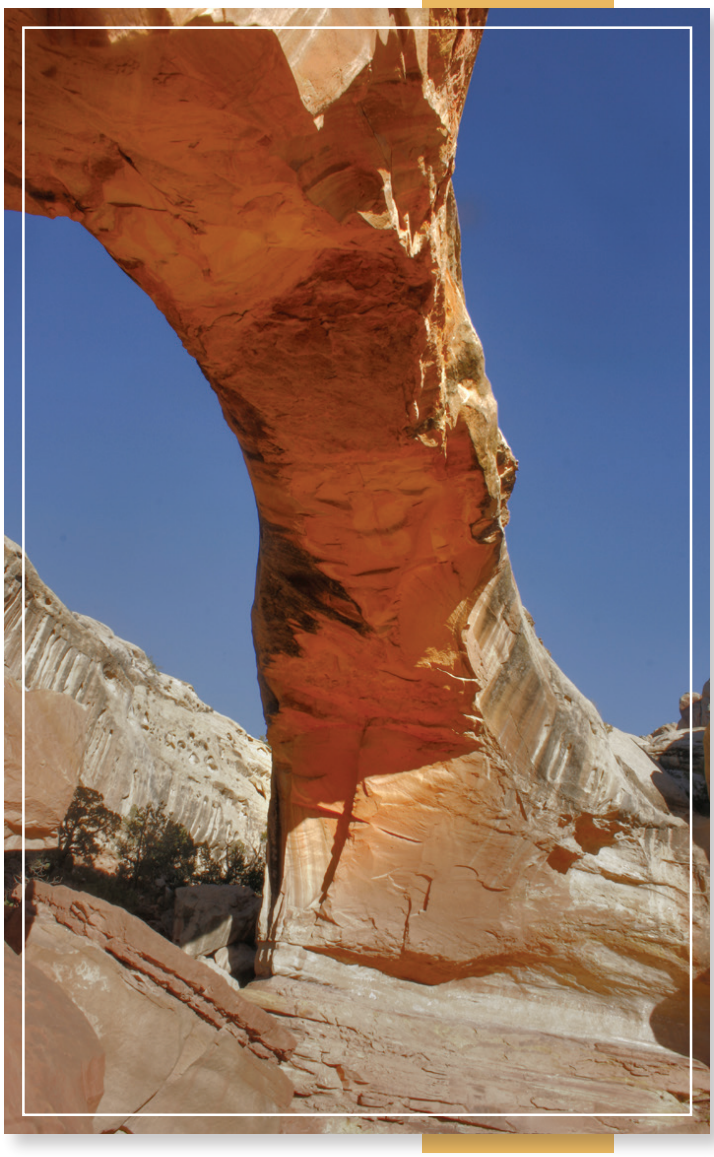
Part 1: Core Components

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

Brief Description of the Park

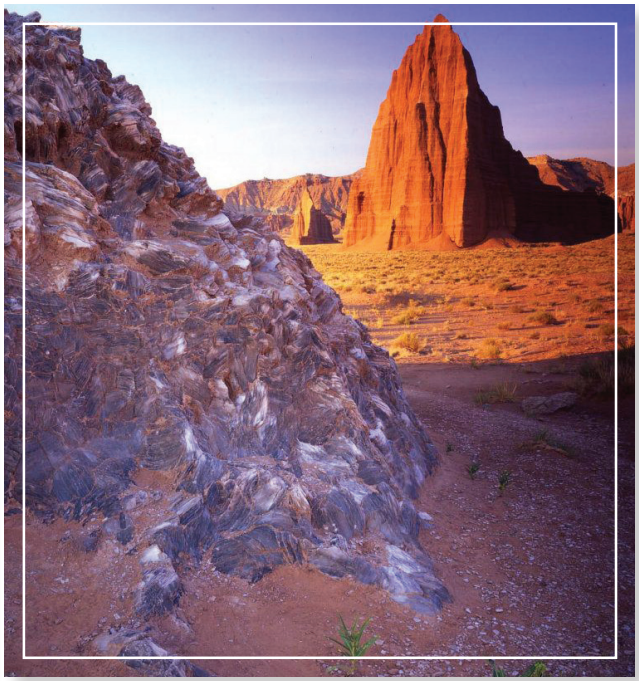
Capitol Reef National Park is located in south-central Utah within the Colorado Plateau. The spectacular geologic scenery and long cultural history of the area, along with ardent supporters, led President Franklin D. Roosevelt in 1937 to designate Capitol Reef National Monument. Congress established Capitol Reef National Park in December 1971. The park encompasses approximately 242,000 acres of rugged bedrock heights dissected by deep canyons, mesas, and buttes, and sparsely vegetated badlands. These striking features are unified by the nearly 100-mile-long monocline (wrinkle in the earth's crust) called the Waterpocket Fold. The park's varied landscape is the result of 270 million years of geologic history and an abundance of colorful Mesozoic Era strata. The exposed geologic strata reflect the stories of changing ancient oceans, swamplands, riverine environments, desert climates, and volcanism.

The Waterpocket Fold is the classic definition of a monocline, a geologic fold with steeply inclined layers that create a warp, or step, in otherwise relatively horizontal layers of rock strata. The exposed Waterpocket Fold in Capitol Reef National Park is the largest monocline in North America and results from movement along faults deep in the Earth's crust. Geologic layers on the west side of the fold were lifted more than 7,000 feet higher than the respective layers on the east. The fold formed between 70 and 35 million years ago as part of a major mountain-building event in North America known as the Laramide Orogeny. Within the last 20 to 5 million years, continued uplift of the Colorado Plateau, combined with erosion, exposed this fold to the surface. The Waterpocket Fold was named for the many water-holding basins created in the exposed bedrock of the fold. The high rugged cliffs of the Waterpocket Fold appeared to early explorers and pioneers as a difficult barrier to cross, likened to a reef at sea, and this reef-like barrier helped give the park its name.



The southern section of the park, known as the Waterpocket District, provides superb opportunities to view and explore the Waterpocket Fold. Traveling the Burr Trail and Notom-Bullfrog Roads, visitors pass mile after mile of spectacular cliff faces, amphitheaters, strike valleys, narrow canyons such as Upper and Lower Muley Twist, and other geologic wonders.

Visitors who venture to the remote northern sections of the park, called the Cathedral District, are rewarded with spectacular vistas, and views of massive solitary sandstone monoliths standing in stark contrast over the vast desert landscape. The Temple of the Sun and Temple of the Moon monoliths are emblematic of the park.



The most visited areas of the park and most easily accessed, the Fruita Rural Historic District and nearby areas, were occupied both prehistorically and historically. Prehistoric peoples of the Archaic and Formative periods traveled through and lived in Capitol Reef, including the Fremont River valley and nearby stream valleys. Modern archeologists call the American Indians of the Formative period the Fremont Culture, based on work conducted along the Fremont River. These relatives of Ancestral Puebloans migrated out of the area around AD 1300, leaving behind petroglyphs and pictographs on rocks and canyon walls to mark their passage. In the early 1600s to 1800s, Paiute Indians lived and thrived in the area. Early explorers, Mormon pioneers, and others came to the area in the late 1800s and named Chimney Rock, Hickman Bridge (a natural arch spanning 133 feet and 125 feet tall), Capitol Dome (a large sandstone feature that also contributed to the park's name), and other features throughout the park. The historic Mormon farming community of Fruita was occupied and actively farmed from the 1880s through the 1950s. Most private lands in Fruita were purchased in the 1960s, and by the time Capitol Reef was designated a national park in December 1971, little private land remained in Fruita. Substantial remnants of the extensive pioneer orchards are still managed by the park, and many of the historic buildings remain.

The gateway town of Torrey, 11 miles west of Capitol Reef National Park visitor center on Utah Highway 24, offers lodging, restaurants, and other services, and easy access to the scenic wonders inside the park. Other neighboring communities near the park, including Teasdale, Bicknell, Lyman, and Loa west of the park and Hanksville east of the park, make great staging areas for exploration of Capitol Reef National Park and the surrounding area.

Park Purpose

The purpose statement identifies the specific reason(s) for establishment of a particular park. The purpose statement for Capitol Reef National Park was drafted through a careful analysis of its enabling legislation and the legislative history that influenced its development. The park was first established as a national monument by presidential proclamation on August 2, 1937. It became a national park when the enabling legislation adopted by Congress was signed into law on December 18, 1971 (see appendix A for the presidential proclamation and legislative acts). The purpose statement lays the foundation for understanding what is most important about the park.

The purpose of Capitol Reef National Park is to preserve striking geologic landscapes within the Colorado Plateau, including the Waterpocket Fold, Cathedral Valley, and their associated ecosystems, as well as magnificent scenery, scientific value, wilderness character, and rich human history.

Park Significance

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

The following significance statements have been identified for Capitol Reef National Park. (Please note that the sequence of the statements does not reflect the level of significance.)

1. Capitol Reef National Park encompasses the Waterpocket Fold, the longest exposed monocline in North America, exhibiting a stunning array of geologic features resulting from the processes of deposition, uplift, deformation, and erosion.

2. Capitol Reef National Park protects one of the most complete, continuous, and exposed records of Colorado Plateau geology and paleontology from the Mesozoic Era.

3. The varied landscape created by the power of water and the environmental conditions of this high desert climate allow for a wide range of intact ecosystems and habitats supporting a diversity of plant and animal communities, including 27 locally endemic plant species and 8 federally threatened or endangered plants and animals.

4. Capitol Reef National Park features some of the most exceptional night skies in the world, as well as clean air, spectacular scenery and views, and opportunities to experience sounds of the natural world without interference from human sources.

5. The dramatic landscape and environment of Capitol Reef National Park have attracted humans for more than 10,000 years, including ancestors to several modern-day American Indian tribes. The historic district of Fruita preserves the rustic structures of early Mormon pioneers along with the largest ongoing cultivated orchard in the national park system.

6. Capitol Reef National Park preserves a rugged and remote undeveloped wilderness landscape where opportunities for solitude and wilderness recreation are abundant. Dramatic views of striking rock cathedrals, colorful geologic strata and high forested slopes provide visitors with a sense of scale and isolation, free from the encumbrances of modern society. Human use and manipulation of the wilderness landscape is minimal and natural processes unfurl unhindered by human action.

Fundamental Resources and Values

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

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

The following fundamental resources and values have been identified for Capitol Reef National Park:

- **Geological and Paleontological Resources.** The nearly 100-mile-long Waterpocket Fold defines much of the visible geologic features and topography of Capitol Reef National Park. The fold is an exposed monocline illustrating the earth processes of sediment deposition, regional uplift, deformation of rock layers, igneous activity, and erosion. The park exhibits 19 rock layers containing broad paleontological and related geological resources vital to unraveling the scientific history of the Colorado Plateau. Iconic features and landforms such as domes, slot canyons, monoliths, natural bridges, arches, fins, basalt boulders, dikes, fissures, sills, gypsum deposits, sinkholes, and faults can be seen in the park. In combination, these features tell the complex story of dynamic geologic processes and their effects on life forms over hundreds of millions of years. The Chinle and Cedar Mountain formations within the park hold some of the most important paleontological resources found anywhere in Utah and add significant knowledge of the late Triassic period.
- **Water Resources.** Water in Capitol Reef National Park is the most active agent of change on the landscape. It both creates and changes topography as the primary depositional and erosional driving force. The Fremont River, Pleasant Creek, Oak Creek, Sulphur Creek, and other stream courses have provided travel corridors for millennia for people and wildlife through the almost impenetrable cliffs of the Waterpocket Fold. Streams, water-pockets, springs, seeps, and their associated riparian zones also contain the most biologically diverse ecosystems in the park.

- **Assemblage of Ecosystems.** The park protects a diverse and interconnected assemblage of Colorado Plateau ecosystems that host numerous endemic and rare plant species. The Waterpocket Fold creates a transitional connection between ecosystems representative of arid deserts to pine-dominated forests. Ecosystem health is dependent on various features such as biological soil crust, vegetation diversity, species interdependence, properly functioning hydrologic systems, and robust ecological processes.

- **Cultural Resources.** The park's continuum of human use and cultural ties to the surrounding region is evidenced by extensive petroglyphs, pictographs, and rock structures from the "People of Long Ago," or *Hisatsinom* as modern-day pueblo groups refer to them. To the Paiute Tribe, they are known as the Nengwoots—the People Who Lived the Old Ways. Archeologists named them the Fremont Culture for the Fremont River where they were first studied. Human use continued to be revealed through successive American Indian tribes migrating into and settling in the area. Tribes were followed by Mormon pioneers as evidenced by extensive orchards, kilns, and other structures. Among a number of National Register of Historic Places listed properties within the park, the Fruita Rural Historic District encompasses the site of the historic Mormon settlement of Fruita at the confluence of the Fremont River and Sulphur Creek. The historic district covers approximately 200 acres within the Fremont River District of the park and includes the Fruita schoolhouse, blacksmith shop, the Gifford House (now used as a store and museum), and other buildings and features. In addition, 40 acres of historic fruit orchards lie within the Fruita Rural Historic District. The orchards, which contain heirloom fruit trees, were planted by early Mormon pioneers in the late 1800s and their successors continued to plant and care for the orchards through the 1950s. There are approximately 2,800 fruit trees consisting of 12 species and 65 varieties, 48 of which are heirloom varieties. Visitors are able to pick and eat fruit while visiting the park, and harvest fruit for a nominal fee.

- **Air Quality, Night Skies, and Scenery.** Capitol Reef National Park is a designated Class I Air Park as defined by the Clean Air Act and a gold-certified International Dark Sky Park. Multiple factors contribute to these designations, including remoteness, high elevation, and clean, dry air. Clean air contributes to the health of the park's water, vegetation, wildlife, and soil. The crisp clean air allows for spectacular visual scenery, with expansive views of distant landscapes extending to the horizon. The scenery provides myriad visual and sensory experiences ranging from idyllic and pastoral orchards and pastures to a maze of towering cliffs and terraces, red and white domes, and deep, narrow canyons carved through colorful rock layers glowing with bright colors.

Other Important Resources and Values

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

The following other important resources and values have been identified for Capitol Reef National Park:

- **Wilderness.** Deep in the heart of the Southern Utah high desert, Capitol Reef National Park offers a remote wilderness expanse free from modern human manipulation and development. Composed of rugged slickrock domes, labyrinthine canyons, and sprawling desert vistas, this unique wilderness environment provides outstanding opportunities for solitude and reflection, as well as primitive and unconfined wilderness recreation. The natural acoustical environment, dark night skies, and wholly undeveloped nature of Capitol Reef National Park's wilderness lands are unique resources that contribute to the area's outstanding wilderness character.

Interpretive Themes

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

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

The following interpretive themes have been identified for Capitol Reef National Park:

- The magnitude and variety of geologic features at Capitol Reef National Park reveal a long and perpetual story of dynamic geologic processes, which provide outstanding opportunities for research and education and provoke reactions of awe and wonder, and powerfully illustrate the inspirational qualities of “landscape.”
- The rich cultural legacy found in Capitol Reef National Park portrays a continuum of human activity spanning thousands of years and stimulates contemplation of the past and ongoing relationships between people and places.
- With its wide range of microhabitats, the Waterpocket Fold supports a high desert ecosystem with an extraordinarily diverse combination of plant and animal life, including a large assemblage of rare and endemic plant species, which fosters opportunities for education, scientific research, and a deeper connection to the natural world.

Part 2: Dynamic Components

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

Special Mandates and Administrative Commitments

Many management decisions for a park unit are directed or influenced by special mandates and administrative commitments with other federal agencies, state and local governments, utility companies, partnering organizations, and other entities. Special mandates are requirements specific to a park that must be fulfilled. Mandates can be expressed in enabling legislation, in separate legislation following the establishment of the park, or through a judicial process. They may expand on park purpose or introduce elements unrelated to the purpose of the park. Administrative commitments are, in general, agreements that have been reached through formal, documented processes, often through 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 park and facilitate working relationships with other organizations. They are an essential component of managing and planning for Capitol Reef National Park.

Special Mandates

- The August 2, 1937, presidential proclamation that created Capitol Reef National Monument stated that "nothing herein shall prevent the movement of livestock across the lands included in this monument under such regulations as may be prescribed by the Secretary of the Interior and upon driveways to be specially designated by said Secretary."

  On December 18, 1971, Capitol Reef National Monument became a national park and it was reiterated, "where any Federal lands included within the park are legally occupied or utilized on the date of approval of this Act for grazing purposes pursuant to a lease, permit, or license for a fixed term of years issued or authorized by any department, establishment, or agency of the United States, the Secretary of the Interior shall permit the persons holding such grazing privileges or their heirs to continue in the exercise thereof during the term of the lease, permit, or license, and one period of renewal thereafter." It further stated that, "Nothing in the Act shall be construed as affecting in any way rights of owners and operators of cattle and sheep herds, existing on the date immediately prior to the enactment of the Act, to trail their herds on traditional courses used by them prior to such date of enactment, and to water their stock, notwithstanding the fact that the lands involving such trails and watering are situated within the park: Provided, that the Secretary may promulgate reasonable regulations providing for the use of such driveways."

  Capitol Reef currently operates under Public Law 100-446, passed in September 1988, which extended grazing privileges for the lifetime of the 1971 permit holders and their children born on or before December 18, 1971. Grazing will phase out after the current generation of permit holders ceases operations in Capitol Reef National Park.

- Capitol Reef's enabling legislation grants easements and rights-of-way on a nondiscriminatory basis upon, over, under, across, or along defined routes in the park where the route of such easements and right-of-way would have significant adverse effects on the administration of the park.
- A cooperative agreement between the National Park Service and the State of Utah on May 16, 1961, mandates no fees to be charged on Utah State Route 24 through the monument. Fees, however, can be charged at the entrance to park facilities on the south side of the highway.
- There are a few parcels of state lands, and a parcel owned by Garfield County, in key locations within the boundaries of Capitol Reef National Park that require the park to work closely with state and county officials on projects in those areas.
- The Clean Air Act, as amended, requires all park units to meet federal, state, and local pollution standards. Additionally, Capitol Reef National Park is a mandatory Class I area under the prevention of significant deterioration provisions of the act. This gives the National Park Service an "affirmative responsibility" to protect the air quality and air quality-related values in the park from the adverse effects of air pollution. Air quality-related values are resources that are sensitive to air pollution, such as visibility, plants, animals, soils, water, and certain cultural resources. State and federal permitting authorities must consult with the National Park Service regarding new sources of air pollution. Impacts on park air quality-related values must be considered in the permitting process. Further, the act requires NPS involvement in national regulatory efforts aimed at eliminating human-caused visibility impairment in all Class I areas.
- The 1964 Wilderness Act mandated evaluation of federal lands for potential wilderness designation. Pursuant to the directive in the 1964 Wilderness Act, a wilderness suitability study was conducted for lands within Capitol Reef National Park in 1974. This study resulted in 179,815 acres in the park being recommended for wilderness designation along with 4,050 acres that showed wilderness potential. This official recommendation was submitted to Congress on May 23, 1977, by President Carter. Although this wilderness recommendation still awaits Congressional action, Director's Order 41: *Wilderness Stewardship* mandates that recommended wilderness lands be managed in the same manner as designated wilderness. In total, almost 75% of Capitol Reef National Park is recommended wilderness and is managed to preserve wilderness character. In these areas, the preservation of wilderness character must be considered in management decisions, including the integration of the "minimum requirements analysis" process.

Administrative Commitments

- Capitol Reef Natural History Association operates sales outlets under a cooperating association agreement. Proceeds from sales help support park interpretation, science, and education programs.
- Utah Valley University manages and operates the Capitol Reef Field Station under a five-year memorandum of agreement, which was updated in May 2014. The Capitol Reef Field Station supports and promotes engaged learning, research, and environmental ethics in the context of the Colorado Plateau.
- Rights-of-way corridors exist for water, electricity, communications, and other infrastructure.
- Capitol Reef National Park has a Service First interagency agreement with the U.S. Forest Service for refuse pickup at some remote sites.

Assessment of Planning and Data Needs

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

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

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

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

Analysis of Fundamental Resources and Values

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

Fundamental Resource or Value	Geological and Paleontological Resources
Related Significance Statements	Significance statements 1 and 2.
Current Conditions and Trends	**Conditions** • Geologic conditions and features are subject to the natural process of erosion common in high deserts. • Recent research on paleontological resources focuses on the Moenkopi Formation (Triassic) and suggests that the Chinle (Triassic) and Cedar Mountain (Cretaceous) formations in Capitol Reef have paleontological resources that are among the most important sites anywhere in Utah, which help tremendously to provide knowledge of the Mesozoic Era. **Trends** • Geological and paleontological resources remain stable; however, climate change may alter erosional rates and accelerate natural Earth processes.
Threats and Opportunities	**Threats** • Visitor impacts, such as graffiti, driving over sensitive areas, off-trail backcountry hiking, illegal collection of rocks or fossils, or toppling geological features, have the potential to damage irreplaceable resources, alter erosional paths, as well as alter scenic values. • Potential for natural processes such as landslides, erosional spalling, and rock falls may threaten visitor safety and property, damage park roads and trails, buildings, or related park infrastructure. • Climate change and the associated impacts such as increased or prolonged heavy rain events or related significant weather changes could cause prolonged and extensive flooding, thereby increasing erosion of natural features. In addition, less water availability in the form of drought will cause soil to dry out and become more susceptible to erosion. • Lack of active monitoring and surveying for paleontological resources allows recently exposed resources to go undocumented. This has the potential for scientific loss through natural erosion, theft, or vandalism of resources. • Increased visitor use in the backcountry and activities such as climbing and canyoneering could detrimentally alter geologic features by discoloration of surrounding rock around bolts, cracking, or spalling. • Lands in an arid region such as Capitol Reef are more susceptible to erosion, gullying, and denuding bedrock of overlying soil, thereby increasing physical and chemical weathering of bedrock. • Visitors entering and exploring abandoned mining claims and sites could be in danger from potential collapse of tunnels or excavations, remote backcountry injuries, and negative encounters with wildlife. **Opportunities** • Continue participation of the NPS Geologic Resources Division internship program "Geoscientists-in-the-Parks," administered in partnership with Environmental Stewards and the Geographical Society of America. • Provide opportunities for university, state (e.g., Utah Geological Survey), and federal (e.g., U.S. Geological Survey) researchers to conduct advanced research and monitoring of geologic features, processes, and conditions. • Expand public education on park geology and paleontology through an active web presence and incorporate paleontological resources into the park's Junior Ranger Program. • Expand educational efforts to educate visitors of specific dangers relating to abandoned mines. • Expand the scope of university partnership (20 universities come every year—most are here to study geology) to focus on the park's paleontological resources.

Fundamental Resource or Value	Geological and Paleontological Resources
Threats and Opportunities	**Opportunities (continued)** • Expand partnership with the National Oceanic and Atmospheric Administration and other entities with expertise in weather and climate to correlate erosion data with weather data; this would help to explain the impact of climate change historically and project future scenarios. • Partner with a resource specialist within the Bureau of Land Management along with other NPS paleontological parks to share information and train interpreters to provide and impart effective stewardship and visitor education on the park's fossil resources. • Partner with the State of Utah, Geology Division, to perform a comprehensive geo-hazard analysis of abandoned mineral land sites.
Data and/or GIS Needs	• Climate change vulnerability assessment. • Groundwater resources survey. • Paleontological inventories. • Geologic mapping and evaluation of historic landscape. • Assess geologic hazards. • Geomorphologic studies of river corridor. • GPS fossil sites for baseline data.
Planning Needs	• Paleontological protection plan. • Backcountry management plan. • Climate change scenario planning.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Paleontological Resources Preservation Act of 2009 • Wild and Scenic Rivers Act of 1968 • Clean Water Act • Federal Cave Resources Protection Act of 1988 • Wilderness Act of 1964 • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS *Management Policies 2006* (§4.6.1) "Protection of Surface Waters and Groundwaters" • NPS *Management Policies 2006* (§4.6.2) "Water Rights" • NPS *Management Policies 2006* (§4.6.4) "Floodplains" • NPS *Management Policies 2006* (§4.7.2) "Weather and Climate" • NPS *Management Policies 2006* (§4.8) "Geologic Resource Management" • NPS *Natural Resource Management Reference Manual 77*

Fundamental Resource or Value	Water Resources
Related Significance Statements	Significance statements 1, 2, 3, 5, and 6.
Current Conditions and Trends	**Conditions** • Ecosystems in the Fremont River (the major riparian corridor through the park) are influenced by upstream agricultural use and the presence of invasive plant species, warm water temperature, low oxygen levels, and high turbidity. • High levels of nitrogen and E. coli bacteria due to local agricultural use impacts water quality as does the local geology; for example, the presence of natural salts and sediments. • Conditions of the riparian zones, water-pockets, and springs in the park vary. Those used by livestock are more heavily impacted than others. • Much is unknown about current conditions of water resources in the park; for example, waterborne bacteria and viruses and the taxonomy of aquatic organisms. • Flash flooding has occurred in the park during high rain events causing extreme erosion and soil displacement along stream banks and occasionally impacting the park infrastructure. **Trends** • More information and data are needed to establish trends with a high degree of confidence.
Threats and Opportunities	**Threats** • Inadvertent upstream pollution of the Fremont River by nonpoint-source runoff from animal husbandry, agricultural lands, and human effluent waste. Deposition of excess nitrogen air pollutants may also be contributing. Together this could impact wildlife, river ecology, and public health. • Levels of methylmercury in some park surface waters are very high and high levels of mercury have been detected in speckled dace in the Fremont River. Airborne toxics including mercury can deposit with rain or snow. This can accumulate in park wildlife, resulting in reduced foraging efficiency, survival, and reproductive success. • Climate change and its associated impacts. Potential impacts may change weather patterns that could create prolonged flooding events or extended periods of extreme drought. This would lead to decreased availability of both surface and groundwater in the system as a whole (e.g., reduction in snow pack, stream flow, etc.). • Key threats to the park's natural water resources are agricultural pollution in the form of pesticides, nitrogen runoff, and fertilizers. Livestock grazing and trailing in the park bring seeds of invasive plant species as well as animal waste. • Nonnative species along riparian corridors, primarily tamarisk and Russian olive, are outcompeting and replacing native species and disrupting habitats. • The National Park Service maintains state appropriative water rights and federal reserved water rights in Capitol Reef National Park. State appropriative rights are a fixed allocation and must be used or the park risks potential loss of these rights. Federal reserved rights have not been quantified for the park. Maintaining state appropriative rights is a critical issue for Capitol Reef, giving the park the ability to manage water resources consistently for domestic, irrigation, and ecosystem consumption. • Visitor use through activities such as canyoneering and backpacking impacts natural springs and the microenvironments of water-pockets.

Fundamental Resource or Value	Water Resources
Threats and Opportunities	**Opportunities** • Expand efforts with the NPS Washington office (WASO) Water Resources Division for management assistance and continued research. • Partner with the Wayne County Soil & Water Conservation District Board to resolve issues and concerns to both the county and the park. • Continue to work with Utah Division of Water Resources on water rights issues and uses and concerns outside park boundaries. • Initiate public education efforts for visitors, park staff, local residents, and stakeholders about how to preserve water resources. • Continue to work with Utah Division of Water Quality on E. coli monitoring and implementing adaptive management if critical levels are reached. • Engage volunteers to join in citizen science by monitoring water quality and identifying potential threats to human health or environmental concerns.
Data and/or GIS Needs	• Groundwater resources survey. • Climate change vulnerability assessment. • Water quality and quantity data. • Aquatic biota composition, health, and demographics survey.
Planning Needs	• Water rights settlement plan. • Wastewater management plan. • Climate change scenario planning.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Clean Water Act of 1972 • Water rights adjudication and law • Executive Order 11514, "Protection and Enhancement of Environmental Quality" • Executive Order 11988, "Floodplain Management" • Executive Order 12088, "Federal Compliance with Pollution Control Standards" • Executive Order 13007, "Indian Sacred Sites" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS *Management Policies 2006* (§4.6.1) "Protection of Surface Waters and • Groundwater" • NPS *Management Policies 2006* (§4.6.2) "Water Rights" • NPS *Management Policies 2006* (§4.6.4) "Floodplains" • NPS *Management Policies 2006* (§4.7.2) "Weather and Climate" • Director's Order 77-2: *Floodplain Management*

Fundamental Resource or Value	Assemblage of Ecosystems
Related Significance Statements	Significance statements 3, 4, and 6.
Current Conditions and Trends	**Conditions** • Impacts on endemic and rare plant species result from visitor recreational use, livestock grazing and trailing, expansion of native ungulates, reduction of native predators, and increase of invasive plants. Impacts vary by location within the park. • A total of 909 plant species have been documented in the park, many of which have very restricted distributions, occurring on specific geologic formations, soils, slopes, aspects, elevations, or precipitation ranges. Of the 909 plant species in Capitol Reef National Park, 13% are nonnative. • Vegetation associations, which describe repeatable vegetation assemblages in terms of physiognomy, distribution, and other environmental factors, were mapped throughout the park. There are 175 vegetation associations in the park. • The interconnected ecosystems throughout the park demonstrate a high degree of biodiversity and functioning natural systems due to geology and soil types, management actions, the remoteness of the area, and environmental stability. Areas within the park's grazing allotments have been heavily impacted. • More information is required to fully evaluate current conditions for all species and habitats. **Trends** • Wright fishhook cactus (*Sclerocactus wrightiae*), Winkler cactus (*Pediocactus winkleri*), and Last Chance Townsendia (*Townsendia aprica*), all federally listed plants, are declining. While the combination of causes is not fully known, much of the stress comes from drought, livestock grazing and trailing, native ungulates, native insect and rodent predators, poachers, invasive plant species, and increased recreational use of sensitive areas. • While overall conditions for ecosystems remain stable, there is insufficient data to fully establish trends.

Fundamental Resource or Value	Assemblage of Ecosystems
Threats and Opportunities	**Threats** • Trampling, uprooting plants, and damage to sensitive ecosystems by livestock grazing and trailing and native ungulates threaten the stability of the ecosystem. Management practices outside the park can create an imbalance of native predators. • Illegal collection of listed cacti species in the park is reducing a viable native population. This has subsequent impacts on plant reproduction and dispersal. • Increasing recreational hiking and off-trail exploring creates social trails and results in disturbance of sensitive biological soil crusts and their ecosystems through soil compaction, increased erosion and gullies, and a degradation of habitats. • Climate change and associated influences on the ecosystems. Changes in precipitation and temperature regimes are expected to have detrimental impacts to the assemblage of ecosystems throughout the park. This includes the direct effects of erosion, loss of water, and increased aridity. Specifically, studies show that increasing temperatures and decreasing precipitation will have detrimental impacts on federally listed plant species that are found in the park. In addition, extended drought could impact higher forested land, leading to disease and wildfire. • Natural communities are at risk from air pollution due to potential impacts on ozone-sensitive plants, mercury contamination, and nutrient enrichment from excess deposition of nitrogen. Sources of air pollution include coal-fired power plants, vehicle exhaust, oil and gas production, dust, fires, urban development, and agriculture. • Nonnative (invasive) species are displacing native plants and animals. • Arid and semiarid ecosystems and grasslands are sensitive to nutrient enrichment effects of excess nitrogen deposition and runoff, which can help invasive plant species, including cheat grass and Russian thistle, grow faster and out-compete native vegetation. • Nitrogen deposition levels are above critical loads for some lichen and herbaceous vegetation and may affect biological soil crusts' role in soil fertility. • Lack of data and applied research impacts the park's ability to effectively manage the ecosystems in the park. • Conflicting management objectives regarding wildlife with extensive home ranges creates challenges for wildlife survival across jurisdictional boundaries. • Increased visitation puts more stressors on habitats and sensitive areas, road kills, more negative impacts and interaction with wildlife, displacing species, habitat fragmentation, and illegal poaching. **Opportunities** • Continue to provide and expand interpretive programing and media to the public and school groups regarding how to explore and minimally impact the park's natural areas. • Fully engage with neighbors and other federal or state agencies in developing a comprehensive regional approach to wildlife species and habitat management. • Apply for more grants to assist funding of data collection and long-term monitoring. • Continue to work with universities to proactively encourage and expand research. • Involve all staff in process of species data collection to help develop a stronger stewardship ethic.
Data and/or GIS Needs	• Species pollinators range and scope study. • Climate change vulnerability assessment. • Rangeland condition, forage, and related data. • Threatened and endangered species inventories, monitoring, and assessments. • Additional studies to examine air pollution dose-response relationships in sensitive park ecosystems. • International visitor use information.

Fundamental Resource or Value	Assemblage of Ecosystems
Planning Needs	• Inventorying and monitoring plan. • Resource stewardship strategy. • Climate change scenario planning.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Wilderness Act of 1964 • Wild and Scenic Rivers Act of 1968 • 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 of 1972 • Clean Air Act of 1977 • Executive Order 13112, "Invasive Species" • Executive Order 13175, "Gathering of Sacred Plants" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS *Management Policies 2006* (§4.1) "General Management Concepts" • NPS *Management Policies 2006* (§4.1.4) "Partnerships" • NPS *Management Policies 2006* (§4.4.1) "General Principles for Managing Biological Resources" • NPS *Management Policies 2006* (§4.7) "Air Resource Management" • NPS *Management Policies 2006* (§4.7.2) "Weather and Climate" • NPS *Natural Resource Management Reference Manual 77*

Fundamental Resource or Value	Cultural Resources
Related Significance Statements	Significance statement 5.
Current Conditions and Trends	**Conditions** • Facilities and structures in the Fruita Rural Historic District are well maintained and include the Fruita Schoolhouse, Gifford House, Gifford Barn, and Merin Smith's shed. Historic orchards are aging and showing signs of declining health. • The Fruita Rural Historic District encompasses roughly 200 acres in the canyon bottom at the confluence of Sulphur Creek and the Fremont River. Within this land, approximately 40 acres are planted in historic fruit orchards and 25 acres are planted in pasture land. The historic district embodies the early Mormon pioneer history exclusive to the Fruita valley. • The orchards are a significant interpretive opportunity and enhance visitor enjoyment by providing an engaging park resource that demonstrates the unique cultural history of Fruita. • Almost 900 individual archeological sites have been formally recorded throughout the park. **Trends** • Because of management actions within the historic district some specific features are improving; for example, the Sulphur Creek lime-kiln was carefully reconstructed after being severely damaged by a flood. • The Gifford House was altered from its original purpose as a homestead to a small cooperative association outlet; however, both the exterior and much of the interior remain intact. • Historic park orchards will continue to improve with active management (replacing trees) and using effective agricultural science. • The cultural landscape has varied trends. The orchard areas are declining because of the age of the trees, yet other features (e.g., the Fruita Schoolhouse and similar structures) are improving due to active management actions.

Fundamental Resource or Value	Cultural Resources
Threats and Opportunities	**Threats** • Steadily increasing visitation threatens the integrity of the cultural landscape as visitor patterns change and traditional uses adapt to accommodate recreational opportunities. For example, the use of larger recreational vehicles and vehicles exceeding the number of available parking spaces. This has led to parking along park road shoulders causing visitor safety issues, resource damage, and acceleration of road undercutting and erosion. Traditional uses such as orchard harvests have increased in popularity and have overwhelmed facilities. In addition, declining tree health will contribute to concerns for the overall condition of the cultural landscape. • Lack of available resources to monitor and perform preventive maintenance on historic structures and landscapes hinder proper management to both research and protect these important resources, leaving them vulnerable to vandalism, graffiti, and theft. • The park lacks a full-time cultural resource management position. This has hindered protection and study of the parks cultural resources, and coordination with the parks traditionally associated tribes. • Climate change and its associated impacts (e.g., more hail, rain, or ultraviolet exposure) could threaten structures and cultural landscapes. Petroglyph panels and archeological sites along waterways could be inundated during periodic flood events. • Currently only 5% to 10% of the park has been surveyed for archeological resources. Newly discovered archeological sites should be entered, maintained, and updated within the Archeological Site Management Information System database. • There is a lack of information and comprehensive assessments of the park's extensive archeological sites. Depending on the location and ease of access, a number of sites with pictographs, petroglyphs, and rock structures are being vandalized, either through shooting, graffiti, or theft. • The potential for increased theft and vandalism of the park's historic and archeological resources threatens the integrity of these resources. **Opportunities** • Explore options for moving a portion of visitor and/or business functions out of the Fruita Rural Historic District to maintain the district's historic character. • Partner with Daughters of Utah Pioneers as both an informational resource and to foster volunteerism. This could increase the level of interpretation of the historic district and structures. • Expand the quantity and approach to educational programming conducted for fourth graders (Utah State core standards for history) in the park's historic district. This would generate new interest in the area's history and augment the park's efforts to remain relevant to future generations. • Work effectively with the state historic preservation office to address cultural resource protection needs and compliance. • Continue to expand interpretation of pictographs, petroglyphs, rock structures, and prehistoric history within the park.
Data and/or GIS Needs	• Condition assessments of archeological sites and historic structures. • Archeological surveys. • Baseline documentation for park cultural landscapes. • Historical/oral history information. • International visitor use information.

Fundamental Resource or Value	Cultural Resources
Planning Needs	• Development concept plan for the Fruita Rural Historic District. • Orchard management plan. • Museum management plan. • Accessibility self-assessment and transition plan. • Climate change scenario planning.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Antiquities Act of 1906 • Historic Sites Act of 1935 • National Historic Preservation Act of 1966, as amended • 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 Properties Management Act of 1955, as amended • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • Executive Order 13007, "Indian Sacred Sites" • "Curation of Federally-Owned and Administered Archaeological Collections" (36 CFR 79) • "Protection of Historic Properties" (36 CFR 800) • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (§4.7.2) "Weather and Climate" • NPS *Management Policies 2006* (chapter 5) "Cultural Resource Management" • NPS *Management Policies 2006* (§8.10) "Natural and Cultural Studies, Research, and Collection Activities" • Director's Order 24: *NPS Museum Collections Management* • Director's Order 28: *Cultural Resource Management* • Director's Order 28A: *Archeology* • NPS *Museum Handbook*, parts I, II, and III • *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation*

Fundamental Resource or Value	Air Quality, Night Skies, and Scenery
Related Significance Statements	Significance statements 1, 2, 4, and 6.
Current Conditions and Trends	**Conditions** • Overall air quality warrants significant concern based on air quality indicator data and NPS Air Resources Division benchmarks. This is determined by averaging conditions of six air quality indicators. • Visibility is improving but warrants moderate concern based on NPS Air Resources Division benchmarks, and views are sometimes obscured by pollution-caused haze. Average natural visual range is reduced from about 180 miles (without the effects of pollution) to about 135 miles because of pollution at the park. The visual range is reduced to below 100 miles on high pollution days. • Deposition of nitrogen and mercury are significant concerns based on NPS Air Resources Division benchmarks. Nitrogen deposition levels are above critical loads for some lichen and herbaceous vegetation, and may affect biological soil crusts' role in soil fertility. Predicted levels of methylmercury in some park surface waters are very high, and high levels of mercury have been detected in speckled dace in the Fremont River within the park. • Ozone—vegetation health is poor based on a seasonal W126 index of 14.1, which is the impact of ozone exposure on trees, plants, and ecosystems that reflect the cumulative exposures that can damage plants and trees during the consecutive three months of the growing season when daytime ozone concentrations are the highest and plant growth is most likely to be affected. • Valuable visitor experiences are enhanced by spectacular views and expansive vistas of dramatic geologic formations visible through clear, clean viewsheds. • The park has a remarkable number of specific scenic features including large free-standing geologic formations (Cathedral Valley), domes, slot canyons, the Waterpocket Fold, and much more. • Visitors can also experience scenic historic pastoral farm land and historic communities. • The park is a certified International Dark Sky Park, with some of the clearest night skies in the country. • Much of the scenery in the park is unimpaired by human constructs. **Trends** • From 2005 to 2014, visibility remained relatively unchanged on the 20% clearest days and improved on the 20% haziest days, resulting in an overall improving visibility trend. With the addition of 2014 data, now available, the visibility trend went from stable to improving. • The dark night sky condition is stable to improving because of continuing education on the value of a dark night sky and work with external partners. • Nearby or in-park data are needed to establish trends for ozone and pollutant deposition over time. • Currently there is no new in-park development and little exterior development planned along the park's borders that would impact the viewshed. • The remote nature and unchanging visibility of the park is stable. The scale of the scenery (big) is not necessarily impacted by increased visitation. • Night sky viewing is enhanced as the park improves dark sky practices and behaviors. • Air quality is improving; however, more data are needed to establish an overall trend.

Fundamental Resource or Value	Air Quality, Night Skies, and Scenery
Threats and Opportunities	**Threats** • Air pollution impacts the environment from natural and human made sources including coal-fired power plant operations in Utah and the Colorado Plateau generally; visitor and staff vehicle use; wildland fire, smoke, and ash; regional oil and gas development; expanding urban development; and agricultural activities. • Overall air quality warrants significant concern based on air quality indicator data and NPS Air Resources Division benchmarks. This is determined by averaging conditions of six air quality indicators. • Light pollution from park sources and local communities and external commercial uses impacts dark night skies. Global air circulation patterns result in global exposure to airborne particulates and contaminants that become entrained in these winds. • External threats such as visible haze or oil and gas development and coal-fired power plants along park boundaries sending particulates into the air. • Wildfires, smoke, dust from off-highway vehicle use, overhead powerlines, livestock, and increasing private, military, and commercial air traffic impedes visual clarity that can obstruct or interfere with the quality of scenic views. • Visual and noise distractions from recreational vehicles, overflow parking lots, and full campgrounds due to an ever-increasing rise in visitation. **Opportunities** • Pursue Climate Friendly Park certification with an action plan that includes an environmental management system. • Engage in public education and policy that focuses on minimizing vehicle idling, reducing or eliminating emissions, and fuel waste. • Establish or continue fleet management practices that purchase more green vehicles; encourage/require use of alternative transportation. • Expand public education/outreach on the connections between climate change, air quality, sensitive park resources, wilderness character, night sky, scenery, recreation, human health, and other associated resources. • Coordination with colleges and universities on more data collection and research. • Coordinate the park's own data with regional data for trends. • Partnerships with Entrada Institute (local nonprofit coordinator) and communities for light pollution management. Expand citizen science to minimize light pollution. • Explore ongoing opportunities through federal air quality programs (e.g., regional haze and ozone programs) to work cooperatively with other federal, state, tribal, and local agencies and stakeholders to reduce air quality impacts in the park. Potential groups include Envision Utah, Breathe Utah, Utah Clean Air Alliance, and Western Regional Air Partnership. • Increasing accessibility to park overlooks, along with programmatic accessibility, would increase visitor opportunity to experience and appreciate the diversity of park scenery. • Partner with local communities and environmental groups to monitor development plans, provide education, and advocate for the protection of scenery. • Conduct regional haze talks with neighbors, city government, state government, and other federal land management agencies. • Partner with Central Utah fire management and smoke management assistance to aid in reducing pollutants and particulate density during high visitation seasons. This would aid in visibility of park features. • Develop programs to help local citizens and visitors monitor viewsheds by day and night. • Promote education efforts to teach about the health values of beauty and scenery. • Continue to support an artist-in-residence program to continue sharing the beauty, diversity, and value of Capitol Reef National Park's scenic wonders. • Partner with higher education institutions for data collection, photography documentation, and research.

Fundamental Resource or Value	Air Quality, Night Skies, and Scenery
Data and/or GIS Needs	• Ongoing in-park and regional air quality monitoring. • Continue and expand night sky monitoring. • Assessment of photovoltaic use in the park to replace some portions of conventional power use. • Climate change vulnerability assessment. • Visual resource inventory.
Planning Needs	• Fleet management plan. • Air resources strategy. • Fire management plan. • Climate change scenario planning. • Environmental management system plan. • Visual resource management plan.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Clean Air Act of 1977 • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (§1.4) "Park Management" • NPS *Management Policies 2006* (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS *Management Policies 2006* (§3.1) "General" • NPS *Management Policies 2006* (§4.7) "Air Resource Management" • NPS *Management Policies 2006* (§4.7.2) "Weather and Climate" • NPS *Management Policies 2006* (§4.10) "Lightscape Management" • NPS *Natural Resource Management Reference Manual 77* • Director's Order 13A: *Environmental Management Systems*



Analysis of Other Important Resources and Values

Other Important Resource or Value	Wilderness
Current Conditions and Trends	**Conditions** • The undeveloped and remote nature of the park's recommended wilderness offers visitors outstanding opportunities for solitude and reflection, free from the encumbrances of modern society. Much of the recommended wilderness area is extremely remote. Significant effort is required to access most backcountry areas and visitation in these areas is rare. • The vast majority of recommended wilderness lands are entirely free from modern human development. • Impacts from historic livestock activities and mining exploration are still present in the backcountry. Remnants of early mineral exploration, including abandoned mines, access roads, and structures are present within recommended wilderness lands. • The scientific value of the park's mostly intact, unaltered, and natural ecosystems provides important research opportunities. The untrammeled nature of the park's recommended wilderness allows natural processes to unfold without manipulation, reflecting the key values of restraint and humility central to the concept of wilderness. • Clean air and night skies are currently considered to be in good condition even though they are periodically affected by external haze. • Most park development is consolidated in the Fruita Rural Historic District; the remainder of the park is largely undeveloped. The park has no ongoing development in the proposed wilderness and no developed infrastructure in the backcountry. **Trends** • Backcountry visitation has increased substantially in the last decade (2006–2016). Certain areas are a concern for congestion such as Spring Canyon, Upper and Lower Muley Twist Canyon, Halls Creek Narrows, Pleasant Creek, and Burro Wash. Opportunities for solitude in these areas may be declining due to increased use. • The popularity of canyoneering is bringing more people into remote canyon areas. A recent publication of previously unexplored routes, mostly through Internet sources, has led to a drastic uptick in canyoneering use. • External activities and development such as all-terrain vehicles use, four-wheel-drive trails, mining claims, and an increase in oil and gas development may be visible in areas along park boundaries. • Natural systems have been impacted by external human-caused factors. Wilderness ecosystems are impacted by more than 120 exotic plant species and 9 exotic animal species, the number of which will likely increase in the future. • The natural character of wilderness is improving as native plant species increase in areas where livestock grazing allotments have been retired through purchase of grazing permits.

Other Important Resource or Value	Wilderness
Threats and Opportunities	**Threats** • Increased visitation and access routes bring people to more remote backcountry areas. This has resulted in human waste and bathing, which pollute closed-water systems such as water-pockets and occasionally waterways, increased litter of non-biodegradable products such as plastic bottles, damage to resources, and vandalism/graffiti. • Unauthorized motorized vehicle incursions are impacting native soils and increasing erosion and resource damage. Approximately 30 of the park's vehicle entrances lead to wilderness boundaries. • Livestock grazing and associated supporting infrastructure to facilitate grazing continues to be an issue in areas of the wilderness. Successful monitoring and mitigation is possible and proven if resources become available. • External oil and gas development and air pollution are impacting air quality and the natural environment. Potential drilling for and development of oil and gas, including hydro-fracturing and other mineral exploration or development outside the park, have the potential to affect viewsheds, air quality, ambient noise, dark night sky, ecosystem health, and groundwater quality. • Increasing invasive species are out-competing native species resulting in a decline of native plants. **Opportunities** • Continue to provide and expand interpretive programing and media to the public and school groups regarding how to explore and minimally impact the park's wilderness values. • Provide programs and training to stakeholders and user groups to educate them about wilderness stewardship and use. Continue to engage with the Arthur Carhart National Wilderness Training Center in Missoula, Montana. • Continue to encourage volunteers and members of local communities to assist in monitoring conditions. • Work with Utah Valley University and Southern Utah University (Cooperative Ecosystem Studies Unit agreements) to strengthen internship programs and increase the number of students engaging in wilderness opportunities, including research, teaching others, and fostering wilderness ethics. • Continue to work with Utah State University. The park could benefit from this university's land management programs by engaging professors, students, and researchers to actively pursue research, internships, and public education. • Expand work with local youth groups (e.g., church, scouts, service projects, Student Conservation Association, etc.), and volunteers to assist in monitoring, research projects, and data collection. • Expand citizen science projects to increase data collection, awareness and actions, night sky monitoring, and related projects. • Partner with the Bureau of Land Management and the U.S. Forest Service to coordinate wilderness management and planning, sharing information, and resources.
Data and/or GIS Needs	• Soundscape monitoring. • Visitor use trends in recommended wilderness. • GIS data for the backcountry. • Ongoing in-park and regional air quality monitoring. • Threatened and endangered species inventories, monitoring, and assessments. • Water quality and quantity data. • Nonnative species range and scope assessments. • Surveying recommended wilderness boundary. • Groundwater resources survey. • Climate change vulnerability assessment.

Other Important Resource or Value	Wilderness
Planning Needs	• Backcountry management plan. • Livestock grazing and trailing management plan (ongoing). • Integrated pest management plan. • Fire management plan. • Climate change scenario planning.
Laws, Executive Orders, and Regulations That Apply to the OIRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the OIRV** • Wilderness Act of 1964 • Clean Air Act of 1977 • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (§4.7.2) "Weather and Climate" • NPS *Management Policies 2006* (chapter 6) "Wilderness Preservation and Management" • Director's Order 41: *Wilderness Stewardship* • NPS *Reference Manual 41: Wilderness Stewardship* • *Keeping It Wild in the National Park Service: A User Guide to Integrating Wilderness Character into Park Planning, Management, and Monitoring*

Identification of Key Issues and Associated Planning and Data Needs

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

The following are key issues for Capitol Reef National Park and the associated planning and data needs to address them:

- **Park Operations.** The park is challenged to meet the many needs associated with rapidly increasing annual park visitation in combination with complex resource management challenges. The park welcomes the increased interest but is seeing the strains on park roads, trails, other infrastructure, and cultural and natural resources. The park understands it cannot rely on the traditional model of seasonal summer staff to meet the increased visitation both in summer and now in the longer shoulder seasons. Park visitors are also increasingly going to more remote parts of the park. In addition to continuing resource concerns, in recent years legislatively mandated livestock grazing and trailing has consumed an increasing proportion of resource management attention. Long-term vegetative and natural resource monitoring, compliance, and adaptive management actions related to grazing will add significantly to the park's resource management portfolio in the near future.

    - *Associated planning and data needs:* Financial sustainability strategy, position management plan

- **Grazing, Livestock.** Specially mandated by Congress, the park accommodates grazing allotments and movement of cattle through sensitive park resources. Livestock grazing and trailing has been an important resource management issue throughout Capitol Reef National Park's history. Congress enacted Public Laws 97-341 (1982) and 100-446 (1988) subsequent to the park's original December 1971 enabling legislation in an effort to address the continuing issues surrounding cattle grazing and trailing in the park.

    - *Associated planning and data needs:* Livestock grazing and trailing management plan (ongoing), rangeland condition, forage, and related data, riparian assessments, nonnative species range and scope assessments, threatened and endangered species inventories, monitoring, and assessments (reporting requirements for U.S. Fish and Wildlife Service), archeological surveys, climate change vulnerability assessment

- **Revised Statute 2477.** The statute now known as "Revised Statute 2477" (RS 2477) was originally passed as section 8 of the Mining Act of 1866. The federal government had a broad policy to dispose of unreserved public lands and RS 2477 provided necessary access across the public lands that the government wanted people to settle. The statute allowed the creation of a right-of-way across unreserved federal land without notification to or approval from the federal government as long as the requirements of the statute were met. Therefore, rights-of-way were established without the federal land management agency (then known as the General Land Office) knowing about them. Unfortunately, Congress provided no legislative history at that time or subsequent regulations to clarify its intent or the process for validating a claim.

    - *Associated planning and data needs:* Aerial photography and mapping of utilities/roads

- **Management of Fruita Rural Historic District.** There is a need for continued protection of historic resources and management of congestion, visitor safety, and appropriate services in the Fruita Rural Historic District. The historic district has become the developed area in the park. It is also the most congested and densely populated area. Parking and related infrastructure has not kept pace with steadily increasing visitation. Facilities are outdated and often fail. A development concept plan for this area would provide alternatives to handle the needs related to increased visitation (e.g., more parking, additional facilities, and campsites) while maintaining the integrity of the historic district.

    - *Associated planning and data needs:* Development concept plan for Fruita Rural Historic District, orchard management plan, visitor use management plan, accessibility self-assessment and transition plan, baseline documentation for park cultural landscapes

- **Backcountry Use.** Backcountry use is steadily increasing as communication about routes and locations grows. Currently, 97% of the park is managed as wilderness and more and more people are venturing into the backcountry. The park currently has no way to monitor visitor use, safety, and resource impacts. Managing visitor access and safe use is a constant challenge. A backcountry management plan would provide a valuable tool to monitor resource damage and enhance visitor safety.

    - *Associated planning and data needs:* Backcountry management plan, GIS data for the backcountry

- **Lack of Technological Infrastructure.** The park's remote location has not allowed full use of current and future technology. The park still uses pay phones because there is no cell phone coverage in the park. Highly limited bandwidth and other communication technology impacts both visitors and the park's operational capacity.

    - *Associated planning and data needs:* Comprehensive interpretive plan, technological infrastructure assessment

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

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

Planning Needs – Where A Decision-Making Process Is Needed			
Related to an FRV, OIRV, or Key Issue?	**Planning Needs**	**Priority (H, M, L)**	**Notes**
FRV, OIRV, Key Issue	Backcountry management plan	H	Ninety-seven percent of the park is managed as wilderness. As technology enhances communication, more and more visitors are headed into the rugged backcountry. Managing access, visitor safety, and resource protection is a constant challenge. A backcountry management plan would provide a valuable tool to monitor and control access and enhance visitor safety and resource protection.
FRV, Key Issue	Development concept plan for Fruita Rural Historic District	H	The Fruita Rural Historic District has become the developed area in the park. It is also the most congested and densely populated area. Parking and related infrastructure has not kept pace with steadily increasing visitation. Facilities are outdated and often fail. A development concept plan for this area would provide alternatives to handle parking, large vehicles, and increased numbers of visitors while maintaining the integrity of the historic district. It would address the need for more parking, restrooms, picnic areas, and campsites, along with more RV hook-ups and dumping locations.
FRV, Key Issue	Orchard management plan	H	The orchard management plan would provide comprehensive direction for year-to-year operations. Critical issues addressed in the plan would include irrigation, integrated pest management, maintenance of tree health, ground cover, fertilizer use, soil chemical analyses, soil amendment planning, propagation of new trees, and other management issues such as staffing and cost.
OIRV, Key Issue	Livestock grazing and trailing management plan	H	Livestock grazing and trailing has been an important resource management issue throughout Capitol Reef National Park's history. Congress enacted Public Laws 97-341 (1982) and 100-446 (1988) subsequent to the park's original December 1971 enabling legislation in an effort to address the continuing issues surrounding cattle grazing and trailing in the park. The plan should include economic evaluation for developing strategies and alternatives. This is an ongoing planning effort and will need to be implemented upon completion.
Key Issue	Visitor use management plan	H	This plan would help address critical park issues related to traffic congestion in the historic district, the most heavily visited area of the park. The plan would help the park make informed choices regarding expanded recreational opportunities and visitor experiences. It would also help the park understand and manage the conflicts between resource protection and visitor experience.
Key Issue	Financial sustainability strategy	M	Sometimes called an operations and investments financial sustainability plan, this is a strategic plan that ensures that financial plans align with the park's existing and planned resource priorities and current NPS policies.
FRV	Inventorying and monitoring plan	M	Primarily geared toward sensitive species, this plan would help the park adaptively manage sensitive and endangered species in the park for protection and recovery.
OIRV	Integrated pest management plan	M	This plan would be designed to help the park meet specific management objectives and develop specific measures and indicators for action. It would also serve as a communication tool with neighboring federal agencies and stakeholders.
FRV	Water rights settlement plan	M	The NPS Water Rights Branch has a long-term plan to engage the State of Utah in formal negotiations regarding the park's water rights, as has been done with several other parks. This could be several years out.

Planning Needs – Where A Decision-Making Process Is Needed			
Related to an FRV, OIRV, or Key Issue?	**Planning Needs**	**Priority (H, M, L)**	**Notes**
FRV, Key Issue	Accessibility self-assessment and transition plan	M	Currently, the park has only a few universally accessible facilities. Some accessible facilities are not connected (for example, an accessible restroom that must be accessed through an inaccessible parking lot). An accessibility plan would help the park prioritize its accessibility needs as well as identify accessibility "quick fixes" that could make more visitor corridors fully accessible. It would also evaluate programmatic media presentations and information conveyance.
FRV, OIRV	Climate change scenario planning	M	This type of plan would develop a range of plausible science-based scenarios of future conditions based on modeling and suggesting adaptive management strategies. Climate change considerations should be integrated into all aspects of park planning efforts. This should include a broad range of tools including climate change scenario planning or others. This plan would build off data collected during the climate change vulnerability assessment.
FRV	Environmental management system plan	L	This plan would incorporate sustainable energy use, along with hazardous materials identification and mitigation.
FRV	Resource stewardship strategy	L	The park would benefit from a resource stewardship strategy by determining desired conditions and analyzing, identifying, and tracking indicators of desired resource conditions along with recommending strategies to maintain them over time.
FRV	Fleet management plan	L	This plan would extend beyond general operations and evaluate issues relating to air quality, costs, and efficiencies.
FRV	Wastewater management plan	L	The management of the water distribution process and waste management are critical to ensuring the park's infrastructure is meeting park needs.
Key Issue	Comprehensive interpretive plan	L	The park would benefit from a revised comprehensive interpretive plan. New technologies and methods of communication could be evaluated in the long-term plan as well as analysis of contemporary practices. Having key information available to new seasonal staff and permanent rangers would assure that the most current science is available for dissemination.
FRV, OIRV	Fire management plan	L	In this plan emphasis would be on smoke (air quality) and fuel analysis and potential mitigation strategies.
FRV	Museum management plan	L	The park is seeking an issue-based version of the collections management plan with the goal of focused actions needed within the next 10 to 15 years.
FRV	Paleontological protection plan	L	With an extremely high concentration of Mesozoic fossils spread over a vast area, the park is seeking strategies to preserve and protect them.
FRV	Air resources strategy	L	This could be augmented with assistance from the NPS Intermountain Region and WASO Air Resources Division.
FRV	Visual resource management plan	L	Using the visual resource inventory information, this plan would identify goals, objectives, and strategies to protect the valued characteristics of park views.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV, OIRV, or Key Issue?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
FRV, OIRV, Key Issue	Threatened and endangered species inventories, monitoring, and assessments	H	Conduct threatened and endangered species assessments (reporting requirements for U.S. Fish and Wildlife Service). These assessments would also aid the park in adaptive management by understanding species demographics, habitat needs, and threats. It would also be applicable for monitoring livestock grazing and trailing impacts.
FRV, Key Issue	Rangeland condition, forage, and related data	H	These and other data will form the basis of a long-term monitoring and adaptive management program to assist park management in understanding range conditions and making informed decisions regarding grazing management.
FRV, Key Issue	Archeological surveys	H	Currently, only 5%–10% of the park has been surveyed for archeological resources. More information is required in order to meet NPS policy mandates. In addition, baseline archeological data will provide information about how increased visitation may be impacting archeological sites in the park.
OIRV	Visitor use trends in recommended wilderness	H	This will provide basic data on visitor use trends in recommended wilderness including visitation numbers, recreational activities, and monitoring resource impacts (including impacts to wilderness values) as a result of visitor use in wilderness.
FRV	Continue and expand night sky monitoring	M	Continued monitoring of air quality and light levels, both in the park and external to park boundaries, would allow the park to set baseline standards to measure against and would inform multiple planning efforts.
FRV	Condition assessments of archeological sites and historic structures	M	Periodic assessments would determine actions needed to address deficiencies, needed restorations, or repairs. Condition assessments will also provide information about visitor impacts to these resources.
FRV, OIRV	Ongoing in-park and regional air quality monitoring	M	This would support the air resources strategy and expand public education/outreach on the connections between climate change, air quality, sensitive park resources, wilderness character, night sky, scenery, recreation, human health, and other associated resources.
FRV, OIRV, Key Issue	Climate change vulnerability assessment	M	Record and assess changes to the physical environment as a result of climate change. Data would be used to establish a baseline and to support future planning efforts. Data would allow research to evaluate relationships between temperature, precipitation, and vegetation health and reproduction. In addition, it would provide information about the response of plant and animal species and the physical environment to changes in the climate. This information would also support climate change scenario planning.
FRV	Paleontological inventories	M	This information would help support the paleontological protection plan.
FRV	International visitor use information	M	The park is interested in understanding how international visitors perceive resources and their management and protection in order to design more applicable outreach and educational materials for international visitors.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV, OIRV, or Key Issue?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
Key Issue	Technological infrastructure assessment	M	GIS data on all parkwide utility rights-of-way would assist the park in project compliance and inform park staff about proposed projects such as laying fiber optic lines or transmission lines. These data would assist in developing technologies to appeal to new audiences.
OIRV	GIS data for the backcountry	M	GIS data about vehicle and pedestrian access points to backcountry destinations and canyoneering locations will assist in understanding backcountry visitor access and use.
OIRV, Key Issue	Nonnative species range and scope assessments	M	Nonnative species have impacts on riparian corridors and park landscapes. Understanding the nature and scope of invasive species would help prioritize mitigation strategies to help maintain ecosystem health.
FRV, OIRV	Water quality and quantity data	M	There is a lack of baseline water quality data on many of the water resources in the park. This should include mercury toxicity data.
FRV, Key Issue	Baseline documentation for park cultural landscapes	M	The current cultural landscape report for the Fruita Rural Historic District should be updated based on recent trends of resource conditions and visitation. There are several prehistoric cultural landscapes where baseline documentation exists but has not been formalized in a report or compiled for a national register nomination.
Key Issue	Riparian assessments	M	Riparian assessments are conducted to evaluate the health of riparian ecosystems, to identify and evaluate changes to these ecosystems, and to understand the reasons for any observed changes.
OIRV	Soundscape monitoring	M	This would be useful data to assist in wilderness management.
FRV, OIRV	Groundwater resources survey	L	This data would assist in wilderness monitoring and the park's water resources.
Key Issue	Aerial photography and mapping of utilities/roads	L	This need relates to understanding the compliance needs and issues surrounding Revised Statute 2477 (RS 2477), which was originally passed as section 8 of the Mining Act of 1866. The federal government had a broad policy to dispose of unreserved public lands and RS 2477 provided necessary access across the public lands that the government wanted people to settle. The statute allowed the creation of a right-of-way across unreserved federal land without notification to or approval by the federal government.
FRV	Assessment of photovoltaic use in the park to replace some portions of conventional power use	L	This information would help the park meet sustainability goals by reducing energy consumption.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV, OIRV, or Key Issue?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
FRV	Aquatic biota composition, health, and demographics survey	L	Information on species distribution and relative health would aid in developing resource management adaptive management indicators and measures.
FRV	Assess geologic hazards	L	Understanding existing geologic hazards would allow managers to be proactive in regards to visitor safety. Hazard assessments should include abandoned mines.
FRV	Geomorphologic studies of river corridor	L	This would help park staff understand how channel morphology, channel function, and riparian areas change over time.
FRV	GPS fossil sites for baseline data	L	These data would support a paleontological protection plan and provide key data for expanding parkwide interpretive opportunities.
FRV	Geologic mapping and evaluation of historic landscape	L	This would provide a useful management tool in preventive maintenance within the Fruita Rural Historic District.
FRV	Visual resource inventory	L	This would support the visual resource management plan. These data would help create a baseline to measure visibility and impacts relating to scenery and air quality over time. This effort should include photo-monitoring at select points.
FRV	Species pollinators range and scope study	L	This would aid in understanding the life histories and habitat needs of pollinators important to rare plants.
FRV	Additional studies to examine air pollution dose-response relationships in sensitive park ecosystems	L	These studies should include surveying for ozone-sensitive plant foliar injury monitoring for toxic contaminants in park biota (dragonflies, amphibians, fish, and birds).
OIRV	Surveying recommended wilderness boundary	L	This survey would bring clarity to management practices helping to negate potential impacts to wilderness areas.
FRV	Historical/oral history information	L	This would be inclusive of residences and extended families of Fruita regarding rural life and subsistence along with American Indian ethnographic histories and traditional uses.

Part 3: Contributors

Capitol Reef National Park

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Appendixes

Appendix A: Presidential Proclamation and Legislative Acts for Capitol Reef National Park

CAPITOL REEF NATIONAL MONUMENT—UTAH

August 2, 1937
[No. 2246]

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

Capitol Reef National Monument, Utah.
Preamble.

WHEREAS certain public lands in the State of Utah contain narrow canyons displaying evidence of ancient sand dune deposits of unusual scientific value, and have situated thereon various other objects of geological and scientific interest; and

WHEREAS it appears that it would be in the public interest to reserve such lands as a national monument, to be known as the Capitol Reef National Monument:

National monument set apart.

34 Stat. 225.
16 U. S. C. § 431.

NOW, THEREFORE, I, FRANKLIN D. ROOSEVELT, President of the United States of America, under and by virtue of the authority vested in me by section 2 of the act of June 9, 1906, ch. 3060, 34 Stat. 225 (U. S. C., title 16, sec. 431), do proclaim that, subject to all valid existing rights, the following-described lands in Utah are hereby reserved from all forms of appropriation under the public-land laws and set apart as the Capitol Reef National Monument:

Description.

SALT LAKE MERIDIAN

T. 28 S., R. 5 E.,
All of sec. 34 north of the right-of-way of State Hwy. No. 24;
secs. 35 and 36.
T. 28 S., R. 6 E.,
sec. 31 and the west half of sec. 32.
T. 29 S., R. 5 E.,
All of secs. 1 and 2 north of the right-of-way of State Hwy. No. 24.
T. 29 S., R. 6 E.,
secs. 1 to 4, inclusive;
All secs. 5, 6, 8 and 9 north of the right-of-way of State Hwy. No. 24;
secs. 10 to 15, inclusive;
All of sec. 16 north of the right-of-way of State Hwy. No. 24;
secs. 22 to 25, inclusive;
sec. 26, E½ and N½NW¼;
sec. 27, N½N½;
sec. 35, NE¼;
sec. 36.

T. 30 S., R. 6 E.,
sec. 1;
sec. 12, E½.
T. 29 S., R. 7 E.,
secs. 5 to 8, 17 to 20 and 29 to 32, incl.
T. 30 S., R. 7 E.,
secs. 4 to 9 and 15 to 17, incl.;
sec. 18, E½ and NW¼;
sec. 19, NE¼ and N½SE¼;
sec. 20, N½ and N½SW¼;
secs. 21 to 23, and 26 to 28 incl.;
sec. 29, E½E½;
secs. 33 to 35, inclusive, containing approximately 37,060 acres.

Warning against unauthorized acts.

Warning is hereby expressly 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.

Supervision.

The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management, and control of this monument as provided in the act of Congress entitled "An Act To establish a National Park Service, and for other purposes," approved August 25, 1916 (ch. 408, 39 Stat. 535, U. S. C., title 16, secs. 1 and 2), and acts supplementary thereto or amendatory thereof.

39 Stat. 535.
16 U. S. C. §§ 1, 2.

Livestock driveways.

Nothing herein shall prevent the movement of livestock across the lands included in this monument under such regulations as may be prescribed by the Secretary of the Interior and upon driveways to be specially designated by said Secretary.

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

DONE at the City of Washington this 2d day of August, in the year of our Lord nineteen hundred and thirty-seven and [SEAL] of the Independence of the United States of America the one hundred and sixty-second.

FRANKLIN D ROOSEVELT

By the President
CORDELL HULL
Secretary of State.

Public Law 92-207

AN ACT

To establish the Capitol Reef National Park in the State of Utah.

December 18, 1971
[S. 29]

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) subject to valid existing rights, the lands, waters, and interests therein within the boundary generally depicted on the map entitled "Boundary Map, Proposed Capitol Reef National Park, Utah," numbered 158–91,002, and dated January 1971, are hereby established as the Capitol Reef National Park (hereinafter referred to as the "park"). Such map shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior.

Capitol Reef National Park, Utah. Establishment.

(b) The Capitol Reef National Monument is hereby abolished, and any funds available for purposes of the monument shall be available for purposes of the park. Federal lands, waters, and interests therein excluded from the monument by this Act shall be administered by the Secretary of the Interior (hereinafter referred to as the "Secretary") in accordance with the laws applicable to the public lands of the United States.

SEC. 2. The Secretary is authorized to acquire by donation, purchase with donated or appropriated funds, transfer from any Federal agency, exchange, or otherwise, the lands and interests in lands described in the first section of this Act, except that lands or interests therein owned by the State of Utah, or any political subdivision thereof, may be acquired only with the approval of such State or political subdivision.

Land acquisition.

Grazing privileges.

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

Livestock trails, watering rights.

SEC. 4. Nothing in this Act shall be construed as affecting in any way rights of owners and operators of cattle and sheep herds, existing on the date immediately prior to the enactment of this Act, to trail their herds on traditional courses used by them prior to such date of enactment, and to water their stock, notwithstanding the fact that the lands involving such trails and watering are situated within the park: *Provided*, That the Secretary may promulgate reasonable regulations providing for the use of such driveways.

Administration.

SEC. 5. (a) The National Park Service, under the direction of the Secretary, shall administer, protect, and develop the park, subject to the provisions of the Act entitled "An Act to establish a National Park Service, and for other purposes", approved August 25, 1916 (39 Stat. 535) as amended and supplemented (16 U.S.C. 1–4).

Rights-of-way.

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

Report to President.

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

Roads, study.

SEC. 6. (a) The Secretary, in consultation with appropriate Federal departments and appropriate agencies of the State and its political subdivisions shall conduct a study of proposed road alinements within and adjacent to the park. Such study shall consider what roads are appropriate and necessary for full utilization of the area for the purposes of this Act as well as to connect with roads of ingress and egress to the area.

Report to Congress.

(b) A report of the findings and conclusions of the Secretary shall be submitted to the Congress within two years of the date of enactment of this Act, including recommendations for such further legislation as may be necessary to implement the findings and conclusions developed from the study.

Appropriation.

SEC. 7. There are hereby authorized to be appropriated such sums as may be necessary to carry out the purposes of this Act, not to exceed, however, $423,000 for the acquisition of lands and interests in lands and not to exceed $1,052,700 (April 1970 prices) for development, plus or minus such amounts, if any, as may be justified by reason of ordinary fluctuations in construction costs as indicated by engineering cost indexes applicable to the types of construction involved herein. The sums authorized in this section shall be available for acquisition and development undertaken subsequent to the approval of this Act.

Approved December 18, 1971.

Appendix B: List of Traditionally Associated Tribes

Confederated Salish and Kootenai Tribes of the Flathead Reservation

Hopi Tribe of Arizona

Jicarilla Apache Nation, New Mexico

Kaibab Band of Paiute Indians of the Kaibab Indian Reservation, Arizona

Kewa Pueblo, New Mexico

Las Vegas Tribe of Paiute Indians of the Las Vegas Indian Colony, Nevada

Moapa Band of Paiute Indians of the Moapa River Indian Reservation, Nevada

Navajo Nation, Arizona, New Mexico, and Utah

Ohkay Owingeh, New Mexico

Paiute Indian Tribe of Utah

Pueblo of Acoma, New Mexico

Pueblo of Cochiti, New Mexico

Pueblo of Isleta, New Mexico

Pueblo of Jemez, New Mexico

Pueblo of Laguna, New Mexico

Pueblo of Nambe, New Mexico

Pueblo of Picuris, New Mexico

Pueblo of Pojoaque, New Mexico

Pueblo of San Ildefonso, New Mexico

Pueblo of Sandia, New Mexico

Pueblo of Santa Ana, New Mexico

Pueblo of Santa Clara, New Mexico

Pueblo of Taos, New Mexico

Pueblo of Tesuque, New Mexico

Pueblo of Zia, New Mexico

San Juan Southern Paiute Tribe of Arizona

Skull Valley Band of Goshute Indians of Utah

Southern Ute Indian Tribe of the Southern Ute Reservation, Colorado

Ute Indian Tribe of the Uintah & Ouray Reservation, Utah

Ute Mountain Tribe of the Ute Mountain Reservation, Colorado, New Mexico, and Utah

White Mesa Ute

Zuni Tribe of the Zuni Reservation, New Mexico

Appendix C: Past Planning and Information Resources

Date	Document	Purpose
3/6/1962	Capitol Reef National Park Master Plan Development Outline	Planning background information resource
7/1/1963	An Archeological Survey of Capitol Reef National Monument	Partial archeological survey and documentation
1/1/1965	Mormon Colonization in Southern Utah and in Adjacent Parts of Arizona and Nevada, 1851–1900	Historic resource information
1/19/1966	Historic Structure Report Parts 1 and 2, Fruita Schoolhouse	Documents monument historic structures
7/4/1966	Mission 66 for Capitol Reef National Monument	Review of monument structures and needs assessment
6/10/1969	Furnishing Study: Fruita Schoolhouse, Capitol Reef National Monument	Planning and cultural resource data
9/1/1969	Archeological Survey of Capitol Reef National Monument	Partial archeological survey and documentation
2/23/1972	National Register of Historic Places Nomination Form: Fruita Schoolhouse	Historic resource information (Fruita Rural Historic District)
8/1/1973	Archeological Road Surveys in Canyonlands and Capitol Reef National Parks and Adjacent Bureau of Land Management Areas, Wayne and Garfield Counties, Utah	Archeological background information
12/1/1973	Wilderness Study for Capitol Reef National Park	Study for wilderness eligibility and recommendations
12/1/1973	Capitol Reef National Park Master Plan	Evaluated park purpose, resources, threats and issues
11/1/1974	Wilderness Recommendation: Capitol Reef National Park	Recommended wilderness designation areas within the park boundary
1/1/1975	National Register of Historic Places Inventory-Nomination Form: (Partial Inventory) Fremont/Fruita Archeological/Historic District)	Evaluation of park historic resources
11/18/1976	Scope of Collection Statement for Capitol Reef National Park	Background planning information (Collections)
11/10/1977	An Evaluation of Mineral Resources: Capitol Reef National Park	Mineral resources data

Date	Document	Purpose
1/1/1978	Archeological Resources of Canyonlands, Capitol Reef and Arches National Parks and Natural Bridges National Monument, Lincoln, Nebraska	Archeological background data
6/1/1978	Visitor Use Study, Selected Utah Parks Analytic Report, Volume III: Visitor Projections	Visitor use information
7/30/1978	A Preliminary Report on the Rock Art of Capitol Reef National Park in Utah	Archeological rock art background data
1/1/1980	Archeological Survey of Capitol Reef National Park, 1979	Archeological background data
1/1/1980	The Historic Holt House	Historic resource data
11/1/1980	Archaeological Reconnaissance of a Seismic Line in the Cathedral Area of Wayne and Emery Counties, Utah	Archeological background data
10/1/1982	General Management Plan / Environmental Impact Statement – Statement of Findings	Planning background efforts
5/1/1983	Bison Group Dynamics and Summer Home Range	Natural resource data
2/1/1984	Archeological Surveys of Capitol Reef National Park	Archeological background data
8/1/1986	Population Dynamics of Bison in Henry Mountains	Natural resource data
1/1/1987	Archeological Investigations at the North District Campground (42WN1651): A Lithic Procurement Location in Capitol Reef National Park, Utah. Lincoln, Nebraska	Archeological background data
6/1/1988	Capitol Reef National Park Orchard Management Plan	Background planning information
6/15/1988	Capitol Reef National Park Land Protection Plan as Revised After Biennial Review	Background planning information
10/1/1989	Capitol Reef National Park Statement for Management	Background planning information
8/1/1990	Kaiparowits Coal Development and Transportation Study	Background planning information
3/1/1991	The Burr Trail Archeological Project: Small Site Archeology on the Escalante Plateau and Circle Cliffs, Garfield County, Utah	Archeological background data (Burr Trail)
8/1/1991	Hydrology and Water Resources of Capitol Reef National Park	Natural resource data (water resources)
6/1/1992	Capitol Reef National Park: A Historic Resource Study	Cultural resource data
6/1/1992	Capitol Reef National Park: Survey Report	Cultural resources data

Date	Document	Purpose
9/1/1992	Cultural Landscape Assessment: Fruita Rural Historic District, Capitol Reef National Park	Cultural landscape data (Fruita)
11/3/1993	Final Resources Management Plan: Capitol Reef National Park	Background planning information
2/1/1994	By Their Fruits Ye Shall Know Them: An Ethnographic Evaluation of Orchard Resources at the Fruita Rural Historic District, Capitol Reef National Park, Utah. Santa Fe, NM	Cultural resource documentation and background information
10/1/1994	Capitol Reef National Park Baseline Water Quality Data Inventory and Analysis	Natural resource data (water quality)
4/1/1995	Capitol Reef National Park Tinaja Wetland Survey Summary Report	Natural resource data
4/17/1995	Capitol Reef National Park Statement for Management	Background planning and management efforts
6/1/1995	Extinction of Mammal Populations in Western North American National Parks	Natural resource background information and data
9/1/1995	Biology and Ecology of Rock Pools in Capitol Reef National Park	Natural resource data (rock pools)
2/1/1996	Adequacy of Wildlife Habitat Relation Models for Estimating Spatial Distributions of Terrestrial Vertebrates	Natural resource data (spacial distribution of terrestrial vertebrates)
3/1/1996	Ethnographic Resource Inventory and Assessment for the Burr Trail: Capitol Reef National Park, Utah and Glen Canyon National Recreation Area, Utah: In Cooperation with the Hopi Tribe	Cultural resource data (Burr Trail)
1/1/1997	Cultural Landscape Report: Fruita Rural Historic District, Capitol Reef National Park	Cultural landscape data (Fruita)
2/10/1997	National Register of Historic Places Registration Form: Fruita Rural Historic District	Fruita Rural Historic District
4/1/1997	Brigham Young University Museum of Peoples and Cultures Technical Series No. 97-3: Capitol Reef National Park: 1996 Archaeological Survey and Testing Program: Capitol Reef National Park – Preliminary Report No. 1	Archeological background data
9/26/1997	Capitol Reef National Park Strategic Plan 1998–2000	Background planning information
1/1/1998	From Barrier to Crossroads: An Administrative History of Capitol Reef National Park, Utah: Volumes I & II	Administrative history
2/1/1998	Capitol Reef National Park: 1997 Archaeological Survey and Testing Program – Capitol Reef National Park – Preliminary Report No. 2	Archeological background data

Date	Document	Purpose
9/1/1998	Capitol Reef National Park Final Environmental Impact Statement / General Management Plan / Development Concept Plan	Background planning data
1/1/1999	Restoration of Bighorn Sheep Metapopulations in and Near 15 National Parks: Conservation of a Severely Fragmented Species	Resource Data (Bighorn Sheep)
2/1/1999	Test Excavations at the Lampstand Ruins: A Kayenta Anasazi Site in the Northern Circle Cliffs, South-Central Utah	Archeological background data
3/1/1999	Capitol Reef National Park: 1998 Archaeological Survey and Testing Program	Archeological background data
3/1/1999	Comprehensive Inventory of Utah's Forest Resources, 1993. Ogden, Utah	Natural resource data (forest)
4/1/1999	Drinking Water Source Protection Plan: Capitol Reef National Park, Fremont River Gorge Well	Natural resource data (water)
8/1/1999	National Register of Historic Places Registration Form: Oak Creek Dam	Historic cultural resource data
8/4/1999	National Register of Historic Places Registration Form: Pioneer Register	Historic cultural resource data
8/5/1999	National Register of Historic Places Registration Form: Cathedral Valley Corral	Historic cultural resource data
8/5/1999	National Register of Historic Places Registration Form: Civilian Conservation Corps Powder Magazine	Historic cultural resource data
8/5/1999	National Register of Historic Places Registration Form: Elijah Cutler Behunin Cabin	Historic cultural resource data
8/5/1999	National Register of Historic Places Registration Form: Hanks' Dugouts	Historic cultural resource data
8/5/1999	National Register of Historic Places Registration Form: Lesley Morrell Line Cabin and Corral	Historic cultural resource data
8/5/1999	National Register of Historic Places Registration Form: Oyler Mine	Historic cultural resource data
9/13/1999	National Register of Historic Places Multiple Property Documentation Form: Capitol Reef National Park Multiple Property Submission	Historic cultural resource data
11/5/1999	Geologic Resources Inventory Workshop Summary: Capitol Reef National Park	Geologic resource inventory
11/29/1999	Capitol Reef National Park Scope of Collection Statement	Planning background efforts
1/1/2000	Oral History Interviews	Historic cultural resource data

Date	Document	Purpose
4/1/2000	Brigham Young University Museum of Peoples and Cultures: Technical Series No. 99-7, Capitol Reef National Park: 1999 Archeological Survey and Testing Program	Archeological background data
4/1/2000	Capitol Reef National Park Strategic Plan 2001–2005 (revised 4/2000)	Planning background efforts
3/1/2001	Survey for Cultural Resources of Little Sand Flat in Capitol Reef National Park, Utah, with Comparisons to Archeology of Paradise Flats	Cultural resource survey
6/28/2001	Capitol Reef National Park Level II Cultural Landscape Inventory, Pleasant Creek Settlements: Floral Ranch and Sleeping Rainbow Ranch	Cultural landscape data
1/1/2002	First-Year Results for Herpetofauna Inventories of Southern and Northern Colorado Plateau National Parks	Natural resources data (herpetofauna)
2/1/2002	Brigham Young University Museum of Peoples and Cultures Technical Series No. 01-11: An Archaeological Research Design and Data Recovery Plan for Site 42WN1885, Capitol Reef National Park. Provo, Utah	Archeological background data and planning history
2/26/2002	Survey for Cultural Resources of Paradise Flats: Capitol Reef National Park, Utah: 1998, 2000, 2001	Cultural resource survey
9/1/2002	Paleontological Resource Inventory and Monitoring, Northern Colorado Plateau Network	Paleontological resources
11/25/2002	Survey for Cultural Resources at Seven Proposed Bison Exclosure Fence Locations, Capitol Reef National Park	Cultural resource data
12/12/2002	Survey for Cultural Resources of Paradise Flats: Capitol Reef National Park	Cultural resource survey
2/1/2003	Northern Colorado Plateau Network Herpetofauna Inventory 2002 Annual Report	Natural resources data (herpetofauna)
2/13/2003	Mammalian Inventory Final Report for Selected Northern Colorado Plateau Network Parks	Natural resources data (mammalian inventory)
4/11/2003	Summary Document Prepared for the Vital Signs Workshop: Water Quality Vital Signs	Water resources
9/30/2003	Northern Colorado Plateau Vital Signs Network and Prototype Cluster Plan for Natural Resources Monitoring. Moab, Utah	Planning background efforts
1/1/2004	Cultural Landscapes Inventory: Fruita Rural Historic District	Cultural Landscape Inventory (Fruita)
6/1/2004	Water Resources Management Plan, Capitol Reef National Park	Planning background efforts

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1/1/2005	Folder containing annual reports for FY 1997, 1998, 2000, 2001, 2002, 2003, 2004, and 2005	Park annual reports (visitor use and administrative data)
1/1/2005	Water-Right Dockets for: Pipeline Ditch, Lower Chesnut Ditch; Sulphur Creek (Sand Creek); Fremont River, Headquarters Area; Rush Lake; Hall's Creek; Muley Twist Canyon Str.; White Canyon Stream; and Sleeping Rainbow Ranch Well. Contained in a folder titled "Water-Right Dockets"	Water rights and resources
5/1/2005	Federal Highway Administration. The Road Inventory of Capitol Reef National Park	Federal highway road inventory
6/1/2005	Capitol Reef National Park Wildland Fire Management Plan	Planning background efforts
9/1/2005	Northern Colorado Plateau Inventory and Monitoring Network, Vital Signs Monitoring Plan, National Park Service, Inventory and Monitoring Network	Planning background efforts
12/1/2005	Burr Trail Modifications: Final Environmental Impact Statement / Assessment of Effect: Capitol Reef National Park	Planning background efforts (Burr Trail)
12/1/2005	2005 Invasive Non-Native Plant Inventory: Northern Colorado Plateau Inventory and Monitoring Network, Addendum Report	Natural resource data (invasive nonnative plants)
3/15/2006	Vertebrate Species in Utah Northern Colorado Plateau Network Parks	Natural resource data (vertebrate species)
5/1/2006	Northern Colorado Plateau Inventory and Monitoring Network: Inventory and Classification of Selected National Park Service Springs on the Colorado Plateau	Water resources
7/6/2006	Environmental Assessment for Installing a Long-term Climate Monitoring Station at Capitol Reef National Park	Climate change/weather monitoring
8/1/2006	Weather and Climate Inventory, National Park Service, Northern Colorado Plateau Network. Fort Collins, Colorado	Climate and weather inventory
9/1/2006	Capitol Reef National Park Geologic Resource Evaluation Report	Geologic resource evaluation
1/1/2007	Northern Colorado Plateau Network Monitoring Brief: Peregrine Falcon Monitoring	Natural resource data (Peregrine falcons)
1/1/2007	Northern Colorado Plateau Network Monitoring Brief: Springs, Seeps, and Hanging Garden Community Monitoring	Water resources (hanging gardens)
10/1/2007	Capitol Reef National Park Comprehensive Interpretive Plan	Planning background efforts

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10/1/2007	Inventory, Condition Assessment, and Management Recommendations for Use in Preparing an Orchard Management Plan for the Fruita Rural Historic District, Capitol Reef National Park	Data for orchard management planning
4/8/2008	Intermountain Region New Deal Resources: Research Findings for Capitol Reef National Park	Historic resource data
6/1/2008	Capitol Reef National Park Visitor Study, Summer 2008	Visitor use information
1/1/2009	Northern Colorado Plateau Network Information Brief: Aquatic Invasive Species	Natural resource data (aquatic invasive species)
1/1/2009	Annotated Checklist of Vascular Fora: Capitol Reef National Park	Natural resource data (botanical)
3/1/2009	Vegetation Classification and Mapping Project Report, Capitol Reef National Park	Natural resource data (vegetation)
1/1/2010	Northern Colorado Plateau Network Information Brief: Climate Change in the Northern Colorado Plateau Network	Climate change data
1/1/2010	Northern Colorado Plateau Network Monitoring Brief: Air Quality Monitoring	Air quality data
1/1/2010	An Overview of National Park Service Paleontological Resources from the Parks and Monuments in Utah	Paleontological resources
2/1/2010	Rehabilitate and Resurface the 8-Mile Scenic Drive Road Environmental Assessment	Transportation environmental assessment (resurface Scenic Drive Road)
5/1/2010	Macroinvertebrate Communities and Habitat Characteristics in the Northern and Southern Colorado Plateau Networks: Pilot Protocol Implementation	Natural resource data (ecological)
9/1/2010	Air Quality Monitoring Protocol and Standard Operating Procedures for the Northern Colorado Plateau Network	Air quality monitoring protocols
9/1/2010	Air Quality Monitoring in the Northern Colorado Plateau Network: Annual Report 2009	Air quality data
12/1/2010	Water Quality in the Northern Colorado Plateau Network, 2006–2009	Water resources
1/1/2011	Northern Colorado Plateau Network Information Brief: Vegetation Mapping at Capitol Reef National Park	Vegetation mapping data and information
1/1/2011	Northern Colorado Plateau Network Monitoring Brief: Land Cover Monitoring	Land cover data

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2/1/2011	Evaluation of the Sensitivity of Inventory and Monitoring National Parks to Nutrient Enrichment Effects from Atmospheric Nitrogen Deposition: Northern Colorado Plateau Network	Atmospheric pollutant evaluation
4/1/2011	Evaluation of the Sensitivity of Inventory and Monitoring National Parks to Acidification Effects from Atmospheric Sulfur and Nitrogen Deposition	Atmospheric pollutant evaluation
6/1/2011	Remote Sensing of Vegetation Phenology and Snow-cover Extent in Northern Colorado Plateau Network Parks: Status and Trends 2010	Climate change data
1/1/2012	Northern Colorado Plateau Network Monitoring Brief: Landscape Dynamics Monitoring	Landscape data
1/1/2012	Assessment of Total Nitrogen and Total Phosphorus in Selected Surface Water of the National Park Service Northern Colorado Plateau Network, Colorado, Utah, and Wyoming, from 1972 through 2007: U.S. Geological Survey Scientific Investigations Report 2012–5043	Natural resource data (water resources)
1/1/2012	Northern Colorado Plateau Network Monitoring Brief: Climate Monitoring	Climate change data
2/1/2012	Invasive Exotic Plant Monitoring in Capitol Reef National Park: 2011 field season	Natural resource data (invasive nonnative plants)
5/1/2012	Vascular Plant Species Discoveries in the Northern Colorado Plateau Network: Update for 2008–2011	Natural resource data (botanical)
1/1/2013	Harpers Ferry National Historical Park Visitor Survey Card Data Reports for 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012 and 2013 contained in a folder titled "Visitor Survey Card Reports"	Visitor use information
1/1/2013	Northern Colorado Plateau Network Monitoring Brief: Invasive Exotic Plant Monitoring	Natural resource data (invasive nonnative plants)
1/1/2013	Northern Colorado Plateau Network Park Monitoring Brief: Natural Resource Monitoring at Capitol Reef National Park	Natural resource data
1/1/2013	Climate Monitoring in the Northern Colorado Plateau Network: Annual Report 2011	Climate data
1/1/2013	Integrated Upland Monitoring in Capitol Reef National Park: Annual Report 2011 (non-sensitive version)	Vegetation and soil data
1/1/2013	Northern Colorado Plateau Network Monitoring Brief: Riparian Monitoring—Wadeable Streams	Water resource data
1/1/2013	Northern Colorado Plateau Network Monitoring Brief: Land Surface Phenology Monitoring	Land surface monitoring data

Date	Document	Purpose
12/1/2013	Water Quality in the Northern Colorado Plateau Network, Water Years 2010–2012	Water resource data
1/1/2014	Northern Colorado Plateau Network Monitoring Brief: Landbird Monitoring	Natural resource monitoring (birds)
7/1/2014	Invasive Exotic Plant Monitoring Along Highway 24 in Capitol Reef National Park: Field Season 2013. Fort Collins, Colorado	Invasive plant monitoring
7/1/2014	Recent Climate Change Exposure of Capitol Reef National Park	Climate change data
12/1/2014	Screening for Contaminants of Emerging Concern in the Northern Colorado Plateau Network, 2013	Environmental contaminate screening and data
1/1/2015	Northern Colorado Plateau Network Monitoring Brief: Integrated Uplands Monitoring	Natural resource data
1/1/2015	Northern Colorado Plateau Network Monitoring Brief: Water Quality Monitoring	Water quality data
2/1/2015	Capitol Reef National Park Congestion Technical Assistance Committee Report: Final	Visitor use information
2/10/2015	List of Classified Structures (database) for Capitol Reef National Park	Historic resource data
2/10/2015	Capitol Reef National Park Species Checklist	Revised species checklist
2/23/2015	Capitol Reef National Park Visitor Use Statistics including Annual Park Recreation Visitation, Monthly Public Use, Monthly Visitation Comments by Park, Park YTD Version 1, Recreation Visitors by Month, Summary of Visitor Use by Month and Year, and Traffic Counts, located in a folder titled "Visitor Use Statistics"	Visitor use information

Intermountain Region Foundation Document Recommendation
Capitol Reef National Park

December 2017

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

Carolyn J. Barker 12-4-2017

RECOMMENDED
Carolyn Barker, Acting Superintendent, Capitol Reef National Park **Date**

Kate H Acting 1-4-2018

APPROVED
Sue E. Masica, Regional Director, Intermountain Region **Date**

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

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