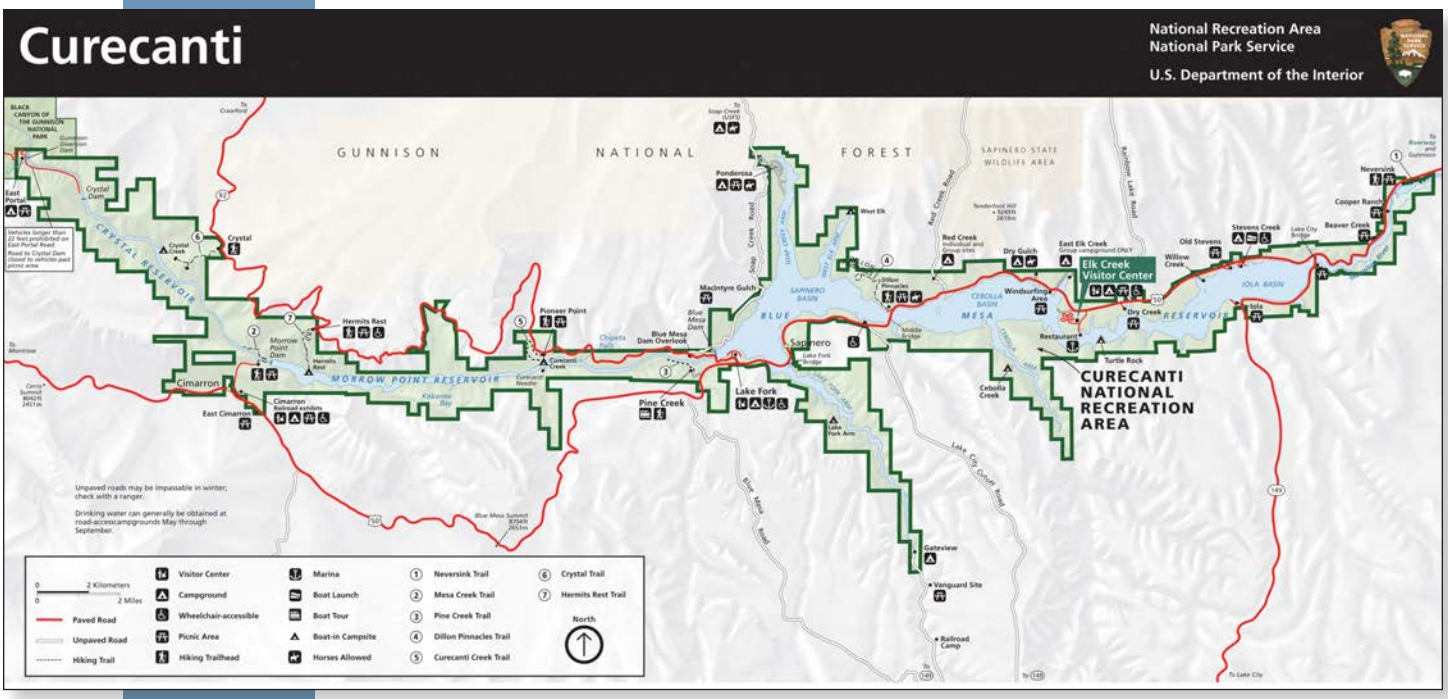
NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR

Foundation Document

Curecanti National Recreation Area

Colorado

December 2013


Curecanti
National Recreation Area
National Park Service
U.S. Department of the Interior
GUNNISON
NATIONAL
FOREST
SAPINERO STATE WILDLIFE AREA
CRYSTAL RESERVOIR
MORROW POINT RESERVOIR
BLUE MESA RESERVOIR
SAPINERO BASIN
CEBOLLA BASIN
IOLA BASIN
Elk Creek Visitor Center
CURECANTI NATIONAL RECREATION AREA
Crystal
Hermits Rest
Pioneer Point
Cimarron
Pine Creek
Lake Fork
Sapinero
Blue Mesa Dam Overlook
MacIntyre Gulch
Ponderosa
West Elk
Red Creek
Dry Gulch
East Elk Creek
Windsurfing Area
Restaurant
Turtle Rock
Dry Creek
Cebolla Creek
Gateview
Vanguard Site
Railroad Camp
Neversink
Cooper Ranch
Beaver Creek
Stevens Creek
Old Stevens
Willow Creek
Lake City Bridge
Iola
Unpaved roads may be impassable in winter; check with a ranger.
Drinking water can generally be obtained at road-accesscampgrounds May through September.
2 Kilometers
2 Miles
Paved Road
Unpaved Road
Hiking Trail
Visitor Center
Campground
Wheelchair-accessible
Picnic Area
Hiking Trailhead
Marina
Boat Launch
Boat Tour
Boat-in Campsite
Horses Allowed
1 Neversink Trail
2 Mesa Creek Trail
3 Pine Creek Trail
4 Dillon Pinnacles Trail
5 Curecanti Creek Trail
6 Crystal Trail
7 Hermits Rest Trail
North

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. National Park Service core values are:

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

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

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

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

Introduction

Every unit of the national park system is to have a foundational document that will provide basic guidance for planning and management decisions—a foundation for planning and management, or foundation document. 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 Curecanti National Recreation Area 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

Curecanti National Recreation Area is located on the Western Slope of the Rocky Mountains in west-central Colorado. The recreation area encompasses a series of three reservoirs (Blue Mesa, Morrow Point, and Crystal reservoirs) along the once free-flowing Gunnison River. The reservoirs and surrounding lands that make up Curecanti today are a destination for land- and water-based recreation high in the Rocky Mountains. Best known for salmon and trout fishing, Curecanti also offers opportunities for hiking, boating, camping, and bird watching. Blue Mesa Reservoir, the largest body of water in Colorado, is within Curecanti National Recreation Area, which also features a variety of diverse ecosystems.

Curecanti is situated in the transition between the Colorado Plateau and Rocky Mountain provinces and hosts riparian habitats, steep canyons, sagebrush hillsides, and areas of ponderosa pine, Douglas fir, and aspen. The area is mostly high desert characterized by eroded sedimentary rocks and volcanic breccia. Summers are pleasant with temperatures typically in the 70s. Winters can be cold, with temperatures frequently dropping into the -20s.

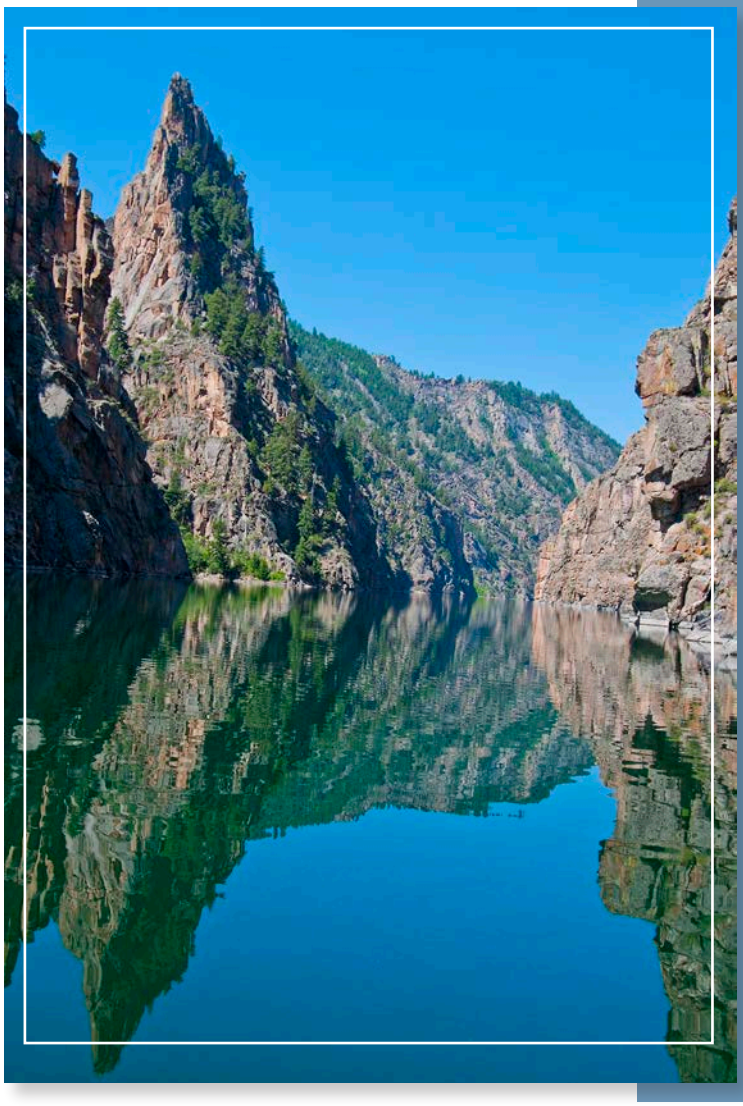
Approximately 40 miles of the Gunnison River, including the reservoirs, create the centerpiece of the park and approximately 20 of those miles are within the easternmost portion of the Black Canyon of the Gunnison.

Park Purpose

The purpose statement identifies the specific reason(s) for establishment of a particular park. Management of Curecanti began with a memorandum of agreement between the National Park Service and the Bureau of Reclamation, approved on February 11, 1965. The purpose statement, which stems from this agreement, lays the foundation for understanding what is most important about the park.

The following is the purpose statement for the park:

Curecanti National Recreation Area protects an abundance of natural, historic, and archeological features in a western landscape encompassing canyons, pinnacles, cliffs, rivers, reservoirs, and mesas, while offering opportunities for recreation, public benefit, and personal reflection.



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 Curecanti National Recreation Area, 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 systemwide context. They focus on the most important resources and values that will assist in park planning and management.

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

- Curecanti provides an array of recreational opportunities based on three high-altitude reservoirs, tied together by the Gunnison River, and set in the Rocky Mountains featuring a Kokanee salmon and lake trout fishery that draws recreationists from around the country.
- Blue Mesa Reservoir, cradled by mesas and iconic pinnacles within a high desert landscape, is the largest body of water in Colorado. Morrow Point and Crystal are two remote, fjord-like reservoirs located in the upper Black Canyon of the Gunnison that provide premier backcountry flat-water recreational opportunities.
- Globally and regionally imperiled cottonwood-riparian woodlands found within Curecanti provide habitats for sensitive species such as great blue herons and river otters.
- Eroded landscapes of Curecanti continue to reveal fossil-rich exposures of Late Jurassic and Early Cretaceous paleoenvironments (160–100 million years ago) including the remains of at least six dinosaur genera found in the renowned Morrison Formation.
- The association and density of archeological sites in Curecanti National Recreation Area provide physical evidence of 10,000 years of human adaptation to changing environments in the Gunnison River Basin.
- The continuum of human occupation is demonstrated through artifacts, structures, oral histories, and landscape modifications associated with traditional cultures, railroading, mining, ranching, irrigation, water storage, and hydropower development.

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 Curecanti National Recreation Area:

- **Archeology.** Curecanti National Recreation Area contains sites that show evidence of continuous human occupation spanning 10,000 years, demonstrating the evolving relationship of people to the land.
- **Geology and paleontology.** The geologic features provide the scenic backdrop for the three reservoirs and reveal the evidence of Late Jurassic and Early Cretaceous environments.
- **Aquatic resources.** Exceptional water quality and sufficient quantity sustain the recreational and ecological function of the Gunnison River, its reservoirs and tributaries, and the associated water-dependent processes.
- **Recreation.** Curecanti National Recreation Area was established with the primary purpose of providing for recreation in, on, and around its three reservoirs and the river that connects them.
- **Scenic views.** The viewshed of Curecanti National Recreation Area enhances recreation and offers opportunities to view an expansive western landscape, including iconic features such as the Upper Black Canyon of the Gunnison, Dillon Pinnacles, Curecanti Needle, and Blue Mesa Reservoir.
- **Riparian plant and wildlife communities.** Curecanti National Recreation Area contains a globally and regionally imperiled old growth cottonwood community that allows for a diverse assemblage of plants and wildlife, including sensitive species.

Other Important Resources and Values

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

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

- **Upland wildlife species.** Curecanti's upland sagebrush, cliffs, and mesas provide habitat that supports species of concern including bighorn sheep, peregrine falcons, and federal candidate species Gunnison Sage-grouse and Gunnison's prairie dogs.
- **Cultural sites and landscapes.** Stories of the hardship and achievement of westward expansion, resource utilization, water development, transportation innovation, and land protection are exemplified by historic structures and artifacts left behind by those who lived and settled in the Gunnison Basin.

Interpretive Themes

Interpretive themes are often described as the key stories or concepts that visitors should understand after visiting a park—they define the most important ideas or concepts communicated to visitors about a park unit. Themes are derived from, and should reflect, park purpose, significance, resources, and values. The set of interpretive themes is complete when it provides the structure necessary for park staff to develop opportunities for visitors to explore and relate to all of the park 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. They go beyond a mere description of the event or process to foster multiple opportunities to experience and consider the park and its resources. Themes help to explain why a park story is relevant to people who may otherwise be unaware of connections they have to an event, time, or place associated with the park.

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

- **Human History.** Curecanti National Recreation Area holds stories from 10,000 years of human presence, revealing a continuum of changing cultures, values, and technologies.
- **Water.** The three reservoirs of Curecanti National Recreation Area represent the conflicts, sacrifices, and benefits associated with water use in the West and other arid climates.
- **Geology.** Geologic forces shape the dynamic landscape of Curecanti National Recreation Area and continue to reveal scenic vistas, unique rock exposures, and paleontological environments.
- **Recreation.** Curecanti National Recreation Area offers a vast array of recreational opportunities attracting visitors seeking challenge, rejuvenation, togetherness, and/or solitude. These experiences can forge lifelong connections to place.
- **Natural History.** Curecanti National Recreation Area contains examples of ecosystems characteristic of native Colorado as well as a human-made reservoir system; these habitats provide outstanding opportunities to experience and appreciate a diversity of life.
- **Human Influence.** Curecanti National Recreation Area is an example of the struggle inherent in balancing the needs of human populations while maintaining diverse natural habitats.

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 of the management decisions for a park unit are directed or influenced by special mandates and administrative commitments with other federal agencies, state and local governments, utility companies, partnering organizations, and other entities. Special mandates are requirements specific to a park that must be fulfilled. Mandates can be expressed in enabling legislation, in separate legislation following the establishment of the park, or through a judicial process. They may expand on park purpose or introduce elements unrelated to the purpose of the park. Administrative commitments are, in general, agreements that have been reached through formal, documented processes, often through memoranda of agreement. Examples include 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 Curecanti National Recreation Area.

- **Memorandum of agreement with Bureau of Reclamation.** This memorandum of agreement was initiated in 1965 with an indefinite timeframe. The National Park Service was designated as the agency responsible for carrying out the provisions of section 8 of the Colorado River Storage Project Act (70 Stat.105), which states "the Secretary is authorized and directed to investigate, plan, construct, operate, and maintain (1) public recreational facilities on lands withdrawn or acquired for the development of said project or of said participating projects, to conserve the scenery, the natural, historical, and archeological objects, and the wildlife on said lands, and to provide for public use and enjoyment of the same." Furthermore, the memorandum directs the National Park Service to provide law enforcement, oversee grazing activities, protect and control archeological resources, and maintain recreational facilities around the reservoirs.
- **Memorandum of understanding with the U.S. Forest Service.** This memorandum of understanding has an indefinite timeframe. The park manages and maintains Soap Creek Road and Ponderosa Campground.

- **Cove Road cooperative agreement with Cove Road Homeowners Association.** This cooperative agreement has an indefinite timeframe. The park assists with road maintenance.
- **Candidate conservation agreement with Bureau of Land Management and Fish and Wildlife Service.** This agreement is in draft form. The National Park Service cooperated in development of an interagency candidate conservation agreement for the Gunnison Sage-grouse between the U.S. Fish and Wildlife Service and the Bureau of Land Management, the National Park Service, the U.S. Forest Service, Colorado Parks and Wildlife, the Natural Resource Conservation Service, and Gunnison and Saguache counties. The candidate conservation agreement identifies specific conservation measures that the participants will voluntarily undertake to conserve the covered species and outlines clear design criteria for any proposed or renewed activities on federal lands in grouse habitat. The candidate conservation agreement will assist the signatories and partners in planning ahead to identify and implement necessary Gunnison Sage-grouse conservation measures.
- **Concession contract to operate two marinas.** This contract expires in 2015. The park administers the contract and verifies compliance with contract.
- **Western Colorado Conservation Youth Corps agreement.** This contract expires in 2018. The park contracts the service.
- **Waste Management Recycling contract.** This contract expires in 2018. The park contracts the service.
- **Communications tower – multiple agreements with private land owners and Bureau of Reclamation.** These agreements have various expiration dates. The park periodically renews special use permits via regulations and National Environmental Policy Act (NEPA) process.
- **Interagency agreement with Bureau of Land Management for grazing allotments.** The Bureau of Land Management administers grazing on NPS lands in consultation with park staff on the following allotments: Rawhide/Coffeepot Hill, Spring Gulch, Highway, Round Corral Creek, Fitzpatrick Mesa, Big Willow, Pine Mesa, Little Willow, Dead Horse Communication site, McIntosh Mountain, Steuben Creek, Blue Creek, Sapinero Mesa, Windy Point, Stevens Creek, and Powderhorn Communications site. This agreement expired and is up for renewal.
- **Utility rights-of-way for Gunnison County Electric, Western Area Power Administration, Delta, Montrose for power lines, cell towers and transmission lines.** This right-of-way has various expiration dates. It includes multiple utility and phone right-of-way agreements, permits, and easements. The park periodically renews rights-of-way via regulations and NEPA process.
- **Western National Parks Association agreement.** This agreement expires in 2016. The park provides space and staffing commitments.
- **Commercial use authorizations.** The commercial use authorizations expire annually with 1-year agreements. The park tracks use and verifies compliance. There are 57 active commercial use authorizations in 2013.
- **Special use permit for Dickerson pit mineral material extraction.** This special use permit expires in March 2014. The park administers a mineral materials extraction operation on park lands for which a private individual holds the mineral estate and right to mine.

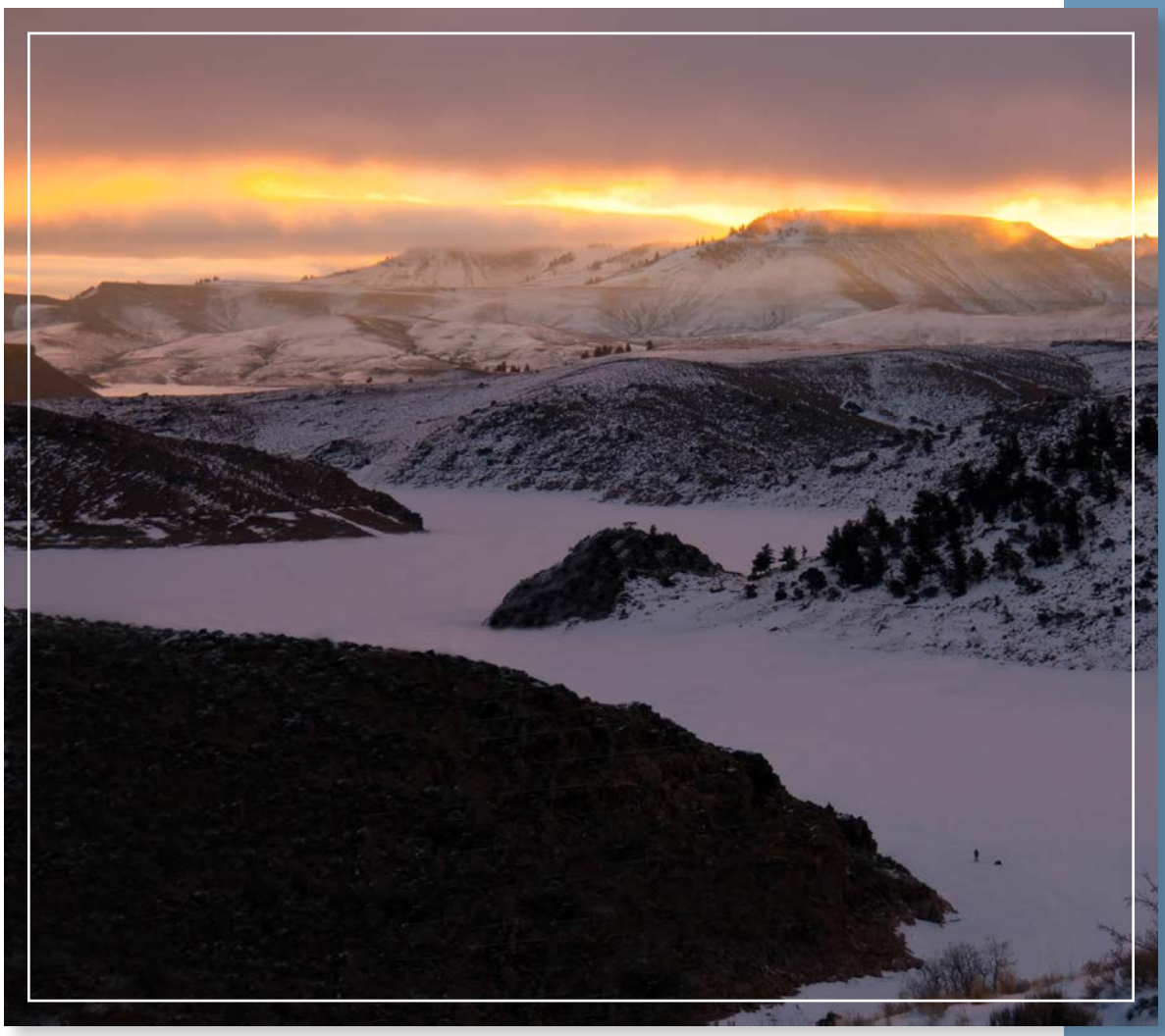
Assessment of Planning and Data Needs

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 data and planning 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 and value analysis table includes current condition, 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: Archeology	
Short Description of Importance	Curecanti National Recreation Area contains sites that show evidence of continuous human occupation spanning 10,000 years, demonstrating the evolving relationship of people to the land.
Related Significance Statements	The association and density of archeological sites in Curecanti National Recreation Area provide physical evidence of 10,000 years of human adaptation to changing environments in the Gunnison River Basin. The continuum of human occupation is demonstrated through artifacts, structures, oral histories, and landscape modifications associated with traditional cultures, railroading, mining, ranching, irrigation, water storage, and hydropower development.
Current Conditions and Trends	• About 10–15% of Curecanti has been surveyed for archeological resources to an acceptable level. • The NPS Midwest Archeological Center in Omaha, Nebraska, has most data and artifacts from previous archeological research. • Western Archeological and Conservation Center may have additional records and materials. • More than 380 archeological sites have been discovered to date.
Threats and Opportunities	**Threats** • Fluctuating water levels of Blue Mesa Reservoir place archeological sites at risk of erosional damage, illegal collecting, and off-highway vehicle impacts. • Archeological sites throughout the park are at risk due to human disturbance, theft, erosion, fire, climate change effects such as chronic low water levels, reservoir operations, etc. • Off-highway vehicle travel on the exposed ground below the high water line could directly damage undiscovered archeological resources. • Climate change leading to increased drought and erosion could increase site exposure. **Opportunities** • Normally inundated areas are open to survey due to current low water levels. • Continued discovery of unknown archeological sites.
Existing Information and Plans	• General management plan. • Motorized vehicle access plan is complete; waiting for finalization of rule. • A variety of archeological reports. • National Register of Historic Places properties. • List of Classified Structures database. • Archeological Sites Management Information System (ASMIS) database. • Museum collection database. • Facility Management Software System (FMSS) asset database.

Fundamental Resource or Value: Archeology	
Laws and Policies that Apply to this FRV, and Existing Park Guidance	**Laws and Policies That Apply to this FRV** • The Antiquities Act of 1906 • National Historic Preservation Act of 1966, as amended (16 USC 470) • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • Archaeological Resources Protection Act of 1979 • Native American Graves Protection and Repatriation Act of 1990 • "Curation of Federally Owned and Administered Archeological Collections" (36 CFR 79) • *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* • *The Secretary of the Interior's Standards for the Treatment of Historic Properties* • 2008 Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers • NPS *Management Policies 2006* (5.3.5.5) states that the National Park Service "will collect, protect, preserve, provide access to, and use objects, specimens, and archival and manuscript collections…in the disciplines of archeology, ethnography, history, biology, geology, and paleontology to aid understanding among park visitors, and to advance knowledge in the humanities and sciences" • NPS *Management Policies 2006* (5.3.5.2) requires the preservation of the physical attributes, biotic systems, and uses of cultural landscapes that contribute to historical significance • Director's Order 28: *Cultural Resource Management* (1998) • Director's Order 28A: *Archeology* (2004) • "Protection of Historic Properties" (36 CFR 800) • Executive Order 13007, "Indian Sacred Sites" • American Indian Religious Freedom Act of 1978 • Archeological and Historic Preservation Act of 1974 • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **Existing Park Guidance** • None identified
Identified Data Needs to Protect FRV	• Inventory of un-surveyed portions of the park (about 85% of park) with special interest in any lands added as a result of the resource protection study. • Selective excavations of sites, as appropriate to determine eligibility for listing in the National Register of Historic Places, recover data from threatened sites, or gain new information. • Stabilization as necessary after inventory and assessment of all historic features. • Cultural landscape inventory. • Cultural landscape report for all proposed cultural landscapes. • Ethnographic overview and assessment. • Archeological overview and assessment. • National register nominations. • Permanent boundaries legislated by Congress. • Climate change indicators to support adaptation strategy.

Fundamental Resource or Value: Archeology	
Identified Planning Needs to Protect FRV	• Legislation to establish the authorized boundary. • Resource stewardship strategy. • Data management plan. • Update fire management plan. • Climate change adaptation strategy. • Climate change scenario plan. • Land protection plan.
Stakeholders Interested in This Resource or Value	• Local historical societies • Colorado State University, University of Colorado-Denver, Western State Colorado University, and Utah State University • Colorado Office of Archaeology and Historic Preservation • Gunnison and Montrose counties • Colorado Archaeological Society • Colorado Council of Professional Archaeologists • Traditionally associated tribes • Western National Parks Association • Park visitors • Bureau of Land Management

Fundamental Resource or Value: Geology and Paleontology	
Short Description of Importance	Geologic features provide the scenic backdrop for the three reservoirs and reveal the evidence of Late Jurassic and Early Cretaceous environments.
Related Significance Statements	Eroded landscapes of Curecanti continue to reveal fossil-rich exposures of Late Jurassic and Early Cretaceous paleoenvironments (160–100 million years ago) including the remains of at least six dinosaur genera found in the noteworthy Morrison Formation.
Current Conditions and Trends	• One economic use of geologic resources: gravel pit at east end of park under special use permit. • Under protection of the National Park Service, the human impacts to the geology above high water (e.g., mining, road construction) have been minimized. • Stored water in the three reservoirs saturates the near-shore regolith causing potential down slope creep of fossil material.
Threats and Opportunities	**Threats** • Climate change leading to increased drought and erosion could increase fossil exposure. • Fluctuating Blue Mesa Reservoir water levels erode shorelines, placing fossil resources at risk of erosional damage, illegal collecting, and off-highway vehicle damage. • Paleontology losses and discoveries due to fluctuating reservoir levels. • Social demands; increase in motorized boat use and of climbing support systems etc. • Potential increase and misuse of off-road vehicles (ORV). • Poaching, theft, and damage of paleontological resources. • Visitor use in the backcountry. • Potential for regional energy development. • Increased infrastructure development by the National Park Service, Bureau of Reclamation, or Colorado Department of Transportation lane expansion. **Opportunities** • Increase staff awareness of paleontological resources. • Additional research opportunities for academic institutions.
Existing Information and Plans	• General management plan. • Motorized vehicle access plan is complete; waiting for finalization of rule. • Draft wilderness and backcountry management plan. • Resource protection study. • Paleontology locality sheets. • Academic research reports and/or papers. • Geologic Resources Division summaries and park inventory reports. • Northern Colorado Plateau Network (NCPN) inventory and monitoring paleontological report.

Fundamental Resource or Value: Geology and Paleontology	
Laws and Policies That Apply to This FRV, and Existing Park Guidance	**Laws and Policies That Apply to this FRV** • NPS *Management Policies 2006* (4.8) provides general direction on the protection of geologic and soil resources • NPS *Natural Resource Management Reference Manual 77* • Federal Cave Resources Protection Act of 1988 • Mining in the Parks Act of 1976 • Archaeological Resources Protection Act of 1979 • 2009 Paleontological Resources Preservation Act (P.L. 111-011, Title VI, Subtitle D) • NPS *Management Policies 2006* (5.3.5.5) states that the National Park Service "will collect, protect, preserve, provide access to, and use objects, specimens, and archival and manuscript collections…in the disciplines of archeology, ethnography, history, biology, geology, and paleontology to aid understanding among park visitors, and to advance knowledge in the humanities and sciences" **Existing Park Guidance** • None identified
Identified Data Needs to Protect FRV	• Continued inventory of fossil-bearing formations. • Inventory of geological hazards. • Climate change indicators to support adaptation strategy.
Identified Planning Needs to Protect FRV	• Legislation to establish congressionally authorized boundaries. • Resource stewardship strategy. • Long-term plan for storage of paleontological specimens. • Data management plan. • Climate change adaptation strategy. • Climate change scenario planning. • Land protection plan.
Stakeholders Interested in This Resource or Value	• Other federal agencies • Visitors • Permit holders (grazing) • Climbing community • Academic community (research) • Educators (organized curriculum based education) • Museum of Western Colorado • Western National Parks Association

Fundamental Resource or Value: Aquatic Resources	
Short Description of Importance	Exceptional water quality and sufficient quantity sustain the recreational and ecological function of the Gunnison River, its reservoirs and tributaries, and the associated water-dependent processes.
Related Significance Statements	Curecanti provides an array of recreational opportunities based on three high-altitude reservoirs, tied together by the Gunnison River, and set in the Rocky Mountains featuring a Kokanee salmon and lake trout fishery that draws recreationists from around the country. Blue Mesa Reservoir, cradled by mesas and iconic pinnacles within a high desert landscape, is the largest body of water in Colorado. Morrow Point and Crystal are two remote, fjord-like reservoirs located in the upper Black Canyon of the Gunnison that provide premier backcountry flat-water recreational opportunities. Globally and regionally imperiled cottonwood riparian woodlands found within Curecanti provide habitats for sensitive species such as great blue herons and river otters.
Current Conditions and Trends	• Aquatic invasive species (AIS) threat is worsening as more nearby waters become infested. • AIS program is becoming more comprehensive and seeing more compliance with AIS prevention. • Water quality of reservoirs, and of streams and rivers discharging to Curecanti is exceptional and is characterized by cold water, neutral pH, and high concentration of dissolved oxygen. • Annual quantity of water discharged to Curecanti is trending downward. This probably owes to upstream population growth, a shift in community water usage, and possibly to a longer irrigation season. In addition, it is possible that discharge is trending downward in response to a longer growing season in higher elevation tributary watersheds. • Reservoir ecology is relatively healthy and stable in each of the three impoundments. • Reservoir fisheries are at risk of a predator-prey imbalance; however, the Colorado Parks and Wildlife actively manages fish populations to maintain balance. • Reservoir fisheries are continuously at risk of colonization by aquatic invasive species. Based on habitat and chemical requirements, a quagga or zebra mussel infestation is possible. However, no definitive evidence has been found. The park has in place a watercraft inspection program dedicated to prevention of invasive mussels and other aquatic invasive species. • River and tributary fish populations are stable despite the presence of whirling disease. • The river and tributary overall ecology is believed to be healthy and stable. • During the 20th century, mean annual temperature increased significantly (1.6°F/0.9°C, 1901–2002) while precipitation showed high interannual variability and no directional trend, according to a 2012 NPS study prepared by Patrick Gonzalez. • According to the Western Water Association in 2008, peak spring streamflow shifted earlier by two weeks in Colorado between 1978 and 2004.

Fundamental Resource or Value: Aquatic Resources	
Threats and Opportunities	**Threats** • Decreases in water quantity due to climate change may impact water quality, channel morphology, and aquatic species diversity and abundance. • Heatwaves are likely to become more common and mean annual temperature projected to increase 5.2°F to 8.6°F (2.9°C to 4.8°C) during the 21st century for the region, including Curecanti, according to a 2012 NPS study prepared by Patrick Gonzalez. • Droughty conditions are projected to become more common as the precipitation regime becomes more variable and total precipitation is unlikely to increase at the same rate as temperature (National Climate Assessment and Development Advisory Committee: http://ncadac.globalchange.gov/). • Increase in regional air temperature and decrease in snowpack accumulation, each consequently affecting both magnitude and timing of peak discharge into Curecanti. This threat stems from processes originating outside of the park, including dust on snow and upward trending air temperatures owing to worldwide greenhouse gas emissions. • Loss of trees or reduction in propagation of cottonwood galleries due to winter flooding, icing, and changes in peak flow caused by modification of the Blue Mesa Reservoir December storage target and climate change. • Changes to the reservoir ecosystem due to colonization of aquatic invasive species such as quagga or zebra mussels. • Decreased inflow to the Aspinall Unit due to regional water development, including trans-basin diversion, population growth, or changing snowpack and runoff from climate change. • Reduced water quality from point and nonpoint pollution from within and outside of the park boundaries. • Water development at the local and statewide scale including large volume trans-basin diversion. **Opportunities** • Colorado water law allows the park to defend downstream senior water rights from claims by other basins or municipalities. • Colorado water quality regulations allow the park to be party to water quality rule-making hearings. • Continue working with local watershed groups, state and federal agencies, adjacent landowners, and local municipalities to protect and restore the quantity and quality of streams and rivers that flow into Curecanti. • Continued funding of aquatic invasive species prevention program through Operation of the National Park Service annual funding or continuation of the Federal Lands Recreation Enhancement Act authority. • The park will continue monitoring quantity and quality of rivers, streams, and reservoirs. • The park will cooperate with Colorado Parks and Wildlife to continue the creel survey on Blue Mesa Reservoir. • Interpretation and education of the influences from climate change on aquatic resources.

Fundamental Resource or Value: Aquatic Resources	
Existing Information and Plans	• General management plan. • 1996 Water Resources Management Plan. • Resource stewardship strategy. • NPS zebra/quagga mussel prevention plan. • State aquatic invasive species plan. • Decades of baseline water chemistry data. • Decades of creel survey data. • Mussel monitoring data. • Watercraft inspection data (identifying level of threat). • Aspinall Unit Operations Final Environmental Impact Statement. • Annual operations plan for Colorado River. • Western Area Power Administration's power generation plan. • Colorado State University synopsis of fishery/reservoir ecology. • Decades of fish stocking data. • Federal reserved water right for Black Canyon of the Gunnison National Park (2008). • Draft natural resource condition assessment Curecanti National Recreation Area. • Draft wilderness and backcountry management plan. • *Climate Change Trends for Planning at Black Canyon of the Gunnison National Park, Colorado,* a 2012 NPS study prepared by Patrick Gonzalez. • "Gunnison Basin Climate Change Vulnerability Assessment for the Gunnison Climate Change Working Group, 2011" (The Nature Conservancy; Colorado Natural Heritage Program; Western Water Assessment, University of Colorado, Boulder; and University of Alaska, Fairbanks).
Laws and Policies That Apply to This FRV, and Existing Park Guidance	**Laws and Policies That Apply to this FRV** • State of Colorado basic water quality standards • Adjudicated water right: Rhamy ditch (in 1890s) • State of Colorado fishing regulations • Colorado statute for aquatic invasive species • Colorado River Compact of 1972 • The Clean Water Act of 1972 • The Clean Air Act (42 USC 7401 et seq.) gives federal land managers the responsibility for protecting air quality and related values, including visibility, plants, animals, soils, water quality, cultural resources, and public health, from adverse air pollution impacts • Rivers and Harbors Act of 1899 • NPS General Authorities Act of 1970: all water resources of the park are protected by the federal government; only an act of Congress can change this fundamental responsibility of the National Park Service • The Safe Drinking Water Act of 1974 • The Resource Conservation and Recovery Act of 1976 • Endangered Species Act of 1973, as amended • National Invasive Species Act of 1996 • Lacey Act, as amended • Federal Noxious Weed Act of 1974, as amended • NPS *Management Policies 2006* (4.7.2) states that "parks containing significant natural resources will gather and maintain baseline climatological data for references" • Director's Order 77-1: *Wetland Protection*

Fundamental Resource or Value: Aquatic Resources	
Laws and Policies That Apply to This FRV, and Existing Park Guidance (continued)	• Director's Order 77-2: *Floodplain Management* • NPS *Natural Resource Management Reference Manual 77* • Executive Order 11988, "Floodplain Management" • Executive Order 11990, "Protection of Wetlands" • Executive Order 13112, "Invasive Species" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" • Special Directive 93-4 "Floodplain Management Revised Guidelines for National Park Service Floodplain Compliance" (1993) **Existing Park Guidance** • Superintendent's Compendium
Identified Data Needs to Protect FRV	• Completion of the natural resource condition assessment. • Research needed: springs/seeps data (flow volume, water quality, invertebrate/vertebrate diversity). • Continuous data on tributary inflows. • Baseline data to address climate change (fisheries, water quality, etc.). • Additional soil moisture data, particularly in the sagebrush community. • Efficacy of polymerase chain reaction data for detection of aquatic invasive species. • The nearest snowpack telemetry (SNOTEL) site is on the opposite side of the West Elk Mountains, which represents different climatic conditions. A station in closer proximity is needed. • Beaver habitat survey. • Grazing impacts study. • Climate change indicators to support adaptation strategy.
Identified Planning Needs to Protect FRV	• Updated water resources management plan. • Resource stewardship strategy. • Data management plan. • Climate change adaptation strategy. • Climate change scenario planning. • Land protection plan.
Stakeholders Interested in this Resource or Value	• Bureau of Reclamation • Western National Parks Association • Colorado Department of Natural Resources (Office of State Engineer, Colorado Water Conservation Board, Division of Parks and Wildlife) • Colorado River Water Conservation District • Upper Gunnison River Water Conservancy District • Gunnison and Montrose counties • High Country Citizens Alliance • Adjacent federal agencies • Adjacent landowners • Traditionally associated tribes • Park concessioner and commercial users • Local tourism associations • Trout Unlimited

Fundamental Resource or Value: Recreation	
Short Description of Importance	Curecanti National Recreation Area was established with the primary purpose of providing for recreation in, on, and around its three reservoirs and the river that connects them.
Related Significance Statements	Curecanti provides an array of recreational opportunities based on three high-altitude reservoirs, tied together by the Gunnison River, and set in the Rocky Mountains featuring a Kokanee salmon and lake trout fishery that draws recreationists from around the country. Blue Mesa Reservoir, cradled by mesas and iconic pinnacles within a high desert landscape, is the largest body of water in Colorado. Morrow Point and Crystal are two remote, fjord-like reservoirs located in the upper Black Canyon of the Gunnison that provide premier backcountry flat-water recreational opportunities.
Current Conditions and Trends	• Increase of new recreation types: kiteboarding (summer and winter), paddleboarding, parasailing (anecdotal). • Increase in number of sightseers on Colorado Highway 92. • Numbers of recreation visits in 2011 trended downward (~-5%) from the previous year (and -4% from 5-year average), but is stable at more than 900,000 per year. • Overnight visits are stable (+/- 1% over past three years). • Increase of nonmotorized use on lower reservoirs (anecdotal). • Increase in staff contact with sightseers on Colorado Highway 92 and overlooks. • Boating use is probably downward/stable. • Fishing pressure is slightly down from all-time highs, but is trending upward. • Both rock- and ice-climbing occur in Gunnison River Canyon and throughout the Morrow Point area. • Dispersed recreation allows for few opportunities to provide resource and safety education to visitors. • The Kokanee salmon population is beginning to see a rebound from lake trout predation. Colorado Parks and Wildlife continues management actions to balance the fishery.
Threats and Opportunities	**Threats** • Lower reservoir water levels from climate change and water development is a threat to flat-water recreation and could impact the fishery due to loss of habitat. • High to extreme fire danger deters visits and overnight stays, especially when fire bans are in effect. • Unbalanced reservoir fishery. • Aquatic and terrestrial invasive species, (zebra/quagga mussels, New Zealand mud snail, aquatic and terrestrial plants) threaten the river and reservoir systems and could have a profound impact on recreation. • Poor economy can affect boating activities and visits from outside the area. • Inaccessible operations and facilities are a threat to recreational opportunities when lack of accessibility (Architectural Barriers Act accessibility standards) prevents visitors from reaching desired destinations. • Accessibility (Architectural Barriers Act accessibility standards) in all operations and facilities. • Maintaining adequate funding to provide access to resources and facilities (inspectors for boat ramps, staff for visitor center, interpretation, education, programs, clean facilities).

Fundamental Resource or Value: Recreation	
Threats and Opportunities (continued)	**Opportunities** • Opportunities to work with local tourism agencies to promote recreational use; very active tourism association in Gunnison/Crested Butte. • National fitness initiatives (Let's Move Outside, Play60, etc.) are opportunities to showcase recreational uses. • Working with local communities (marinas, boat sales, concession) for education of recreational opportunities and AIS prevention and containment. • Opportunity to better articulate safety concerns and hazards of recreational use parkwide, but specifically on lower two reservoirs. • Opportunity to educate anglers about the Kokanee and lake trout imbalance and actions they can take to help with the issue. • Opportunity to educate boaters about the harm that aquatic invasive species could do to Blue Mesa Reservoir and the financial impact it may have to them.
Existing Information and Plans	• General management plan. • Motorized vehicle access plan is complete; waiting for finalization of rule. • 2010 visitor use survey. • Annual visitor survey cards. • Annual use statistics. • Creel surveys (fish harvest and angler surveys). • Resource protection study. • Draft wilderness and backcountry management plan. • Facility improvement plans. • Concessions contract and commercial use authorizations.
Laws and Policies That Apply to This FRV, and Existing Park Guidance	**Laws and Policies That Apply to this FRV** • Memorandum of agreement with Bureau of Reclamation (1965) • State of Colorado fishing regulations • Colorado statute for aquatic invasive species • State boating regulations • NPS *Management Policies 2006* • NPS Concessions Management Improvement Act of 1998 • Title 36 *Code of Federal Regulations* • Architectural Barriers Act of 1968 • Americans with Disabilities Act of 1990 (28 CFR 36) • Architectural Barriers Act Accessibility Standards 2006 • U.S. Access Board Draft Accessibility Guidelines for Outdoor Developed Areas of 1999 • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **Existing Park Guidance** • Superintendent's Compendium • Motorized vehicle access draft rule

Fundamental Resource or Value: Recreation	
Identified Data Needs to Protect FRV	• Visitor use data including visitor trends, a statistically sound method to capture/quantify visitor use, a visitor capacity study, and backcountry visitor use information for the three reservoirs to quantify trail use, shoreline camping, dispersed camping, pack use, etc. • Economics data on recreational water value for visitors. • Visitor boat surveys (including better detection methods for presence of aquatic invasive species). • Accessibility assessment.
Identified Planning Needs to Protect FRV	• Long-range interpretive plan completion. • Traffic plan: visitor movement within recreation area, possible locations for visitor contact stations (i.e., AIS inspection stations), including permanent facilities for inspectors. • Complete wilderness and backcountry management plan for climbing and backcountry use. • Resource stewardship strategy. • Visitor use management plan (with natural resource and visitor use impacts). • Commercial services strategy. • Climate change adaptation strategy. • Climate change scenario planning.
Stakeholders Interested in This Resource or Value	• Boaters* • Anglers* • Hikers* • Campers* • Hunters* • Climbers* • Local communities • Adjacent land and water management agencies (Bureau of Reclamation, Bureau of Land Management, U.S. Forest Service, Western Area Power Administration, Colorado Parks and Wildlife) • Adjacent private landowners • Chambers of Commerce, local businesses, local tourism associations • Gunnison and Montrose county governments and residents • Colorado Scenic and Historic Byways Commission • Park concessioner and commercial users • Western National Parks Association * local, regional, and beyond

Fundamental Resource or Value: Scenic Views	
Short Description of Importance	The viewshed of Curecanti National Recreation Area enhances recreation and offers opportunities to view an expansive western landscape, including iconic features such as the Upper Black Canyon of the Gunnison, Dillon Pinnacles, Curecanti Needle, and Blue Mesa Reservoir.
Related Significance Statements	Globally and regionally imperiled cottonwood-riparian woodlands found within Curecanti provide habitats for sensitive species such as great blue herons and river otters. Blue Mesa Reservoir, cradled by mesas and iconic pinnacles within a high desert landscape, is the largest body of water in Colorado. Morrow Point and Crystal are two remote, fjord-like reservoirs located in the upper Black Canyon of the Gunnison that provide premier backcountry flat-water recreational opportunities. Eroded landscapes of Curecanti continue to reveal fossil-rich exposures of Late Jurassic and Early Cretaceous paleoenvironments (160–100 million years ago) including the remains of at least six dinosaur genera found in the noteworthy Morrison Formation.
Current Conditions and Trends	• Conservation opportunity areas could provide protection for the viewshed over time. • The viewshed is inconsistently protected. Some areas have conservation easements and protection and some areas do not. • Annual discharge in Gunnison River is trending downward, resulting in lower reservoir levels and a larger "bathtub ring" that diminishes the quality of view. • Recent development of houses and roads on private lands has impacted the viewshed in some places. • Continued growth in Gunnison County could affect the viewshed with development on borders and air quality degradation. • Many vistas are nearly pristine.

Fundamental Resource or Value: Scenic Views	
Threats and Opportunities	**Threats** • Challenge to protect all areas on the landscape due to lack of legislated authority. • Nonnative species are a threat to the viewshed (e.g., hillside of cheatgrass). • Fluctuating water levels in the reservoir increases shoreline erosion and exposes shoreline areas, affecting the aesthetics of the area. • Lack of conservation opportunity areas or loss of authority to exchange lands among federal agencies could threaten scenic views. • Lack of current zoning and urban sprawl (e.g., height of buildings, etc.). • Air quality issues. Dust has been an issue in the past. There have been major dust storms causing impacts. It has not only affected the viewsheds, but it also speeds up melting rates causing quick runoffs. The winter landscape is becoming patchy due to dust on snow. • Noise due to aircraft training low enough to impact viewshed and soundscapes. • Increased residential development surrounding Curecanti could impact viewsheds. • Litter exposed from lower reservoir levels; people littering (empty bait jars, tires, engines, bottles). • Change in congressional priorities; additional natural resource development and extraction; push in the western United States to open up federal lands or sell surrounding federal lands. **Opportunities** • Manage for scenery, considering scenic vistas in all management decisions. • Continue to work with the U.S. Forest Service, Bureau of Land Management, and state and local as well as private entities to protect the landscape. • Engage with federal and state partners when extractive activities are proposed. • Keep the viewshed in mind when the National Park Service is planning for development or infrastructure; set a good example. • Use of conservation easements; provide consultation to neighbors.
Existing Information and Plans	• General management plan. • Fire management plan. • Integrated solid waste management plan. • Resource protection study. • Draft wilderness and backcountry management plan. • Motorized vehicle access plan is complete; waiting for finalization of rule. • Spill control plan. • Adjacent federal agency management plans. • Local government plans and zoning. • Social science surveys (visitor services project from University of Idaho).

Fundamental Resource or Value: Scenic Views	
Laws and Policies That Apply to This FRV, and Existing Park Guidance	**Laws and Policies That Apply to this FRV** • NPS Organic Act of 1916 • The Clean Air Act (42 USC 7401 et seq.) gives federal land managers the responsibility for protecting air quality and related values, including visibility, plants, animals, soils, water quality, cultural resources, and public health, from adverse air pollution impacts • NPS *Management Policies 2006* (4.7) and NPS *Natural Resource Management Reference Manual 77* provide further direction on the protection of air quality and related values for park units • NPS *Management Policies 2006* (1.4, 1.6, 3.1) require the National Park Service to conserve and protect scenery and scenic vistas • Class 2 airshed designation **Existing Park Guidance** • Memorandum of agreement with Bureau of Reclamation
Identified Data Needs to Protect FRV	• GIS layers for overlooks to understand hotspots for interruption of viewsheds. • Air quality and visibility data available locally. The existing monitoring station is out on Red Mountain Pass, which is 100 miles away. A station in closer proximity is needed. • Night sky monitoring. • Grazing impacts study.
Identified Planning Needs to Protect FRV	• Integrated pest management plan. • Vegetation management plan. • Resource stewardship strategy. • Complete long-range interpretive plan. • Land protection plan. • Climate change scenario planning.
Stakeholders Interested in This Resource or Value	• Visitors • Montrose and Gunnison counties • U.S. Forest Service • Bureau of Land Management • Colorado Division of Parks and Wildlife • Colorado Scenic and Historic Byways Commission • Local tourism associations • Commercial operators / concessions • Western National Parks Association • Traditionally associated tribes • Adjacent land owners • All neighbors • Western Area Power Administration • Bureau of Reclamation

Fundamental Resource or Value: Riparian Plant and Wildlife Communities	
Short Description of Importance	Curecanti National Recreation Area contains a globally and regionally imperiled old growth cottonwood community that allows for a diverse assemblage of plants and wildlife, including sensitive species.
Related Significance Statements	Globally and regionally imperiled cottonwood riparian woodlands found within Curecanti provide habitats for sensitive species such as great blue herons and river otters.
Current Conditions and Trends	• Aquatic invasive species (AIS) threat is worsening as more nearby waters become infested. • AIS program is becoming more comprehensive and seeing more compliance with AIS prevention. • Increase in nonnative plant species. • There has been a decrease in nonnative plant species in the Neversink/Cooper Ranch restoration area. • Riparian plant and wildlife communities are altered by residential development upstream and reservoir downstream. • Cottonwood gallery stable; recent restoration plantings completed. • Cottonwood regeneration altered by modified river flows. • Very high quality water. • Low water levels, trending down with less shoreline. • Cut bank erosion increasing in some areas. • Beaver activity increasing and causing negative impacts in some areas. • River flow regimes are significantly altered due to upstream and downstream dams, flow regulation, water withdrawals, as well as a decline in winter snowpack attributable in part to anthropogenic climate change. • During the 20th century, mean annual temperature increased significantly (1.6°F/0.9°C, 1901–2002) while precipitation showed high interannual variability and no directional trend, according to a 2012 NPS study prepared by Patrick Gonzalez. • According to the Western Water Association in 2008, peak spring streamflow shifted earlier by two weeks in Colorado between 1978 and 2004.
Threats and Opportunities	**Threats** • Aquatic invasive species threat continues and becomes more of a threat as the infestation spreads to adjacent water bodies. • Increasing nonnative plant species. • Climate change and human water diversion continues to threaten water quantity, adversely affecting geomorphic processes, riparian vegetation, and aquatic life. • Grazing from adjacent private land could affect the cottonwood gallery and other plant communities within the riparian system. • Lower water levels and altered flows are a threat to the cottonwood gallery and are causing beaver activity in incompatible areas. • Changes to temperature and precipitation will alter interactions among biota and may cause the formation of novel plant and wildlife communities. **Opportunities** • Continuation of monitoring conducted by the NPS Inventory & Monitoring program will improve understanding of conditions and trends for some park resources. • Opportunities to work with neighboring landowners toward river/riparian restoration. • Interpretation/education of the influences from climate change on riparian plant and wildlife communities.

Fundamental Resource or Value: Riparian Plant and Wildlife Communities	

Existing Information and Plans	• General management plan.
	• Weed surveys.
	• Fire management plan.
	• Resource protection study.
	• Draft wilderness and backcountry management plan.
	• Motorized vehicle access plan is complete; waiting for finalization of rule.
	• Spill Control Plan.
	• Adjacent federal agency management plans.
	• Local government plans and zoning.
	• Restoration project plans and monitoring.
	• Great blue heron rookery monitoring data.
	• Current and historic bird monitoring.
	• Rocky Mountain Bird Observatory yellow-billed cuckoo survey (one year).
	• NCPN inventory and monitoring data:
	  • integrated upland monitoring
	  • big rivers monitoring
	  • vegetation map
	  • invasive nonnative species monitoring
	  • annotated checklist of vascular flora
	• Colorado Natural Heritage Program *Survey of Critical Wetland and Riparian Areas in Gunnison County.*
	• *Climate Change Trends for Planning at Black Canyon of the Gunnison National Park, Colorado,* a 2012 NPS study prepared by Patrick Gonzalez.
	• "Gunnison Basin Climate Change Vulnerability Assessment for the Gunnison Climate Change Working Group, 2011" (The Nature Conservancy; Colorado Natural Heritage Program; Western Water Assessment, University of Colorado, Boulder; and University of Alaska, Fairbanks).

Fundamental Resource or Value: Riparian Plant and Wildlife Communities	
Laws and Policies That Apply to This FRV, and Existing Park Guidance	**Laws and Policies That Apply to this FRV** • Clean Water Act of 1972 • State of Colorado basic water quality standards • Adjudicated water right: Rhamy ditch (in1890s) • State of Colorado fishing regulations • Colorado statue for aquatic invasive species • Class 2 airshed designation • Federal and state noxious weed control acts • Endangered Species Act of 1973 • Lacey Act, as amended • NPS *Management Policies 2006* (4.4.2.3) also calls for the agency to survey, protect, and strive to recover all species native to park units that are listed under the Endangered Species Act. In addition, the National Park Service is directed to inventory, monitor, and manage state listed species in a manner similar to the treatment of federally listed species, to the greatest extent possible. • NPS *Management Policies 2006* (4.7.2) states that "parks containing significant natural resources will gather and maintain baseline climatological data for references." • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" • Migratory Bird Treaty Act (MBTA); 16 U.S.C. 703-712 • Eagle Protection Act; 16 U.S.C. 668 • The National Environmental Policy Act of 1970 (NEPA); 42 U.S.C. 4321 • NPS *Natural Resource Management Reference Manual 77* **Existing Park Guidance** • Memorandum of understanding with Bureau of Reclamation directs management of terrestrial and aquatic species • Grazing interagency agreement • Superintendent's Compendium

Fundamental Resource or Value: Riparian Plant and Wildlife Communities	
Identified Data Needs to Protect FRV	• More monitoring of hydrological effects (quantification). • Great blue heron occupancy and productivity data. • More detailed monitoring of cottonwood riparian system, including yearly beaver activity. • Invertebrate study. • Complete additional yellow-billed cuckoo presence / absence surveys. • Continue riparian bird survey. • River otter occupancy and productivity data. • Finish natural resource condition assessment. • Beaver habitat survey. • Grazing impacts study. • Climate change indicators to support adaptation strategy.
Identified Planning Needs to Protect FRV	• Integrated pest management plan. • Vegetation management plan. • Resource stewardship strategy. • Wildlife management plan (including beaver). • Update water resource management plan. • Update fire management plan. • Data management plan. • Climate change adaptation strategy. • Climate change scenario planning. • Land protection plan.
Stakeholders Interested in This Resource or Value	• Recreationists • Gunnison Basin Weed District Commission • Commercial operators / concessions • Adjacent land owners • All neighbors • Trout Unlimited • Federal and state agencies: Colorado Parks and Wildlife, Bureau of Land Management, U.S. Forest Service • Local tourism associations • Western National Parks Association • Local birding groups

Analysis of Other Important Resources and Values

Other Important Resource or Value: Upland Wildlife Species	
Short Description of Importance	Curecanti's upland sagebrush, cliffs, and mesas provide habitat that supports species of concern including bighorn sheep, peregrine falcons, and federal candidate species Gunnison Sage-grouse and Gunnison's prairie dogs.
Related Significance Statements	Globally and regionally imperiled cottonwood-riparian woodlands found within Curecanti provide habitats for sensitive species such as Great Blue Herons and river otters. Blue Mesa Reservoir, cradled by mesas and iconic pinnacles within a high desert landscape, is the largest body of water in Colorado. Morrow Point and Crystal are two remote, fjord-like reservoirs located in the upper Black Canyon of the Gunnison that provide premier backcountry flat-water recreational opportunities.
Current Conditions and Trends	• Long-term trends indicate a decline in the Gunnison Sage-grouse population. • Gunnison Sage-grouse habitat is stable. • Gunnison's prairie dog populations are declining. • Dry Gulch bighorn sheep herd has stabilized after years of decline. • Lake Fork bighorn sheep herd is in decline. • Peregrine Falcon populations are stable.
Threats and Opportunities	**Threats** • Pasteurellosis, a pneumonia-like disease, threatens bighorn sheep populations. • Plague, an introduced disease, threatens prairie dog populations. • Increasing weed spread (cheat grass) threatens Gunnison Sage-grouse habitat. • Drought threatens to alter and degrade all upland habitats. • Habitat fragmentation within and beyond park boundaries. • Potential effects of climate change. • Inadequate management of resource-related data and information necessary to support management decision making. • Hotter and drier conditions due to climate change may increase drought stress and wildland fires and impact water resources. **Opportunities** • Interagency conservation groups provide opportunities for Gunnison Sage-grouse conservation work. • A bait-delivered plague vaccine should soon be available for Gunnison's prairie dog management. • Further participation in Gunnison Climate Working Group. • Candidate conservation agreement for Gunnison Sage-grouse.

Existing Information and Plans	• General management plan.
	• Weed surveys.
	• Gunnison's prairie dog monitoring.
	• Gunnison Sage-Grouse plans including:
	  • Rangewide conservation plan.
	  • Draft candidate conservation agreement.
	  • Gunnison strategic committee action plan.
	• Gunnison Sage-Grouse habitat monitoring.
	• Gunnison Sage-Grouse survival and habitat use study.
	• Peregrine Falcon monitoring.
	• Fire management plan.

Other Important Resource or Value: Upland Wildlife Species	

Existing Information and Plans (continued)	• Resource protection study.
	• Wilderness and backcountry management plan.
	• Motorized vehicle access plan is complete; waiting for finalization of rule.
	• Adjacent federal agency management plans.
	• Local government plans and zoning.
	• Colorado Parks and Wildlife bighorn sheep monitoring data.
	• NCPN inventory and monitoring data:
	  • Bird monitoring.
	  • Integrated upland monitoring.
	  • Vegetation map.
	  • Invasive nonnative species monitoring.
	  • Annotated checklist of vascular flora.
	• *Climate Change Trends for Planning at Black Canyon of the Gunnison National Park, Colorado,* a 2012 NPS study prepared by Patrick Gonzalez.
	• "Gunnison Basin Climate Change Vulnerability Assessment for the Gunnison Climate Change Working Group, 2011" (The Nature Conservancy; Colorado Natural Heritage Program; Western Water Assessment, University of Colorado, Boulder; and University of Alaska, Fairbanks).

Laws and Policies That Apply to This OIRV, and Existing Park Guidance	**Laws and Policies That Apply to this OIRV** • NPS *Management Policies 2006* (4.4.2.3) also requires the agency to survey, protect, and strive to recover all species native to park units that are listed under the Endangered Species Act. In addition, the National Park Service is directed to inventory, monitor, and manage state listed species in a manner similar to the treatment of federally listed species, to the greatest extent possible. • Migratory Bird Treaty Act (MBTA), 16 U.S.C. 703-712 • Eagle Protection Act, 16 U.S.C. 668 • The National Environmental Policy Act of 1970 (NEPA), 42 U.S.C. 4321 • Class 2 airshed designation • Federal Noxious Weed Control Act of 1974 • Endangered Species Act of 1973 • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" • NPS *Management Policies 2006* (4.7.2) states that "parks containing significant natural resources will gather and maintain baseline climatological data for references" **Existing Park Guidance** • Grazing interagency agreement • Memorandum of understanding with Bureau of Reclamation directs management of terrestrial and aquatic species

Other Important Resource or Value: Upland Wildlife Species	
Identified Data Needs to Protect OIRV	• Climate change research. • Completion of U.S. Geological Survey-NPS Gunnison Sage-grouse survival and habitat modeling analyses. • Colorado Parks and Wildlife-U.S. Geological Survey prairie dog bait plague vaccine analysis. • Finish natural resource condition assessment. • Climate change indicators to support adaptation strategy.
Identified Planning Needs to Protect OIRV	• Integrated pest management plan. • Vegetation management plan. • Research stewardship strategy. • Wildlife management plan(s). • Update water resource management plan. • Update fire management plan. • Data management plan. • Climate change adaptation strategy. • Climate change scenario planning. • Land protection plan.
Stakeholders Interested in This Resource or Value	• Recreationalists/wildlife viewers • Gunnison Basin Weed District Commission • Federal and state agencies: Colorado Parks and Wildlife, Bureau of Land Management, U.S. Forest Service, U.S. Fish and Wildlife Service • Local tourism associations • Commercial operators / concessions • Traditionally associated tribes • Western National Parks Association • Adjacent land owners • All neighbors

Other Important Resource or Value: Cultural Sites and Landscapes	
Short Description of Importance	Stories of the hardship and achievement of westward expansion, resource utilization, water development, transportation innovation, and land protection are exemplified by historic structures and artifacts left behind by those who lived and settled in the Gunnison Basin.
Related Significance Statements	The continuum of human occupation is demonstrated through artifacts, structures, oral histories, and landscape modifications associated with traditional cultures, railroading, mining, ranching, irrigation, water storage, and hydropower development.
Current Conditions and Trends	• Engine 278, tender, box car, and caboose are usually displayed on a truss bridge in the Black Canyon at Cimarron. • Two stock cars, maintenance car, and crane car are displayed in a yard near the Cimarron Visitor Center and campground. • The locomotive, tender, and caboose are on a long-term lease to Curecanti National Recreation Area from the City of Montrose. • Oral histories and anecdotal evidence suggests that there may be physical remnants of railroad history at Cimarron. • There are additional opportunities for documentation and interpretation of historic buildings whose foundations are buried in the ground at East Portal and Cimarron. • Mine sites are being assessed for hazards and restoration needs. • All proposed cultural landscapes are deteriorating. • Engine 278 and tender have recently been restored.
Threats and Opportunities	**Threats** • Historical sites throughout the park are at risk due to human disturbance, theft, erosion, fire, etc. • All of the other cars need some level of restoration, except one of the stock cars. • The truss bridge in the canyon is in need of repair. • All proposed cultural landscapes deteriorating. **Opportunities** • Collaboration with BLM cultural resource managers**.**
Existing Information and Plans	• General management plan. • Variety of historic structures reports. • National register properties. • List of Classified Structures database. • Museum collection database and archival collections. • FMSS asset database.

Other Important Resource or Value: Cultural Sites and Landscapes	
Laws and Policies That Apply to This OIRV, and Existing Park Guidance	**Laws and Policies That Apply to this OIRV** • The Antiquities Act of 1906 • National Historic Preservation Act of 1966, as amended (16 USC 470) • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • Archaeological Resources Protection Act of 1979 • Native American Graves Protection and Repatriation Act of 1990 • "Curation of Federally Owned and Administered Archeological Collections" (36 CFR 79) • *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* • *The Secretary of the Interior's Standards for the Treatment of Historic Properties* • 2008 Programmatic Agreement among the National Park Service, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers • NPS *Management Policies 2006* (5.3.5.5) states that the National Park Service "will collect, protect, preserve, provide access to, and use objects, specimens, and archival and manuscript collections…in the disciplines of archeology, ethnography, history, biology, geology, and paleontology to aid understanding among park visitors, and to advance knowledge in the humanities and sciences." • NPS *Management Policies 2006* (5.3.5.2) requires the preservation of the physical attributes, biotic systems, and uses of cultural landscapes that contribute to historical significance • Director's Order 28: *Cultural Resource Management* (1998) • Director's Order 28A: *Archeology* (2004) • "Protection of Historic Properties" (36 CFR 800) • Executive Order 13007, "Indian Sacred Sites" • American Indian Religious Freedom Act of 1978 • Archeological and Historic Preservation Act of 1974 **Existing Park Guidance** • None identified
Identified Data Needs to Protect OIRV	• Survey is needed for the landscape around the original railroad town and East Portal townsite. • Selective excavations as appropriate. • Cultural landscape inventory. • Oral histories. • Traditional cultural properties. • Ethnographic overview and assessment. • Climate change indicators to support adaptation strategy.
Identified Planning Needs to Protect OIRV	• Resource stewardship strategy. • Update fire management plan. • Data management plan. • Climate change adaptation strategy. • Climate change scenario planning. • Land protection plan.
Stakeholders Interested in this Resource or Value	• Area historical societies and museums • City of Montrose • Traditionally associated tribes • Colorado Office of Archaeology and Historic Preservation • Montrose and Delta counties • Colorado Archaeological Society

Identification of Key Issues and Associated Planning and Data Needs

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

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

- **Development and Uses Adjacent to the Park.** The park is bordered by a mix of federal, state, and private lands that are used for a variety of purposes including livestock grazing, ranching, recreation, and private residences. Key issues include diminished quality of night skies and soundscapes due to increasing regional development and urbanization, increased pressure on native species and increased pathways for noxious weeks, and diminished park viewsheds from development of adjacent private properties. Curecanti National Recreation Area has an opportunity to build positive relationships with its neighbors through the use of proposed conservation opportunity areas. Planning needs for this issue include a land protection plan, resource stewardship strategy, vegetation management plan, integrated pest management plan, completion of the draft wilderness and backcountry management plan, completion of the long-range interpretive plan, and a commercial services strategy. Data needs for this issue include completion of the natural resources condition assessment, GIS viewshed layers, an air quality and visibility study, a grazing impacts study, and a cultural landscape inventory.

- **Water Availability and Climate Change.** Water availability is a far-reaching and long-term issue that will affect all aspects of Curecanti National Recreation Area. The Colorado River Basin is a critical landscape element and driving force in Colorado Plateau ecosystems. Big rivers on the Colorado Plateau are fed by snowmelt from the surrounding mountains. They flow through arid lands and are biodiversity hotspots, making them excellent indicators of climate change at a broad ecosystem level. Large percentages of park fauna depend on these rivers for at least some portion of their life cycle, as riparian vegetation supports up to 80% of species diversity in desert ecosystems. Climate-related changes in snowpack amount and snowmelt timing will have major effects on big rivers, as water availability and flow variability have the potential to greatly alter the structure and function of riparian ecosystems and their sensitivity to other anthropogenic stressors. Climate change has both immediate and long-term implications, including impacts to natural and cultural resources, infrastructure, visitor experience and safety, and increased maintenance costs. Curecanti National Recreation Area has already seen impacts such as the closing of two of the five boat ramps and reduced shoreline fishing access at least for the short term. The park is seeing signs that old growth pinyon pine, serviceberry, aspen, and Douglas fir habitats are being stressed. Through various initiatives and operational changes at Black Canyon of the Gunnison National Park and Curecanti National Recreation Area, vehicle emissions have reduced from where they were three years ago.

- The park is using green chemicals, ENERGY STAR™ appliances, improving potable water systems, recycling, and performing a yearly exercise on "balancing water." Additionally the park has been involved in various programs outside its boundaries including advocating for water rights downstream, staff involvement in the Gunnison Climate Working Group, as well as participating in other statewide green initiatives. Colorado water law allows the park to defend downstream senior water rights from claims by other basins or municipalities and Colorado water quality regulations allow the park to be party to water quality rule-making hearings. Curecanti National Recreation Area will continue working with local watershed groups, state and federal agencies, adjacent landowners, and local municipalities to protect and restore the quantity and quality of streams and rivers that flow into Curecanti. Planning needs for this key parkwide issue include a climate change adaptation strategy and an updated water resource management plan. Data needs include collection of climate change indicator data to support the adaptation strategy; springs/seeps data on flow, volume, water quality, and species; continuous data on tributary inflow; economics data pertaining to recreational water value as perceived by visitors; selective excavations as reservoir levels recede; and more monitoring of hydrological effects.

- **Spread of Invasive Species.** Invasive species, both aquatic and terrestrial (New Zealand mudsnails, zebra and quagga mussel, Dydimosphenia geminata, aquatic plants, and terrestrial plants [weeds]) threaten the streams and reservoirs at Curecanti National Recreation Area. The park staff would like to have more control over the prevention of infestation of invasive species and this would require updates to facilities including improved inspection stations for boats. Planning needs related to this key parkwide issue include a plan for the design of facilities and traffic flow patterns to enhance aquatic invasive species prevention and containment, resource stewardship strategy, integrated pest management plan, vegetation management plan, visitor use management plan, and an updated water resource management plan. Data needs related to this key parkwide issue include efficacy of polymerase chain reaction data for aquatic invasive species detection, grazing impacts study, and visitor boat surveys.

Planning and Data Needs

To maintain connection to the core elements of the foundation, and because of 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's efforts to secure funding and support for planning projects.

Planning Needs – Where A Decision-making Process Is Needed			
Related to an FRV or OIRV?	**Planning Needs**	**Priority (H, M, L)**	**Notes**
FRV	Wilderness and backcountry management plan / environmental assessment	H	This planning effort is ongoing and is awaiting final finding of no significant impact, which is needed to resolve issues regarding climbing and backcountry use. It is related to the following FRV: recreation.
FRV	Long-range interpretive plan	H	This ongoing effort is related to the following FRVs: scenic views, recreation. It also addresses interpretation of all resource values. It is related to the following FRVs: scenic views, recreation. It also addresses interpretation of all resource values.
FRV	Rulemaking to designate water surfaces, routes, and areas as open to snowmobiles or off-road vehicles	H	This ongoing planning effort is awaiting final rulemaking before it can be implemented as regulation, and is related to the following FRV: recreation.
FRV, OIRV	Land protection plan	H	This plan would include strategies to protect the scenic views and riparian plant and wildlife communities FRVs and the upland wildlife species OIRV.
FRV	Plan for the design of facilities and traffic flow patterns to enhance aquatic invasive species prevention and containment.	H	This plan would be used for the establishment of visitor traffic flow patterns and permanent facilities in support of the aquatic invasive species prevention program, and is related to the recreation FRV. The plan would address visitor movement within the recreation area, possible locations for visitor contact stations (i.e., AIS inspection stations), including permanent facilities for inspectors.
FRV, OIRV	Wildlife management plan	H	This plan would establish parameters for nuisance animal control; beavers are currently threatening the cottonwood stands and damaging facility assets. It is related to the following FRVs and OIRVs: aquatic resources, riparian plant and wildlife communities, upland wildlife species.
FRV	Commercial services strategy	H	A commercial services strategy would be used to prepare for pending expiration of concessioner contracts. It is related to the following FRV: recreation.
FRV, OIRV	Resource stewardship strategy	H	This planning need is related to the following FRVs: and OIRVs: aquatic resources, riparian plant and wildlife communities, geology and paleontology, archeology, upland wildlife species, cultural sites and landscapes.
FRV, OIRV	Update fire management plan	H	This action is necessary to meet new fire planning requirements and is related to the following FRVs and OIRVs: riparian plant and wildlife communities, archeology, upland wildlife species, cultural sites and landscapes.
FRV	Legislation to establish congressionally authorized boundaries	H	This planning need is related to the following FRVs: geology, archeology and paleontology.

Planning Needs – Where A Decision-making Process Is Needed			
Related to an FRV or OIRV?	**Planning Needs**	**Priority (H, M, L)**	**Notes**
FRV, OIRV	Climate change adaptation strategy	H	This planning need is related to the following FRVs and OIRV: aquatic resources, riparian plant and wildlife communities, recreation, upland wildlife species, geology and paleontology, archeology, upland wildlife species, and cultural sites and landscapes.
FRV, OIRV	Climate change scenario plan	H	This planning need is related to the following FRVs and OIRV: aquatic resources, riparian plant and wildlife communities, recreation, upland wildlife species, geology and paleontology, archeology, cultural sites and landscapes.
FRV	Integrated pest management plan	M	This plan would establish parameters for integrated pest management. It is related to the following FRVs: scenic views, riparian plant, and wildlife communities.
FRV, OIRV	Vegetation management plan	M	This plan would establish parameters for control of nonnative plant species and restoration of native plant communities. It is related to the following FRVs and OIRV: scenic views, riparian plant and wildlife communities, upland wildlife species.
FRV, OIRV	Water resource management plan (update)	M	This plan is related to the following FRVs and OIRV: aquatic resources, riparian plant and wildlife communities, upland wildlife species.
FRV	Visitor use management plan (with natural resource and visitor use impacts)	L	This plan would establish visitor use management principles (including visitor capacities if needed) and would address natural resource issues and impacts as related to visitor use. This planning need is related to the following FRV: recreation.
FRV, OIRV	Data management plan	L	This planning need is related to the following FRVs and OIRVs: aquatic resources, riparian plant and wildlife communities, geology and paleontology, archeology, upland wildlife species, cultural sites and landscapes.
FRV	Long-term plan for storage of paleontological specimens	L	This planning need is related to the following FRV: geology and paleontology.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or OIRV?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
FRV, OIRV	Finish natural resource condition assessment	H	This data need is ongoing and is related to the following FRVs and OIRV: aquatic resources, riparian plant and wildlife communities, upland wildlife species.
FRV	Detailed monitoring of cottonwood riparian system	H	This data need is ongoing, and is related to the following FRV: riparian plant and wildlife communities.
FRV	Detailed monitoring of hydrological effects (quantification)	H	This data need is ongoing and is related to the following FRV: riparian plant and wildlife communities.
FRV	Beaver habitat survey	H	A beaver habitat survey is needed because beavers are impacting culverts and habitats by rerouting creeks; immediate control is needed. This data need is related to the following FRVs: riparian plant and wildlife communities, aquatic resources.
FRV	Climate change indicators to support adaptation strategy	H	Baseline data are needed to address climate change in regard to vegetative communities, fisheries, water quality, etc. This need is related to the following FRVs and OIRV: aquatic resources, riparian plant and wildlife communities, geology and paleontology, archeology, upland wildlife species, cultural sites and landscapes.
FRV	Efficacy of polymerase chain reaction data for aquatic invasive species detection	H	This data need is related to the following FRV: aquatic resources.
FRV	Commercial services strategy	H	This data need is related to the following FRV: recreation.
FRV	Springs/seeps data on flow volume, water quality, and species	H	These baseline data are needed prior to the climate change strategy, and are related to the following FRV: aquatic resources.
FRV	Continued inventory of fossil bearing formations	H	This data need is related to the following FRV: geology and paleontology.
OIRV	Completion of U.S. Geological Survey-NPS Gunnison Sage-grouse survival and habitat modeling analyses	H	This data need is related to the following OIRV: upland wildlife species.
FRV	Accessibility assessment	M	This data need is related to the following FRV: recreation. Inaccessible operations and facilities are a threat to recreational opportunities when lack of accessibility (Architectural Barriers Act accessibility standards) prevents visitors from reaching desired destinations.
FRV	Grazing impacts study	M	This data need is related to the following FRVs: riparian plant and wildlife communities, aquatic resources, scenic views.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or OIRV?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
FRV	GIS viewshed layers	M	GIS viewshed layers are needed in order to understand hotspots for interruption of viewsheds and most effectively use conservation opportunity areas. This data need is related to the following FRV: scenic views.
FRV	Archeological inventory of unsurveyed portions of the park with special interest in any lands added as a result of the resource protection study	M	About 85% of the park has not been surveyed. This inventory is needed to understand where sites exist in order to manage protection and establish baseline condition data. It is related to the following FRV: archeology.
FRV	Continuous data on tributary inflow	M	This data need is related to the following FRV: aquatic resources.
FRV	Establish a closer SNOTEL data location (on same geographic side of the West Elk Mountains as the park)	M	Current SNOTEL location is on the opposite side of a mountain range, which affects the efficacy of data. Closer location is needed to increase the validity of available data. This data need is related to the following FRV: aquatic resources.
FRV	Soil moisture data	M	This data need is related to the following: aquatic resources.
FRV	Visitor use data	M	Visitor use data including visitor trends, a statistically sound method to capture/quantify visitor use, and a visitor capacity study, and backcountry visitor use information for the three reservoirs to quantify trail use, shoreline camping, dispersed camping, pack use, etc. The data need is related to the following FRV: recreation.
FRV	Visitor boat surveys (including better detection of aquatic invasive species)	M	Boat data information will assist aquatic invasive species boat inspectors. This data need is related to the following FRVs: aquatic resources, riparian plant and wildlife communities, recreation.
FRV	Economics data on recreational water value for visitors	M	This data request is in the Project Management Information System, and is related to the following FRV: recreation.
FRV	Air quality and visibility data	M	An opportunity may exist to use the monitoring station at Red Mountain Pass to collect air quality and visibility data if the station is close enough. A station in closer proximity may be needed. This data need is related to the following FRV: scenic views.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or OIRV?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
FRV	Archeological overview and assessment	M	An overview and assessment would summarize and consolidate past research efforts, identify program deficiencies, and provide recommendations for future program development. It is related to the following FRV: archeology.
FRV, OIRV	Ethnographic overview and assessment	M	An overview and assessment would summarize the ethnographic inventory, identify research deficiencies, and provide recommendations for future program development. It is related to the following FRV and OIRV: archeology, cultural sites and landscapes.
FRV, OIRV	Ethnographic inventory	M	This inventory would identify areas of importance to traditionally associated groups. It is related to the following FRV and OIRV: archeology, cultural sites and landscapes.
FRV	Selective excavations of sites, as appropriate to determine eligibility for listing on the National Register of Historic Places, recover data from threatened sites, or gain new information	M	This data need is related to the following FRV: archeology.
FRV	National Register of Historic Places nominations	M	This data need is related to the following FRV: archeology.
FRV	Inventory of geological hazards	M	This data need is related to the following FRV: geology and paleontology.
FRV	Great blue heron occupancy and productivity data	M	This data need is related to the following FRV: riparian plant and wildlife communities.
FRV	More detailed monitoring of cottonwood riparian system, including yearly beaver activity	M	This data need is related to the following FRV: riparian plant and wildlife communities.
FRV	Complete additional yellow-billed cuckoo presence / absence surveys	M	This data need is related to the following FRV: riparian plant and wildlife communities.
FRV	Continue riparian bird survey	M	This data need is related to the following FRV: riparian plant and wildlife communities.
OIRV	Colorado Parks and Wildlife-U.S. Geological Survey prairie dog bait plague vaccine analysis	M	This data need is related to the following OIRV: upland wildlife species.
OIRV	Oral histories	M	This data need is related to the following OIRV: cultural sites and landscapes.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or OIRV?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
FRV, OIRV	Cultural landscape inventory	L	These data are needed to understand the historic landscape in order to develop a protection and management strategy. This data need is related to the following FRVs and OIRV: archeology, scenic views, cultural sites and landscapes.
FRV	Invertebrate study	L	These data are needed for improved understanding of existing insect species as a baseline for future monitoring. It is related to the following FRV: riparian plant and wildlife communities.
FRV	East Portal stabilization data and plan	L	These data are needed to determine current stability level at East Portal and would help the park plan for ongoing maintenance to protect the resource. It is related to the following FRV: archeology.
FRV	Visitor trends	L	This data need is related to the following FRV: recreation.
FRV	Cultural landscape report for all proposed cultural landscapes	L	This data need is related to the following FRV: archeology.
FRV	Night sky monitoring	L	This data need is related to the following FRV: scenic views.
FRV	River otter occupancy and productivity data	L	This data need is related to the following FRV: riparian plant and wildlife communities.
OIRV	Survey of the landscape around the original railroad town and East Portal townsite	L	This data need is related to the following OIRV: cultural sites and landscapes.
OIRV	Traditional cultural properties	L	This data need is related to the following OIRV: cultural sites and landscapes.

Part 3: Preparers, Consultants, and Meeting Attendees

Preparers

Morgan Elmer – Project Manager, NPS Denver Service Center-Planning

Tamara Delaplane – Project Specialist, NPS Denver Service Center-Planning

Ericka Pilcher – Project Specialist, NPS Denver Service Center-Planning

Michael Pisano – Project Specialist, NPS Denver Service Center-Planning

Consultants

Nancy Shock – Foundation Coordinator, WASO Park Planning and Special Studies

Pam Holtman – Quality Assurance Coordinator, WASO Park Planning and Special Studies

Mary Beth Homiack – Contract Librarian, NPS Denver Service Center-Planning

Meeting Attendees

Skip Meehan – Community Planner, NPS Intermountain Regional Office

Connie Rudd – Superintendent, Curecanti National Recreation Area

Ken Stahlnecker – Chief of Resource Stewardship and Science

Cody Waggener – Chief of Facilities

Jeannine McElveen – Chief of Administration

Marc Yeston – Chief of Visitor and Resource Protection

Gregg S Smith – Zone Safety Officer

Sandy Snell-Dobert – Chief of Interpretation, Education, and Technology

Danguole Bockus – Ecologist

Michael Dale – Hydrologist

Matt Malick – Aquatic Ecologist

Theresa Childers – Wildlife Biologist

Forest Frost – Archaeologist

Ed Herrera – Roads and Trails Foreman

Jeff Weak – Buildings and Utilities Foreman

Ryan Thrush – Black Canyon Protection Ranger

John Patmore – Curecanti District Ranger

Steve Winslow – Black Canyon District Ranger

Paul Zaenger – Black Canyon District Interpreter

Brant Porter – Curecanti District Interpreter

Ellen Petrick – Education Specialist

Carol Dominguez – Manager, Western National Parks Association

Deana Dupre – Fee Collection Supervisor, Black Canyon of the Gunnison National Park

Alison Robb – Aquatic Invasive Species Coordinator

Murray Shoemaker – Park Ranger

Appendixes

Appendix A: Memorandum of Agreement

MEMORANDUM OF AGREEMENT
Between
THE BUREAU OF RECLAMATION
and
THE NATIONAL PARK SERVICE
RELATING TO THE DEVELOPMENT AND ADMINISTRATION OF
RECREATION ON THE CURECANTI UNIT
COLORADO RIVER STORAGE PROJECT

THIS MEMORANDUM OF AGREEMENT, made and entered into this 11th day of February 1965, between the BUREAU OF RECLAMATION, hereinafter referred to as the Bureau, and the NATIONAL PARK SERVICE, hereinafter referred to as the Service as agencies of the United States of America:

WITNESSETH THAT:

WHEREAS the Bureau is proceeding with the construction of the Curecanti Unit as a part of the Colorado River Storage Project authorized by the Act of April 11, 1956 (70 Stat. 105); and

WHEREAS the Service has been designated as the agency responsible for carrying out the provision of Section 8 of the said Act of April 11, 1956; and

WHEREAS lands are being acquired and public lands have been withdrawn for the purposes of the project, as authorized by the aforesaid Act of April 11, 1956; and

WHEREAS a large number of persons are expected to use the lands and waters of such withdrawn area for the purposes of recreation; and

WHEREAS the Act of August 7, 1946 (60 Stat. 885) authorizes the use of appropriated funds by the Service for the administration, protection, improvement, and maintenance of areas under the jurisdiction of other agencies of the Government when such areas are devoted to recreational use pursuant to cooperative agreements; and

WHEREAS the Service is experienced in administering areas devoted to recreational use:

NOW, THEREFORE, the Bureau and the Service do hereby mutually agree as follows:

ARTICLE I
GENERAL PROVISIONS

1. The Bureau shall retain complete authority over and responsibility for construction, operation and maintenance of the Blue Mesa, Morrow Point, and Crystal Dams and Reservoirs for primary project purposes together with all engineering works in connection therewith. Except for the areas required by the Bureau for construction, operation and maintenance of the dams, the Service shall administer all lands and waters within the project area, providing for recreation therein. The agreed areas of authority between the Bureau and the Service include all those lands acquired, withdrawn, or segregated by the Bureau for project purposes under the authority of the aforesaid Act of April 11, 1956. These lands are generally depicted on the enclosed drawing marked Exhibit "A" and numbered SA-CUR-7101. This Exhibit may be revised at any time to illustrate changes in the project area as a result of land acquisition, or additional withdrawls.

2. The parties to this agreement acknowledge that, as authorized by Congress, each has an interest in the storage, release, and utilization of the water which is to be impounded by the Curecanti Unit, and that such unit was authorized, and is being constructed, for the primary purposes of irrigation, flood control, and the generation of hydroelectric power and the incidential purposes of recreation, and fish and wildlife conservation. This agreement shall not be construed to conflict with the primary purposes of the project or to alter the Bureau's control over storage and release of water. However, to the extent consistent with the authorized primary purposes of said project, the Bureau shall operate the dams and reservoirs in keeping with the Secretarial policy which provides for full consideration of public recreation and fish and wildlife conservation on reservoir projects undertaken by the Federal Government. The Service shall determine the optimum and minimum pool levels desirable for public recreational use and provide the Bureau with this information for consideration in carrying out the purposes of this paragraph.

3. Prior to making any new development or granting any concession, lease, license or permit which, because of its nature or location will affect the Bureau's activities at the Curecanti Unit Dams, the Service shall obtain the concurrence of the Bureau. Before making any new development or granting any concession, lease, license, or permit at the Curecanti Unit Dams which will affect the recreational and tourist facilities on the remainder of the project area, the Bureau shall obtain the concurrence of the Service. If either party does not concur in such proposed development, concession, lease, license, or permit the proposal shall be held in abeyance until agreement is reached by the Bureau and the Service or the Secretary has resolved any differences of opinion.

4. The parties to this agreement acknowledge and understand that the fulfillment of the agreement is contingent upon the availability of funds for the purposes thereof.

ARTICLE II
FUNCTIONS OF THE NATIONAL PARK SERVICE

Subject to the primary purposes of the project, area limitations, and other provisions contained in Article I hereof, the Service in its administration of the project area for recreation, shall be responsible for:

1. Preparing plans for and constructing recreational facilities, including roads and trails.

2. Advertising for, evaluating and approving or rejecting bids and negotiating contracts for the installation or construction of recreational facilities.

3. Negotiating and executing contracts, with private individuals, partnerships or corporations for supplying necessary visitor services

related to recreational use of the project area, including, but not limited to, use of the waters for boating, canoeing, bathing, and sightseeing; and prescribing and enforcing reasonable rates and standards for the supplying of such services.

4. Establishing and enforcing policies regarding the recreational use of lands and waters in the project area. It is understood that grazing activities within that portion of the project area administered by the Service shall be controlled and supervised by the Service in consultation with the Bureau of Land Management.

5. Promulgating and enforcing such rules and regulations as are necessary or desirable for the conservation of any historic or archeological remains, and control of all archeological excavation and historical or archeological research or as may be needed for recreational use and enjoyment of the area and for the safety of visitors.

6. Establishing and maintaining protective, interpretive, and other facilities and services as may be necessary for the safe and full use and enjoyment of the area for recreational purposes. Public information activities and services shall be provided by the Service through coordination with other Interior agencies in order to facilitate public understanding of the interrelated programs of these agencies within the area.

7. Control of transportation in the area under its jurisdiction, whether by land, water, or air, to the extent consistent with Federal law, but such control shall not affect transportation the Bureau may require for the performance of its functions or transportation governed by Article III, paragraphs numbered 3 and 4.

8. Extending to the Bureau and other agencies involved technical assistance in the planning and development of exhibits and interpretive devices oriented toward visitor understanding and enjoyment of the project and related resources.

9. Negotiation of agreements or coordination of activities with State and Federal wildlife agencies as desirable for the conservation, protection and interpretation of wildlife consistent with applicable law.

10. Such other functions as are reasonably related to, or necessary for, its administration of the project area.

ARTICLE III
FUNCTIONS OF THE BUREAU OF RECLAMATION

Subject to the area limitations and provisions contained in Article I hereof, the Bureau shall be responsible for:

1. Construction, operation and maintenance of the Blue Mesa, Morrow Point and Crystal Dams and Reservoirs and all engineering works incidental thereto or in connection therewith, together with all appurtenances thereof for the proper storage, release, protection and utilization of water

under the Federal Reclamation Laws.

2. Consultation with the Service on matters involving the development or administration of recreational facilities or public information services to be provided in the areas required by the Bureau for construction, operation and maintenance of the three dams in the Curecanti Unit.

3. Establishment and enforcement of rules and regulations governing public access to the Curecanti Unit Dams and the engineering works appurtenant thereto, and the control of traffic on the roads providing immediate access to the dams and their appurtenant engineering works.

4. Establishment of and, in cooperation with the Service, enforcement of such limitations governing approach to the dams by water as may be necessary either for their efficient functioning or for the safety of the public.

5. Coordination and preparation of reservoir management plans in cooperation with the Service and other concerned Federal, State, and local agencies, for management of the three dams and reservoirs in the project area.

6. Consultation with the Service so that recreational development and administration of the project area will be coordinated with construction and operation of the Curecanti Unit.

ARTICLE IV
TERMINATION

This memorandum shall remain in force unless the parties thereto mutually agree to its termination or termination is directed by the Secretary of the Interior, or until enactment by the Congress of inconsistent or superseding legislation.

BUREAU OF RECLAMATION
Date 1/8/1965
(Sgd) Floyd E. Dominy

NATIONAL PARK SERVICE
Date Dec. 21-1964
(Sgd) George B. Hartzog

Approved: February 11, 1965

(Sgd) Stewart L. Udall
Secretary of the Interior

Intermountain Region Foundation Document Recommendation
Curecanti National Recreation Area

October 2013

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

Constance A. Rudd — Nov. 7, 2013

RECOMMENDED
Superintendent, Curecanti National Recreation Area — **Date**

11/22/13

APPROVED
Regional Director, Intermountain Region — **Date**

Acting

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.

CURE 616/121461
December 2013

Foundation Document • Curecanti National Recreation Area

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