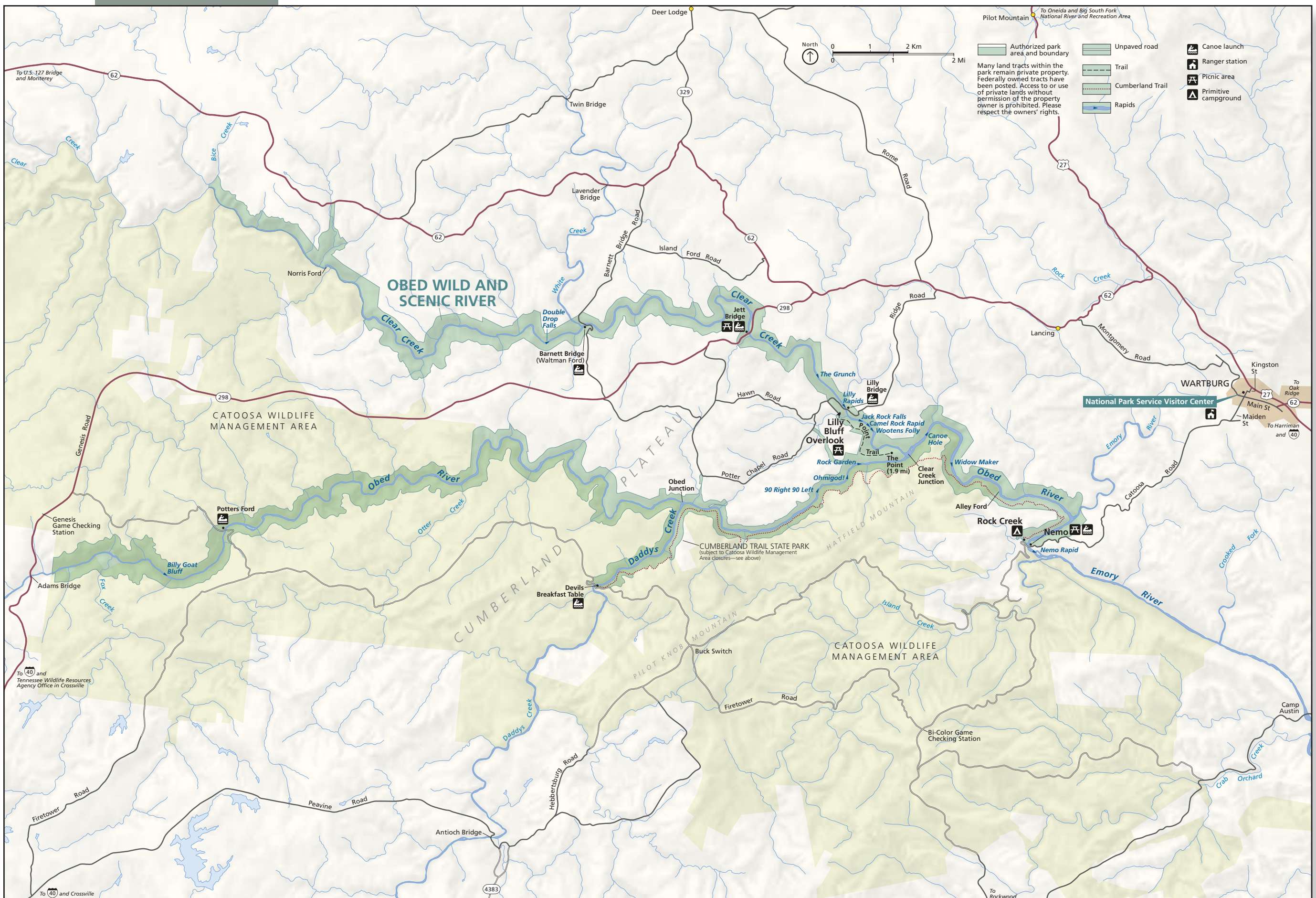
NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR

Foundation Document

Obed Wild and Scenic River

Tennessee

November 2015


OBED WILD AND SCENIC RIVER
North
0 1 2 Km
0 1 2 Mi
Authorized park area and boundary
Many land tracts within the park remain private property. Federally owned tracts have been posted. Access to or use of private lands without permission of the property owner is prohibited. Please respect the owners' rights.
Unpaved road
Trail
Cumberland Trail
Rapids
Canoe launch
Ranger station
Picnic area
Primitive campground
Deer Lodge
Pilot Mountain
To Oneida and Big South Fork National River and Recreation Area
To 127-S 127 Bridge and Monterey
Twin Bridge
Lavender Bridge
Norris Ford
Barnett Bridge (Waltman Ford)
Double Drop Falls
Jett Bridge
Island Ford Road
Rome Road
Lancing
Montgomery Road
Kingston St
WARTBURG
Main St
Maiden St
To Harriman and 40
National Park Service Visitor Center
The Grunch
Lilly Bridge
Lilly Rapids
Jack Rock Falls
Camel Rock Rapid
Wootens Folly
Canoe Hole
Lilly Bluff Overlook
Hawn Road
Potter Chapel Road
Rock Garden
Ohmigod!
The Point (1.9 mi)
Clear Creek Junction
90 Right 90 Left
Widow Maker
Obed Junction
Alley Ford
Rock Creek
Nemo
Nemo Rapid
Emory River
Catoosa Road
CATOOSA WILDLIFE MANAGEMENT AREA
Genesis Road
Genesis Game Checking Station
Potters Ford
Billy Goat Bluff
Adams Bridge
Obed River
Clear Creek
Daddys Creek
Otter Creek
Fox Creek
Island Creek
Crooked Fork
Crab Orchard Creek
CUMBERLAND PLATEAU
HATFIELD MOUNTAIN
PILOT KNOB MOUNTAIN
CUMBERLAND TRAIL STATE PARK
(subject to Catoosa Wildlife Management Area closures—see above)
Devils Breakfast Table
Buck Switch
Firetower Road
Bi-Color Game Checking Station
Camp Austin
Hebbertsburg Road
Peavine Road
Antioch Bridge
To 40 and Tennessee Wildlife Resources Agency Office in Crossville
To 40 and Crossville
To Rockwood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VOLUNTEER

Contents

Mission of the National Park Service

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

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

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

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

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

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

Introduction

Every unit of the national park system will have a foundational document to provide basic guidance for planning and management decisions—a foundation for planning and management. The core components of a foundation document include a brief description of the park as well as the park's purpose, significance, fundamental resources and values, 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 Obed Wild and Scenic River can be accessed online at: http://insideparkatlas.nps.gov/.

Part 1: Core Components

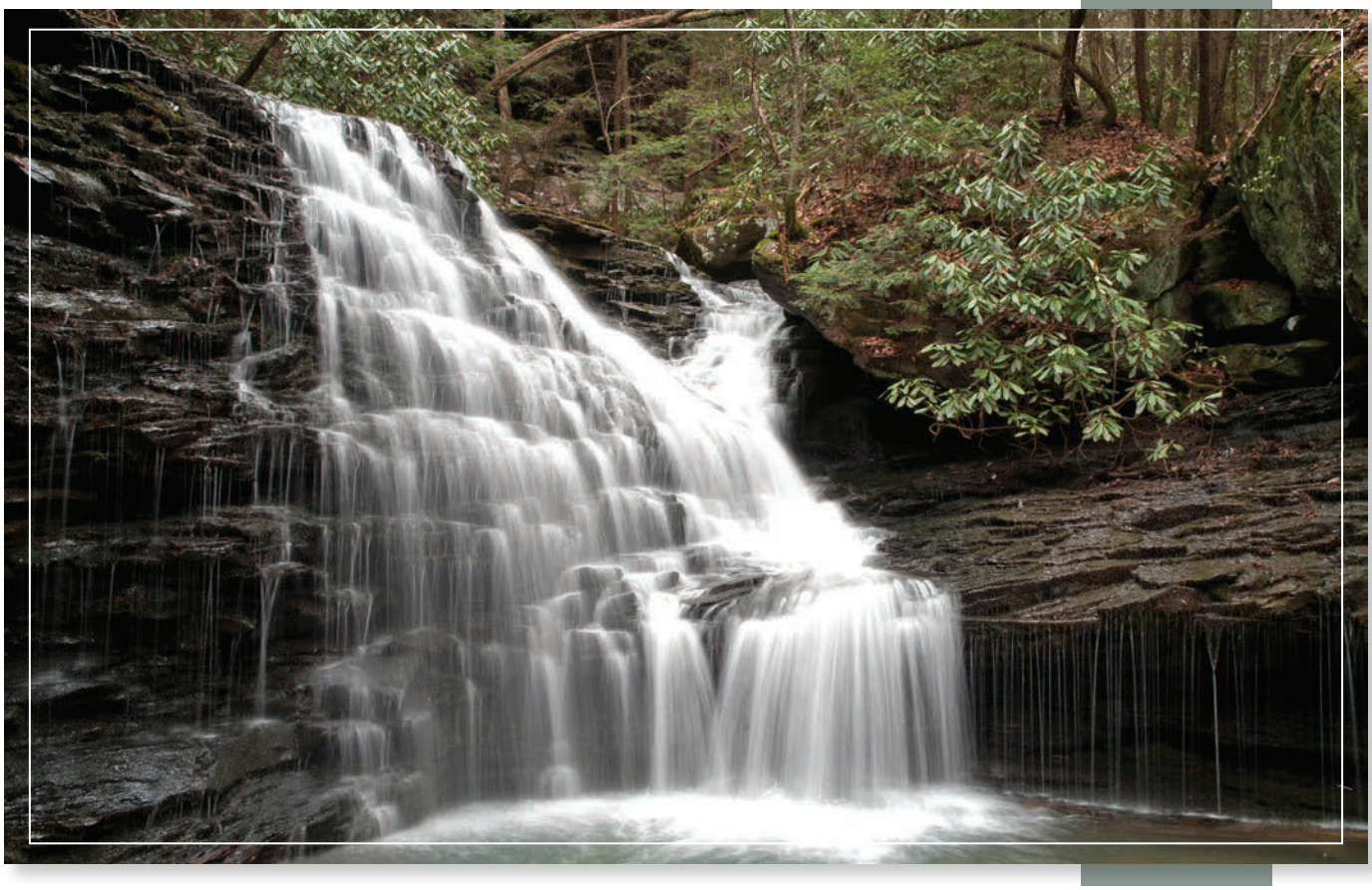
The core components of a foundation document include a brief description of the park, park purpose, significance statements, fundamental resources and values, and interpretive themes. These components are core because they typically do not change over time. Core components are expected to be used in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

Brief Description of the Park

The Obed Wild and Scenic River was established to preserve one of the last free-flowing, wild river systems in the Eastern United States. The park unit is characterized by rugged and primitive terrain, rare and threatened ecosystems, exceptional waters, and opportunities for challenging recreational activities.

The Obed Wild and Scenic River provides access to free-flowing waters and primal landscapes just outside the urban Knoxville area. Located in the Cumberland Plateau of eastern Tennessee, 45 miles of the Obed and its tributaries, including Clear and Daddys Creeks and Emory River, were designated wild and scenic in October, 1976. The designation covers the Obed River, from the western edge of the Catoosa Wildlife Management Area to the confluence with the Emory River, Clear Creek from the Morgan County line to the confluence with the Obed River, Daddys Creek from the Morgan County line to the confluence with the Obed River, and the Emory River from the confluence with the Obed River to the Nemo bridge.

Partnership agreements with the Tennessee Wildlife Resources Agency are in place to manage the lands within the Catoosa Wildlife Management Area to protect the wildlife resources and primitive character of the area.



Park Purpose

The purpose statement identifies the specific reason(s) for establishment of a particular park. The purpose statement for Obed Wild and Scenic River was drafted through a careful analysis of its enabling legislation and the legislative history that influenced its development. The park was established when the enabling legislation adopted by Congress was signed into law on October 12, 1976 (see appendix A for enabling legislation). The purpose statement lays the foundation for understanding what is most important about the park.

The Obed Wild and Scenic River, Tennessee's only wild and scenic river, protects and enhances one of the last free-flowing river systems in the Eastern United States. This system is characterized by rugged terrain and exceptional waters and provides opportunities to experience a dramatic river gorge of the Cumberland Plateau much as it has been throughout human history.

Park Significance

Significance statements express why a park's resources and values are important enough to merit designation as a unit of the national park system. These statements are linked to the purpose of Obed Wild and Scenic River, 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 Obed Wild and Scenic River. (Please note that the sequence of the statements does not reflect the level of significance.)

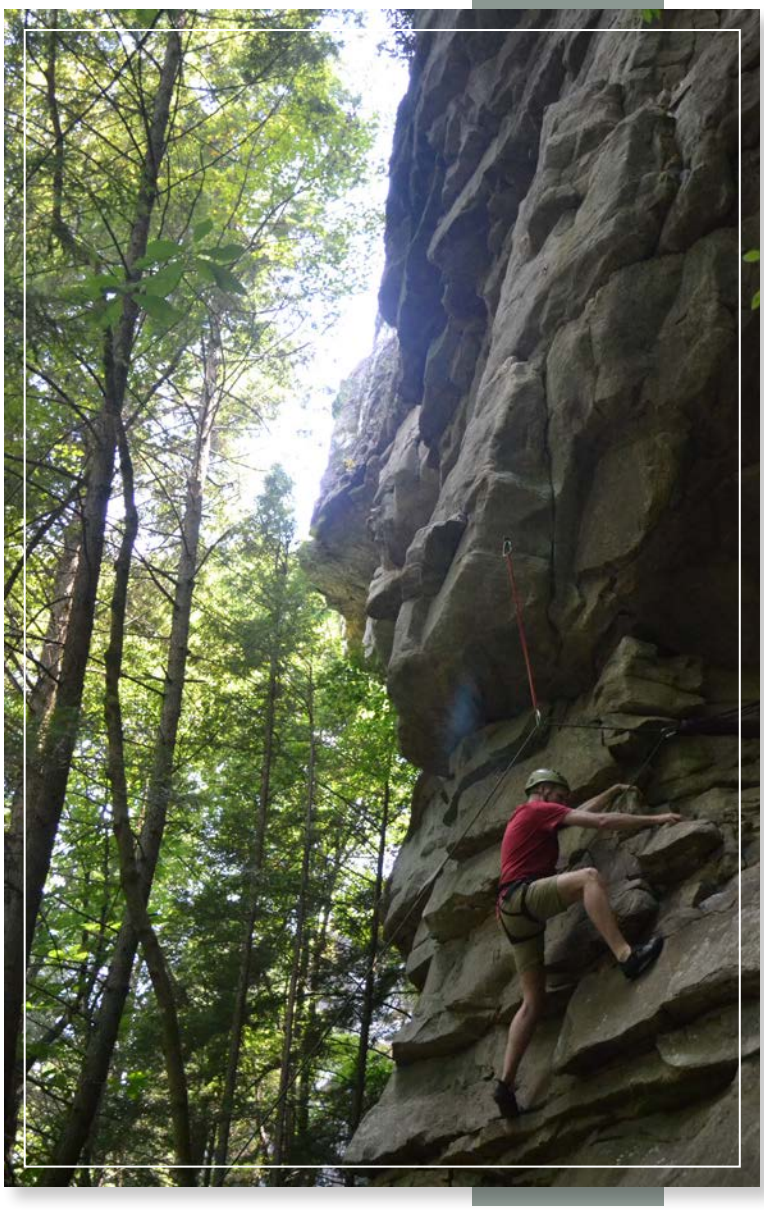
1. The dynamic free-flowing nature, narrow gorges, and high water quality of the Obed Wild and Scenic River system create an extraordinary biologically diverse riverine system and provide habitat for rare and unique species.

2. The remarkable interplay between ongoing geologic and erosional processes forms the dramatic gorges of the Obed River System, which contains a high density and diversity of geologic features including overhanging cliffs, waterfalls, natural arches, and cobble bars.

3. The deep and narrow gorges of the Obed River System provide spectacular views of high bluffs, waterfalls, and remarkable scenic vistas unscarred by human development.

4. The Obed River System provides a highly scenic, wild, and primitive setting allowing for diverse and challenging recreational experiences, most notably world-class climbing and regionally significant white-water paddling.

5. The steep and rugged terrain of the gorges and highly variable flows of the Obed River System limit river access and provide a remnant of primitive America where visitors experience a sense of solitude and an intimate experience with the landscape.



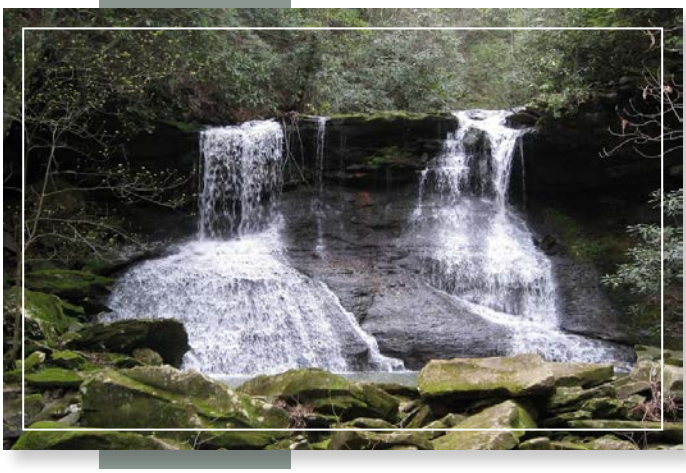
Fundamental Resources and Values

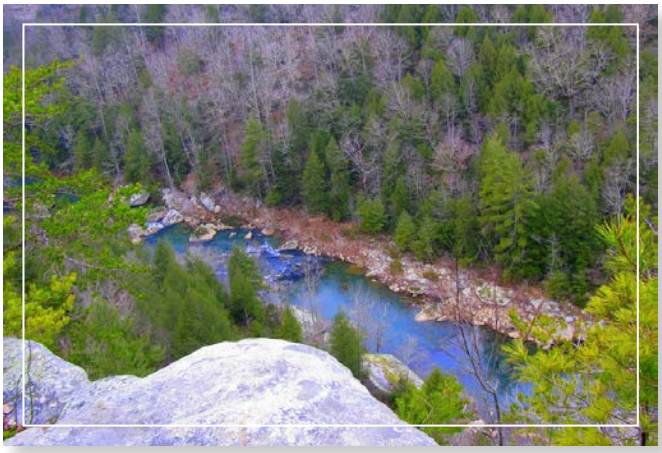
Fundamental resources and values (FRVs) are those features, systems, processes, experiences, stories, scenes, sounds, smells, or other attributes determined to warrant primary consideration during planning and management processes because they are essential to achieving the purpose of the park and maintaining 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 Obed Wild and Scenic River:

- **Dramatic and Varying Free-Flowing Condition –** Water flows freely through the 45 miles of the Obed Wild and Scenic River system allowing for conditions that reflect natural variability including low flows of late summer and raging torrents during the periodic storms. During storms, the river's volume and force can rapidly increase within a few hours resulting in the movement of large boulders and scouring away vegetation in and along the channel. These extreme flow conditions give rise to an ecosystem whose habitats, species diversity, and human history reflect the river's tumultuous nature.
- **Water Quality –** Water quality in the Obed watershed is driven by geology influenced by the unique chemical characteristics of the Cumberland Plateau bedrock, and ranges from extremely dilute, low ionic water in headwaters to moderately soft waters in the larger streams. The low ionic water supports the thriving aquatic communities and contributes to excellent habitat. The exceptional water quality also supports many types of water-based recreation.
- **Active Geology and Hydrology –** The Obed landscape is dominated by a series of deep steep-walled gorges. These spectacular gorges were formed when surface drainages eroded through the resistant capstone to contact the easily erodible shale layers, producing many distinctive features, including rock shelters, arches, and chimneys. These rivers are geomorphically active, continually moving large amounts of sediment as they erode cliffs, slopes, and streambeds. This sediment transport is important in the creation and maintenance of the cobble bars found within the river channels.





- **Biodiversity and Cobble Bar Communities –** The park protects an intact riverine ecosystem that contains terrestrial and aquatic habitats and species associated with the Cumberland Plateau river system. The area remains one of the most biologically diverse riverine systems and is unique within the Cumberland Plateau ecoregion. The Obed River System also contains the vast majority of the globally imperiled cobble bar ecological community, of which there are fewer than 500 acres remaining (according to NatureServe's "An Online Encyclopedia of Life"). Further, the Obed region is home to some of the oldest trees in eastern North America.

- **Connection to a Primal Landscape –** The river's rugged and isolated character allows a sense of discovery. Views of the park's massive overhanging cliffs, which loom more than 500 feet above the streams below, lend the narrow canyons a sense of isolation and intimacy. Dark night skies and clean air allow visitors to enjoy wilderness-like encounters with the stars. Visitors can experience a wide array of natural sounds, from the roar of the river in flood stage, to spring bird song, to the deafening chorus of insects and frogs on a summer night. The totality of sensory experiences, including scenic views, sounds, and lack of modern-day intrusions along the Obed Wild and Scenic River constitute a significant vestige of primitive America.

- **Challenge Yourself at the Obed –** The Obed Wild and Scenic River provides world-class climbing and regionally significant paddling opportunities in the Eastern United States. A major characteristic of both climbing and paddling at the Obed is the opportunity for challenge in a highly scenic, wild setting. Visitors can explore the park's entire river system while encountering virtually no signs of human activity. The Obed River System is an important sport fisheries resource and provides hunting access along with other recreational opportunities. Additionally, a portion of the 300-mile Cumberland Trail traverses the park, allowing the intrepid hiker to explore the most remote and scenic sections of the Obed by foot.

- **11,000-Year Continuum of Human Use –** Human traces along the Obed Wild and Scenic River system encompass thousands of years of diverse cultures—from prehistoric native people through 20th century European settlers and modern recreational visitors. People have been fishing, hunting, and enjoying the Obed River System continually for the last 10,000+ years. Evidence of prehistoric and historic use is reflected in structures and archeological sites, including rock shelters, bridges, tunnels, grist mills, and home sites throughout the area.

Interpretive Themes

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

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

The following interpretive themes have been identified for Obed Wild and Scenic River (from Long-Range Interpretive Plan, Obed Wild & Scenic River [2003]):

- **Water –**Water created the valleys of the Obed watershed, and the free-flowing, relatively unpolluted water that still tumbles down its bluffs into its creeks and rivers sustains the diversity of natural and cultural life that makes Obed WSR a national treasure.

  This theme focuses on the essence of any wild and scenic river—its water quality and quantity (hydrology). It explores how water creates topography including spectacular scenery, how it interacts with geologic formations, how it sustains life and, in many places like Obed, how it supports biodiversity and recreational activities. It discusses how free-flowing, unpolluted water is essential to maintaining the natural balance that currently exists in the watershed.

- **Natural Resources –** The natural mosaic of the Obed is an increasingly rare window to America's past.

  This theme focuses on the flora and fauna of the watershed and explains how the current mix of plants and animals, with the exception of a very few exotic species, reflects the environment of 300 years ago before the period of prolonged European contact in Tennessee. It not only explores watershed habitat, it portrays Obed's natural places as an alternative, a snapshot of another time and place. And it reconnects life and nature by discussing the value of quiet, solitude, and even darkness in the noisy, frenetic, and developed world of the 21st century.

- **Human Impact –** The rugged, natural terrain of Obed Wild and Scenic River limited human impact and, until recently, allowed nature to accommodate the resource-related use that did occur.

  This theme focuses on the impact of human use or, in the case of Obed, non-use. It explores how nature managed to absorb use and remain in balance over time. It traces how the limited effect that humans had on the watershed related to its natural resources, and how contemporary recreational use is directly linked to the park's natural environment.

  It also discusses how things may change now that the isolation of the past is no longer possible and the lifeblood of the watershed—water quality and quantity—is subject to outside development.

- **Wild & Scenic Rivers –** Congress created a system of "wild & scenic" rivers, including Obed, to balance the development that was gradually erasing free-flowing, unpolluted rivers and their immediate environments from the map of the United States.

  This theme focuses on what it means to be a "wild & scenic" river. It explains why Congress created the park and the local implications and benefits of designation. It links Obed to the system of "wild & scenic" rivers as well as to the national park system.

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 resources and values change over time, the analysis of planning and data needs will need to be revisited and revised, along with key issues. Therefore, this part of the foundation document will be updated accordingly.

Special Mandates and Administrative Commitments

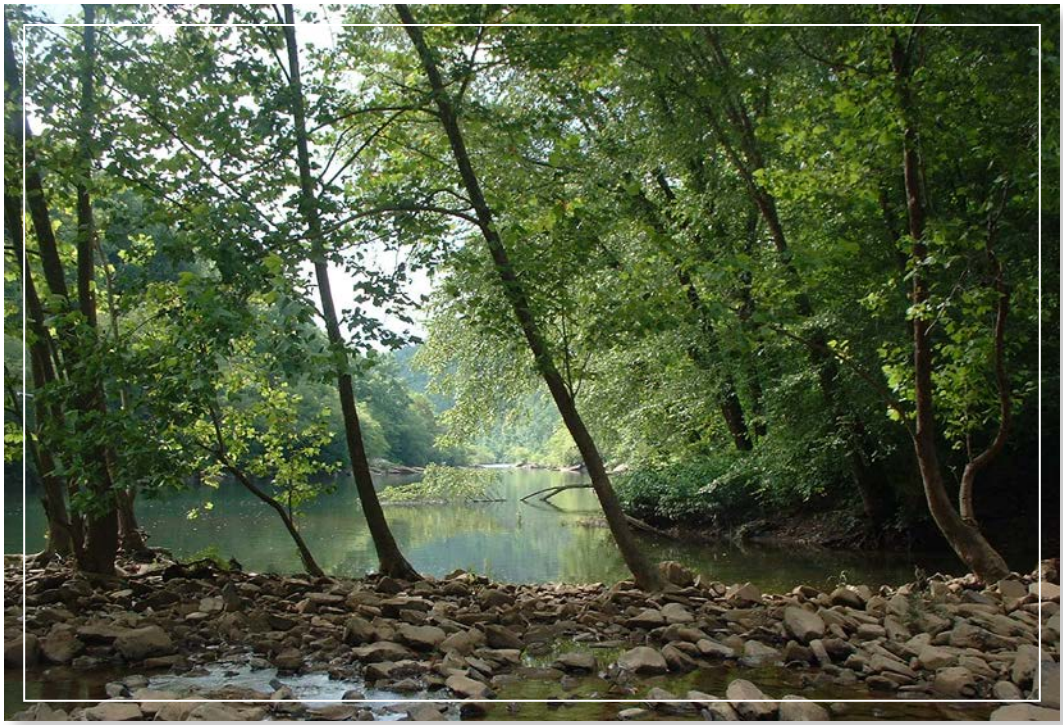
Many management decisions for a park unit are directed or influenced by special mandates and administrative commitments with other federal agencies, state and local governments, utility companies, partnering organizations, and other entities. Special mandates are requirements specific to a park that must be fulfilled. Mandates can be expressed in enabling legislation, in separate legislation following the establishment of the park, or through a judicial process. They may expand on park purpose or introduce elements unrelated to the purpose of the park. Administrative commitments are, in general, agreements that have been reached through formal, documented processes, often through memorandums of agreement. Examples include easements, rights-of-way, arrangements for emergency service responses, etc. Special mandates and administrative commitments can support, in many cases, a network of partnerships that help fulfill the objectives of the park and facilitate working relationships with other organizations. They are an essential component of managing and planning for Obed Wild and Scenic River.

Special Mandates

Wild and Scenic River Designation – The Wild and Scenic Rivers Act, as amended on October 12, 1976, established the Obed as a unit of the National Wild and Scenic River system and directed the Secretary of the Interior, in cooperation with the State of Tennessee, to establish a detailed boundary, to determine which of three river classifications (wild, scenic, or recreational) best fit the river or its various sections, and to prepare a development plan for the Obed Wild and Scenic River. The boundary description, river classification, and development plan were published in the Federal Register, submitted to the President of the Senate and to the Speaker of the House of Representatives in 1978. The Obed Development Plan and Stream Classification was approved in August, 1978.

The Wild and Scenic Rivers Act states that hunting and fishing shall be permitted on lands and waters administered as parts of the system under applicable state and federal laws and regulations. The act further states that the lands involved shall be subject to the provisions of the Wild and Scenic Rivers Act and to the acts under which the national park system is administered; and furthermore that in the case of conflict between the provisions of these acts, the more restrictive provisions shall apply. The Wild and Scenic Rivers Act also states that "The Secretary of the Interior may utilize such general statutory authorities relating to areas of the national park system and such general authorities otherwise available to him for recreation and preservation purposes and for the conservation and management of natural resources as he deems appropriate to carry out the purposes of this Act."

Land Acquisition Limitations and Requirements – The Secretary of the Interior is authorized by the Wild and Scenic Rivers Act to acquire lands, or interests in lands, by donation, transfer, or with appropriated funds and to provide appropriate developments. The Wild and Scenic Rivers Act authorizes fee acquisition of not more than an average of 100 acres per mile on both sides of the river as measured from the ordinary high water line. The act states that the boundary shall include an average of not more than 320 acres per mile on both sides of the river to include both scenic easement tracts and fee owned tracts and shall generally comprise that area measured within one-quarter mile from the ordinary high water mark on each side of the river.



The act states that lands within the Obed Wild and Scenic River boundary that are currently part of the Catoosa Wildlife Management Area shall continue to be owned by the State of Tennessee and managed by the Tennessee Wildlife Resources Agency.

For more information about the existing special mandates and administrative commitments for Obed Wild and Scenic River, please see appendix B.

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

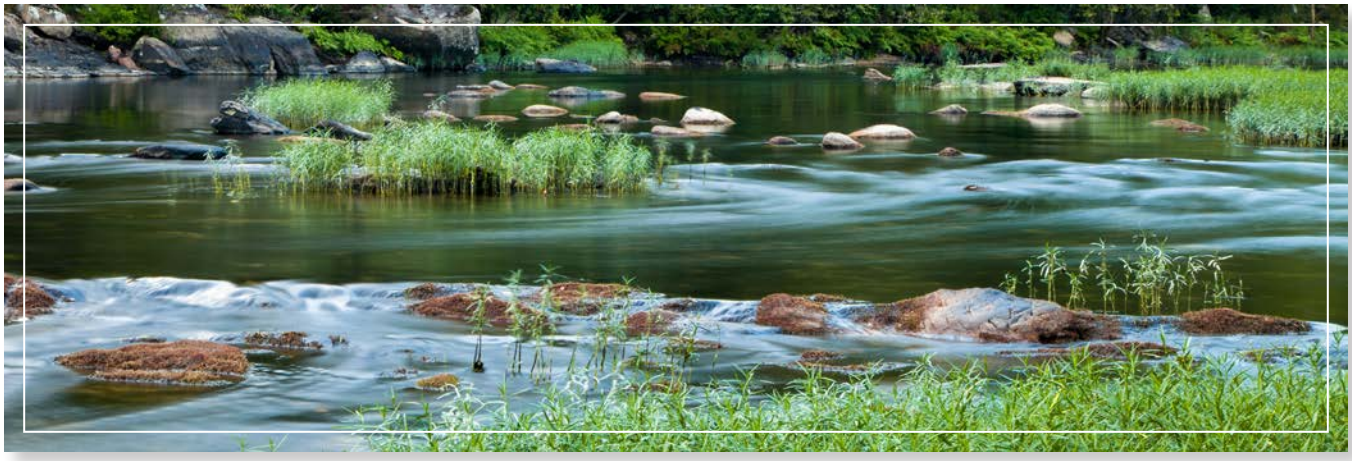
The analysis of fundamental resources and values and identification of key issues leads up to and supports the identification of planning and data collection needs.

Analysis of Fundamental Resources and Values

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

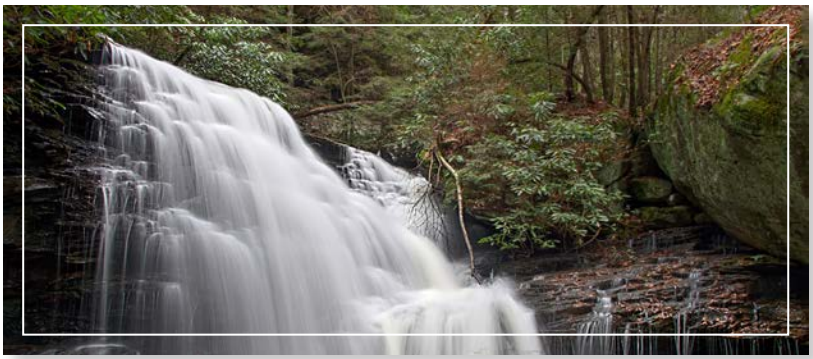
Fundamental Resource or Value	Dramatic and Varying Free-Flowing Condition
Related Significance Statements	• The dynamic free-flowing nature, narrow gorges, and high water quality of the Obed Wild and Scenic River system create an extraordinary biologically diverse riverine system and provide habitat for rare and unique species. • The remarkable interplay between ongoing geologic and erosional processes forms the dramatic gorges of the Obed River System, which contains a high density and diversity of geologic features including overhanging cliffs, waterfalls, natural arches, and cobble bars. • The deep and narrow gorges of the Obed River System provide spectacular views of high bluffs, waterfalls, and remarkable scenic vistas unscarred by human development. • The Obed River System provides a highly scenic, wild, and primitive setting allowing for diverse and challenging recreational experiences, most notably world-class climbing and regionally significant white-water paddling. • The steep and rugged terrain of the gorges and highly variable flows of the Obed River System limit river access and provide a remnant of primitive America where visitors experience a sense of solitude and an intimate experience with the landscape.
Current Conditions and Trends	**Conditions** • The Obed River and its tributaries are still free-flowing within the unit boundary. • The natural flow regime is flashy and variable. • During periods of low flow, continued water inundation from the city of Crossville and other upstream influences alters the amount and timing of the natural flow regime. • There are more than 3,000 small impoundments, such as farm ponds or low head dams, and some large dams, such as Lake Tansi, that may be changing the headwater flows of the upper tributaries. **Trends** • Minimal new upstream influences have been noticed or documented—minor, insignificant changes may be occurring. An increase in housing or industrial development, however, could alter flow rates.
Threats and Opportunities	**Threats** • Future water harvesting has been proposed on Daddys Creek by Crab Orchard Utility District. • Sewage treatment plant capacity at Crossville is expected to expand. • Increased development, including additional impermeable surfaces, will increase surface run-off and flow rates of the Obed River. • The lack of a regional plan to address water demands to support development and growth is encouraging individual utility districts to develop their own plans independent of other communities or the regional perspective. • Climate change: increases in mean annual temperature and precipitation, along with increase in storm intensity/frequency and extreme heat events, projected for the region could impact temperature and flows within the Obed Wild and Scenic River. **Opportunities** • Partnerships with upstream communities and municipalities to protect and promote the natural water flow. • Partner with US Geological Survey (USGS) to continue monitoring and develop new research projects for flow regimes to determine impacts on other riverine resources. • Work with conservation groups and nongovernmental organizations (boating or other recreational groups, Tennessee Citizens for Wilderness Planning, The Nature Conservancy, etc.) to promote regional water conservation strategies.

Fundamental Resource or Value	Dramatic and Varying Free-Flowing Condition
Existing Data and Plans Related to the FRV	• Wild and Scenic Rivers Act section 7 analysis has been performed for the Lake Tansi water harvesting project. • USGS study on the hydrological analysis of the Obed watershed and paired watershed study. • Water resources management plan. • USGS stream gauges have collected data on sections of the Obed River System since 1929, with annual records dating back to 1957. The gauges are located at Daddys Creek at Hebbertsburg, Clear Creek at Lilly Bridge, Emory River at Oakdale, Obed River Gauge at Adams Bridge, and the Obed River Bridge at Alley Ford (near Lancing).
Data and/or GIS Needs	• Additional studies on impoundments. • Additional USGS water research. • Hydrological flow and related needs. • Natural resource condition assessment. • Outstandingly remarkable values report. • Boundary survey.
Planning Needs	• Comprehensive river management plan. • Regional water management plan. • Update long-range interpretive plan.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Wild and Scenic Rivers Act • Endangered Species Act, section 7 • Friends of Yosemite v. Kempthorne opinion 3/27/2008 (Merced WSR ruling) • American Whitewater v. US Forest Service opinion 4/16/2013 (Chattooga WSR ruling) • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (chapters 2, 4, 6, 7, 8, and 9) • Director's Order 6: *Interpretation and Education* • Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* • Director's Order 17: *National Park Service Tourism* • Director's Order 46: *Wild and Scenic Rivers*



Fundamental Resource or Value	Water Quality
Related Significance Statements	• The dynamic free-flowing nature, narrow gorges, and high water quality of the Obed Wild and Scenic River system create an extraordinary biologically diverse riverine system and provide habitat for rare and unique species. • The remarkable interplay between ongoing geologic and erosional processes forms the dramatic gorges of the Obed River System, which contains a high density and diversity of geologic features including overhanging cliffs, waterfalls, natural arches, and cobble bars. • The Obed River System provides a highly scenic, wild, and primitive setting allowing for diverse and challenging recreational experiences, most notably world-class climbing and regionally significant white-water paddling.
Current Conditions and Trends	**Conditions** • The portion of the Obed River between the western park boundary and the confluence with Daddys Creek has been listed on the most recent draft 303(d) document for impaired watersheds. This section is being listed due to excessive nutrients that are entering the watershed upstream of the Obed Wild and Scenic River. • The section of Clear Creek where the oil spill occurred is also listed in the current 303(d) document for impaired watersheds. • Water quality testing has found higher than baseline conductivity in the waters, probably caused by upstream disturbances. This could be related to the presence or absence of threatened and endangered species. **Trends** • Water quality in the upper Obed River has improved significantly since WSR designation, however, declines in endangered mussel populations and ongoing elevated conductivity and bacteria readings indicate that continued improvements are needed. • Daddy's Creek water quality is generally good, with occasional departures from natural conditions. • Water quality in Clear Creek is good and approaches reference conditions for streams on the Cumberland Plateau.
Threats	• Continued flow increases from the city of Crossville into the Obed drainage system could impact the quality of the water in the Obed Wild and Scenic River. • Upstream development could negatively impact the water quality within the Obed Wild and Scenic River. • Crossville sewage treatment plant is located on the headwaters of the Obed and may contaminate the river. • Potential impacts on water quality could result from increased presence of septic systems in watershed communities. • Changes in flow regime could negatively impact the water quality. • Increased development, mining, and other extractive activities could contaminate groundwater. • Upstream waters and surface run-off impact the waters within the Obed Wild and Scenic River. • Ground water drilling (new wells on private lands) could impact water quality within the Obed Wild and Scenic River. • Climate change: increases in mean annual temperature and precipitation, along with increase in storm intensity/frequency and extreme heat events, projected for the region could impact water quality (e.g., increase runoff of pollutants, changes in dissolved oxygen, increases in water temperature) of Obed Wild and Scenic River.

Fundamental Resource or Value	Water Quality
Opportunities	• Ongoing partnerships with upstream partners to develop conservation strategies. • Ongoing participation in the Northern Cumberland Habitat Conservation Plan, specifically Endangered Species Act section 7 compliance for critical habitats. • Continued participation in the lands unsuitable for mining petition would help ensure the protection of the Obed Wild and Scenic River watershed.
Existing Data and Plans Related to the FRV	• Stream gauges capture water quality data and are updated every 15 minutes. These databases are maintained by the US Geological Survey in cooperation with park monitoring staff. • Water quality inventory and monitoring data collected and maintained by the Appalachian Highlands Inventory and Monitoring network. • Water quality monitoring plans are in draft.
Data and/or GIS Needs	• Additional USGS water research. • Further data needed on sections of the latest 303(d) document for impaired watersheds. • Natural resource condition assessment. (Scheduled for 2015.) • Study to determine the relationship between water quality and its effect on threatened and endangered species. • Outstandingly remarkable values report.
Planning Needs	• Regional water management plan. • Update long-range interpretive plan.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Wild and Scenic Rivers Act • Endangered Species Act, section 7 • Aquatic Resource Alteration Permit • Friends of Yosemite v. Kempthorne opinion 3/27/2008 (Merced WSR ruling) • American Whitewater v. US Forest Service opinion 4/16/2013 (Chattooga WSR ruling) • Clean Water Act • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (chapters 2, 4, 6, 7, 8, and 9) • Director's Order 6: *Interpretation and Education* • Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* • Director's Order 17: *National Park Service Tourism* • Director's Order 46: *Wild and Scenic Rivers*

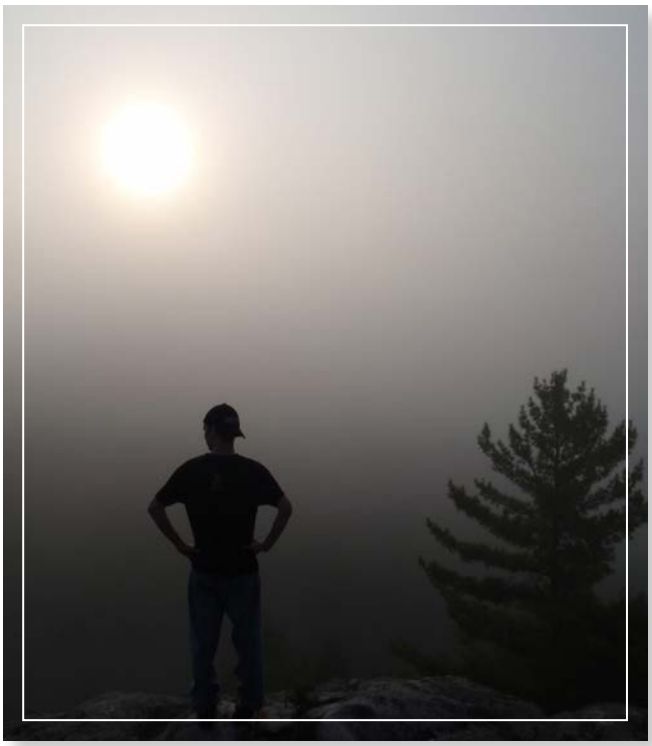


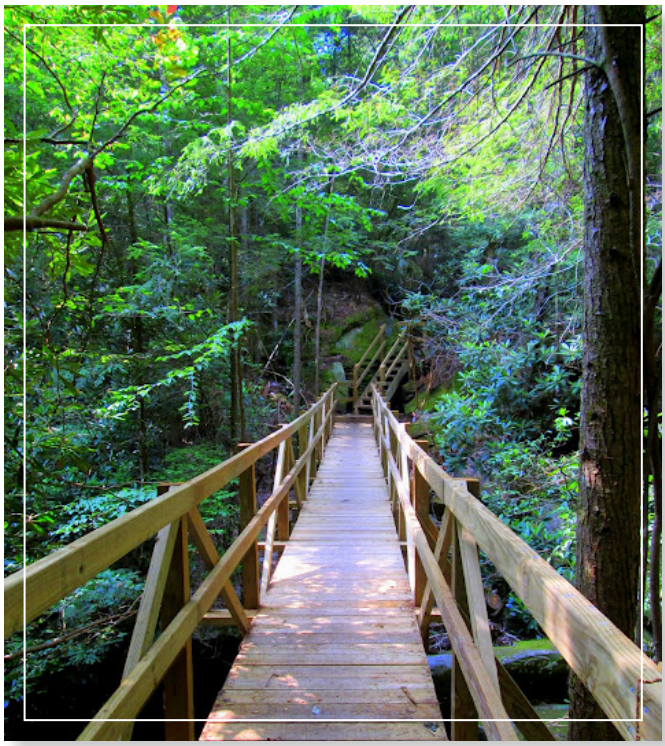
Fundamental Resource or Value	Active Geology and Hydrology
Related Significance Statements	• The remarkable interplay between ongoing geologic and erosional processes forms the dramatic gorges of the Obed River System, which contains a high density and diversity of geologic features including overhanging cliffs, waterfalls, natural arches, and cobble bars. • The deep and narrow gorges of the Obed River System provide spectacular views of high bluffs, waterfalls, and remarkable scenic vistas unscarred by human development. • The steep and rugged terrain of the gorges and highly variable flows of the Obed River System limit river access and provide a remnant of primitive America where visitors experience a sense of solitude and an intimate experience with the landscape.
Current Conditions and Trends	**Conditions** • Talus slopes are stable at the base of the cliff lines. • Cliff lines are mostly stable. • No new oil and gas drilling is permitted on park lands or within easements. • Free-flowing condition of the river system helps to maintain the geological aspects of the cobble bar formations and other river morphology. • Open mine portals will be shut down for safety reasons as funding is found. **Trends** • Oil and gas drilling has decreased in the area due to more lucrative options for extraction in other places.
Threats and Opportunities	**Threats** • While fairly resistant to recreational uses, climbing could negatively impact sandstone walls where bolting is permitted. No new bolted routes are permitted in the unit; however, bolts may be replaced on existing routes for safety. • New development in the park could expose acid seams or coal seams. This impact would need to be evaluated for adverse effects to both geology and water quality. • Horizontal drilling is coming into the region and could potentially come into the park. This drilling could result in degradation of geologic features and viewshed. • Increases or changes to flow rates along the Obed watershed could change or impact cobble bars and other river morphology. • Climate change: increases in mean annual temperature and precipitation, along with increase in storm intensity/frequency and extreme heat events, projected for the region could impact water quality (e.g., increase in erosion, changes in stream hydrology and water availability). **Opportunities** • USGS topographical geology maps are currently being developed for the Obed area. These maps will help the park to better understand where the potential for oil and gas drilling may occur in the future. • Completion of abandoned mines cleanup, which requires a new funding source.

Fundamental Resource or Value	Active Geology and Hydrology
Existing Data and Plans Related to the FRV	• Oil and gas management plan (for Big South Fork National River and Recreation Area and Obed Wild and Scenic River), 2012. • "Alluvial Bars of the Obed Wild and Scenic River, Tennessee," US Geological Survey. • "Long-term Monitoring Protocol for Cobble Bar Communities" (National Park Service 2013) Cobble bar monitoring program (ongoing).
Data and/or GIS Needs	• Complete the abandoned mine inventory. • Document gaps in cliff lines and gorge access points for emergency response and condition assessments (GIS). • Geologic assessment and inventory of rock shelters and other features. • LiDAR mapping of the whole park. • Rock fall or slide hazard assessment. • Upcoming geologic maps (ongoing, but not yet complete). • Outstandingly remarkable values report. • Private mineral study.
Planning Needs	• Complete contaminated mine drainage environmental impact statement and develop funding request for cleanup. • Update long-range interpretive plan.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Wild and Scenic Rivers Act • Friends of Yosemite v. Kempthorne opinion 3/27/2008 (Merced WSR ruling) • American Whitewater v. US Forest Service opinion 4/16/2013 (Chattooga WSR ruling) • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (chapters 2, 3, 4, 6, 7, and 8) • Director's Order 6: *Interpretation and Education* • Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* • Director's Order 17: *National Park Service Tourism* • Director's Order 46: *Wild and Scenic Rivers*

Fundamental Resource or Value	Biodiversity and Cobble Bar Communities
Related Significance Statements	• The dynamic free-flowing nature, narrow gorges, and high water quality of the Obed Wild and Scenic River system create an extraordinary biologically diverse riverine system and provide habitat for rare and unique species. • The remarkable interplay between ongoing geologic and erosional processes forms the dramatic gorges of the Obed River System, which contains a high density and diversity of geologic features including overhanging cliffs, waterfalls, natural arches, and cobble bars.
Current Conditions and Trends	**Conditions** • There are four federally protected plant and animal species inhabiting the park—purple bean mussel, spot fin chub, Cumberland rosemary, and Virginia spirea. • Species of special concern or considered rare by the state are also found in these diverse habitats. • The conditions of cobble bar communities are currently stable. These communities are being maintained in a successional state driven by natural flow regimes. • Hemlocks are threatened by hemlock woolly adelgid, an invasive nonnative pest. • Bats currently use forested riverine environments, including cliff lines and cliff edges, for summer roosting. **Trends** • Sightings of the purple bean mussel have declined since 2000. • The survival and reproduction of Cumberland rosemary is dependent upon natural flood regimes. • Hemlock populations are declining due to the influence of hemlock woolly adelgid. Hemlock stands that have been treated are stable during intervals between retreatment. (The park is aiming for 20% treatment of hemlock-dominated forests.) • Some bat species are declining in the region.
Threats and Opportunities	**Threats** • Threats to plant and animal communities, including unique cobble bar habitats, consist of changes to the flow regime and decreased water quality of the river system. These may include development, water reduction, farming, or mining. • Hemlock woolly adelgid threatens most of the hemlock population. • Forest pests are a threat to a variety of other tree species. Losses of these trees would detract from the overall forest biodiversity. These pests are also encroaching on surrounding areas. • Cliff-growing species could be threatened by recreational use. This is mitigated through park policy in the climbing management plan. • Bat populations in the region are declining due to white-nose syndrome. • Climate change: increases in mean annual temperature and precipitation, along with increase in storm intensity/frequency and extreme heat events, projected for the region could impact biotic processes and alter current biodiversity (e.g., increase in invasive species [hemlock wooly adelgid], changes in stream geomorphic processes influencing cobble bar communities). **Opportunities** • Partner with the US Fish and Wildlife Service and other upstream partners to protect and restore aquatic species and communities by implementing protection headwaters, propagation efforts, and other measures. • Monitor nonnative species and their impacts on cobble bar communities. Manage these species as necessary to protect cobble bar communities. • Work with regional partners or other programs to treat invasive species. • Interpretation/education on the influences from climate change on biodiversity at Obed.

Fundamental Resource or Value	Biodiversity and Cobble Bar Communities
Existing Data and Plans Related to the FRV	• Climbing management plan. • Cobble bar monitoring plan. • Mussel surveys. • Threatened and endangered species recovery plans. • Botany program data and reports. • Inventory and monitoring reports. • Completion of bat studies (ongoing).
Data and/or GIS Needs	• Additional USGS water research. • Monitoring data on cobble bars. • Ongoing monitoring for threatened and endangered species and nonnative species. • Purple bean mussel status report.
Planning Needs	• Exotic plant management plan. • Forest pest environmental assessment (hemlock). • Resource stewardship strategy. • Update to fire management plan. • Update long-range interpretive plan.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Wild and Scenic Rivers Act • Friends of Yosemite v. Kempthorne opinion 3/27/2008 (Merced WSR ruling) • American Whitewater v. US Forest Service opinion 4/16/2013 (Chattooga WSR ruling) • Clean Air Act • Secretarial Order 3289, "Address the Impacts of Climate Change on America's Water, Land, and other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (chapters 2, 4, 6, 7, 8, and 9) • Director's Order 6: *Interpretation and Education* • Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* • Director's Order 17: *National Park Service Tourism* • Director's Order 46: *Wild and Scenic Rivers*





Fundamental Resource or Value	Connection to a Primal Landscape
Related Significance Statements	• The remarkable interplay between ongoing geologic and erosional processes forms the dramatic gorges of the Obed River System, which contains a high density and diversity of geologic features including overhanging cliffs, waterfalls, natural arches, and cobble bars. • The deep and narrow gorges of the Obed River System provide spectacular views of high bluffs, waterfalls, and remarkable scenic vistas unscarred by human development. • The steep and rugged terrain of the gorges and highly variable flows of the Obed River System limit river access and provide a remnant of primitive America where visitors experience a sense of solitude and an intimate experience with the landscape.
Current Conditions and Trends	**Conditions** • Low levels of light pollution provide potential designation as an international dark sky park. • No interruptions of the viewshed from the river due to modern development. • Scenic easements protect some of the views from the river. • Good opportunities to experience a variety of natural sounds. • Low traffic noise due to limited roads and automobile use in the area. • General noise at a minimum due to low visitation and population density. • Opportunity for solitude exists throughout most of the year. • Current park infrastructure (namely parking lots) limit visitation and support opportunities for solitude. • Current outreach efforts on night skies and other designations. • Hunting impacts soundscape seasonally. **Trends** • Light pollution is increasing outside park boundaries. • Development, including housing and clear cutting, is increasing outside park boundaries. • Annual and seasonal visitation is steady/consistent.

Fundamental Resource or Value	Connection to a Primal Landscape
Threats and Opportunities	**Threats** • Increased traffic could impact soundscapes and acoustic environment. • Dark skies could be impacted by growth of urban light pollution from Knoxville and the surrounding areas. • Construction and nearby development could have short-term impacts on soundscapes and acoustic environment. • Development within or adjacent to the park could threaten viewshed and acoustic environment. • Development and extraction activities could impact quiet and scenic views. • Pollution caused haze impacts visibility, scenic quality, and night skies. **Opportunities** • Purchase additional scenic easements and property to protect viewsheds and acoustic environment. • Dark night skies designation. • Work with surrounding communities to protect night skies. • Partner with local communities. • Partner with local schools for educational opportunities regarding the park, dark skies, and natural sounds. • Special events and interpretive outreach related to dark skies, natural sounds, and sense of discovery. • Expand interpretative and educational tools to communicate the connections between connections to the primal landscape, climate change, scenery, night sky, natural and cultural resources, recreational uses, air quality, human health, and other associated resources.
Existing Data and Plans Related to the FRV	• Dark skies survey. • Visitor use survey. Previous study conducted by the University of Idaho. • Viewshed surveys. • Modelling that predicts the ratio of human-caused light to natural light conditions. • Predicted acoustic conditions based on continental geospatial sound model.
Data and/or GIS Needs	• Acoustic survey. • Visual resource inventory.
Planning Needs	• Update long-range interpretive plan.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Wild and Scenic Rivers Act • Friends of Yosemite v. Kempthorne opinion 3/27/2008 (Merced WSR ruling) • American Whitewater v. US Forest Service opinion 4/16/2013 (Chattooga WSR ruling) • Clean Air Act **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (chapters 2, 3, 4, 6, 7, 8, and 9) • Director's Order 6: *Interpretation and Education* • Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* • Director's Order 17: *National Park Service Tourism* • Director's Order 46: *Wild and Scenic Rivers* • Director's Order 47: *Soundscape Preservation and Noise Management* • Director's Order 50C: *Public Risk Management Program*

Fundamental Resource or Value	Challenge Yourself at the Obed
Related Significance Statements	• The remarkable interplay between ongoing geologic and erosional processes forms the dramatic gorges of the Obed River System, which contains a high density and diversity of geologic features including overhanging cliffs, waterfalls, natural arches, and cobble bars. • The deep and narrow gorges of the Obed River System provide spectacular views of high bluffs, waterfalls, and remarkable scenic vistas unscarred by human development. • The Obed River System provides a highly scenic, wild, and primitive setting allowing for diverse and challenging recreational experiences, most notably world-class climbing and regionally significant white-water paddling. • The steep and rugged terrain of the gorges and highly variable flows of the Obed River System limit river access and provide a remnant of primitive America where visitors experience a sense of solitude and an intimate experience with the landscape.
Current Conditions	**Conditions** • Overall trail condition has increased to medium/good due to recent trail work and maintenance. • There is a 14-mile section of the Cumberland Trail within the park boundaries. • Climbing access trails are not formally defined and could be consolidated. • Access for trail maintenance and trail rerouting is challenging in some areas. • Trail easements on private property exist. • Rock Creek Campground is in a beautiful setting. • Many opportunities for distributed primitive camping along the river, with required backcountry permits. • There are four developed and many undeveloped paddling launches. Many visitors also access the water from outside the park. • Developed launches are functional and generally in fair to good condition. However, none are Americans with Disabilities Act (ADA) accessible. • Uncrowded paddling opportunity. • Approved commercial use authorization for climbing guides. • Monthly "Climb with a Ranger" program. • Frequent "Hike with a Ranger" program and other interpretive recreational activities such as wildlife viewings and star parties. • Obed River area was prominent in the history of paddling as many innovations in whitewater boat design were developed and tested here. • Climbing is available year-round. • Slight negative impacts on soils and vegetation on climbing access routes. • Climbing rescues are fairly limited, due to the difficulty of the activity. • Most rescues occur from water-based recreational activities. • Floatable water levels from October/November to April/May support paddling. • People swim/wade in warmer weather, more so during low flow periods. • Fishing takes place year round, except during high flow periods. Muskie fishing draws people from the larger region. • Parking can be crowded when there are good river levels for paddling and good weather, or on some spring/summer weekends. • Very few user conflicts between paddlers and other water recreation visitors. • Annual photo contest provides opportunity to showcase recreation opportunities. • There are barriers that still exist in facilities, programs, products, and services due to the lack of universal design.

Fundamental Resource or Value	Challenge Yourself at the Obed
Trends	**Trends** • Improving visitor behavior at campground. • Attendance in "Climb with a Ranger" is high and increasing. • Climbing has seen some increased use.
Threats and Opportunities	**Threats** • Vandalism and littering at campground. • Nearby development could impact recreation in the river from reduced water quality or changes in water flow. • Continued increase in climbers could impact access routes. • Flooding could impact the campground, as it sits on a floodplain. • Climate change and associated influences on recreational opportunities and visitor behavior (e.g., flooding, warmer temperatures, nonnative species). **Opportunities** • Trail development on private property (partnership with The Nature Conservancy). • Cumberland Trail segment is under-used within the park due to length and rugged nature of trail and periodic closures. • General management plan would support additional 30 miles of trails along the river corridor including a 20-mile loop (with additional necessary property acquisition or easements). • Outreach opportunities for education of visitors related to wildlife. • Provide ADA accessible launches. • Expand staff to support "Climb with a Ranger" (including Big South Fork staff). • Provide safety education for new outdoor climbers. • Opportunity for higher visitation while still preserving solitude (limit is currently the parking capacity). • Increased visitation from the new visitor contact center in Crossville, off Interstate 40, will help increase awareness of the park with those outside the immediate area. • Develop friends group. • Facility improvements, including the replacement of portable toilets with vault toilets. • Opportunity to increase art outreach through the annual photo contest and the art in the park program. • There is an opportunity to create universally designed and accessible facilities, programs, products, and services for visitors of all ability levels. • Expand interpretative and educational tools to communicate the connections between recreation, climate change, scenery, night sky, natural and cultural resources, air quality, human health, and other associated resources.
Existing Data and Plans Related to the FRV	• Visitor study from University of Idaho. This study, performed in late summer, did not capture visitor use based on paddling. • Climbing study (2003). • Paddling study (very dated). • Ongoing Facility Management Software System data entry on recreation/visitor facilities.
Data and/or GIS Needs	• Updated visitor use study to capture paddling season data.

Fundamental Resource or Value	Challenge Yourself at the Obed
Planning Needs	• Accessibility assessment and transition plan. • Nemo Picnic Area site plan and compliance (redesign). • Update of long-range interpretive plan. • Trails management plan.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Wild and Scenic Rivers Act • Americans with Disabilities Act / Architectural Barriers Act • "Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities" (28 CFR Part 36) • "Nondiscrimination in Federally Assisted Programs of the Department of the Interior" Subpart B: "Nondiscrimination on the Basis of Handicap" (43 CFR Part 17) • Rehabilitation Act of 1973 • Friends of Yosemite v. Kempthorne opinion 3/27/2008 (Merced WSR ruling) • American Whitewater v. US Forest Service opinion 4/16/2013 (Chattooga WSR ruling) • Clean Air Act **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (chapters 2, 3, 4, 6, 7, 8, and 9) • Director's Order 6: *Interpretation and Education* • Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* • Director's Order 13A: *Environmental Management Systems* • Director's Order 17: *National Park Service Tourism* • Director's Order 46: *Wild and Scenic Rivers* • Director's Order 50C: *Public Risk Management Program* • "Architectural Barriers Act Accessibility Guidelines; Outdoor Developed Areas" (2013) • Americans with Disabilities Act Accessibility Guidelines (2004)

Fundamental Resource or Value	11,000-Year Continuum of Human Use
Related Significance Statements	• The Obed River System provides a highly scenic, wild, and primitive setting allowing for diverse and challenging recreational experiences, most notably world-class climbing and regionally significant white-water paddling.
Current Conditions and Trends	**Conditions** • Archeological sites are currently being patrolled to prevent vandalism and looting. Most rock shelters are under large cliffs and well-protected from the elements. Assessments are also performed on an annual basis to determine site integrity. • There is a historic gristmill site at the north end of Lilly Bridge, in the vicinity of the current comfort station structure. • Nemo Bridge is in good condition for pedestrian use. The bridge also serves as an interpretive site and is a section of the Cumberland Trail. The center of the old bridge is the downstream end of the park's authorized boundary, but the park does not own the structure. Many locals use this area for religious purposes, namely river baptisms. • There are remnants of former strip mine areas along the Cumberland Trail and deep mines within the Obed Wild and Scenic River boundary. • Collections and archives are located at Big South Fork National River and Recreation Area. • Some abandoned train tunnels are within park boundary but not on park property. Some inappropriate activities are taking place within them. **Trends** • Regular "Memories of the Obed" program is capturing local oral histories.
Threats and Opportunities	**Threats** • Some archeological sites have been looted and vandalized. **Opportunities** • Partner with railroads to ensure protection of historic resources in the park. • Closure of at least two identified mine tunnels, possibly more in the future. • Improve interpretive displays at Obed Visitor Center and potentially include some portion of collections.
Existing Data and Plans Related to the FRV	• Archeological survey is 80% complete. • Some oral histories are archived.
Data and/or GIS Needs	• Administrative history of Obed Wild and Scenic River. • Complete last phase of archeological survey conducted by Cooperative Ecosystem Studies Unit, expected in 2015. • Continue to document local history. • Ethnographic documentation related to the Obed River.
Planning Needs	• Update long-range interpretive plan.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Wild and Scenic Rivers Act • Friends of Yosemite v. Kempthorne opinion 3/27/2008 (Merced WSR ruling) • American Whitewater v. US Forest Service opinion 4/16/2013 (Chattooga WSR ruling) • National Historic Preservation Act of 1966, as amended **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (chapters 2, 4, 5 and 7) • Director's Order 6: *Interpretation and Education* • Director's Order 12: *Conservation Planning, Environmental Impact Analysis, and Decision-making* • Director's Order 17: *National Park Service Tourism* • Director's Order 46: *Wild and Scenic Rivers* • Director's Order 76: *Social Science*

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 resources and values. For example, a key issue may pertain to the potential for a fundamental resource or value in a park to be detrimentally affected by discretionary management decisions. A key issue may also address crucial questions that are not directly related to purpose and significance, but which still affect them indirectly. Usually, a key issue is one that a future planning effort or data collection needs to address and requires a decision by NPS managers.

The following are key issues for Obed Wild and Scenic River and the associated planning and data needs to address them:

- **Regional Water Management and Monitoring –** The watershed of the Obed River and its tributaries is considerably larger than the NPS unit itself, but is critical to the management of the unit. There are no aquifers on the Cumberland Plateau, so the limited surface water should be considered finite and intentionally managed. As the population of the plateau grows, increasing pressures will be placed on the water resources that could impact the river and river related species within the unit. To ensure that both the water quality and flow regimes are maintained within the park, there needs to be an intentional partnership between the park and its upstream neighbors to ensure the protection of river-related and river-dependent resources within the Obed Wild and Scenic River.

  Related Planning and Data Needs: Regional water management plan, comprehensive river management plan, NPS water monitoring protocol, water quality assessments, resources stewardship strategy.

- **Rare and Nonnative Species Management –** The Obed Wild and Scenic River system contains both terrestrial and aquatic habitats that are rare both regionally and nationally. Increased demand on the water resources from development, water reduction, farming, mining and other sources in the headwaters and other areas surrounding the Obed Wild and Scenic River puts pressure on these rare species and habitats, which could cause them to decline. Ongoing research and intentional management is needed to ensure that the biodiversity and rare species and habitats remain stable into the future.

  Related Planning and Data Needs: Purple bean mussel status report, exotic plant management plan, resource stewardship strategy, natural resource condition assessment, ongoing monitoring for threatened and endangered species and nonnative species, forest pest plan, cobble bar monitoring.

- **Legal Mandates for Wild and Scenic Rivers –** In accordance with Wild and Scenic Rivers Act, "the Federal agency charged with the administration of each component of the National Wild and Scenic Rivers System shall prepare a comprehensive management plan for such river segment to provide for the protection of the river values" (section 3[d]).The Obed is currently managed in accordance with the Obed Wild and Scenic River's general management plan (1995). This plan addresses some, but not all, of the legal requirements for management of the Obed under the Wild and Scenic Rivers Act.

  Related Planning and Data Needs: Comprehensive river management plan.

Planning and Data Needs

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

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

Planning Needs			
Related to an FRV?	**Planning Needs**	**Priority (H, M, L)**	**Notes**
FRV	Regional water management plan	H	There are no deep aquifers on the plateau, making a plan for the limited water a priority. Need to partner with other agencies to make this happen. Develop plans with the US Geological Survey for future research and monitoring programs. Participate in a regional water supply plan.
FRV	Forest pest environmental assessment (hemlock)	H	Currently 25% completed. Environmental assessment is for six parks.
FRV	Comprehensive river management plan	H	The 1995 general management plan covers portions of this requirement for the comprehensive river management plan but not all.
FRV	NPS water monitoring protocol	H	Protocol is currently underway. Continuous monitoring of USGS water gauges, completion targeted for early 2015. Discrete water quality monitoring on tributaries and gauge sites expected completion by early 2015.
FRV	Trails management plan	H	Identify trails that are needed and how they will be managed.
FRV	Nemo Picnic Area site plan and compliance (redesign)	M	Picnic area is in need of upgrades, including flood mitigation measures.
FRV	Resource stewardship strategy	M	
FRV	Update to fire management plan	M	To introduce aspects of fuel reduction methods and alternative plans besides full suppression.
FRV	Update of long-range interpretive plan	L	Last updated in 2003.
FRV	Exotic plant management plan	L	
FRV	Accessibility assessment and transition plan	L	Parks are obligated to ensure that all services, activities, and programs, when viewed in their entirety are accessible to visitors and employees per section 504 of the Rehabilitation Act of 1973, which prohibits discrimination against individuals based on disability. The plan evaluates and assesses the park for barriers based on priority park areas of each core park experience, while making use of existing data (e.g., National Center on Accessibility assessment) for the accessibility assessment, as appropriate. Recognizing that the park cannot immediately make all services, activities, and programs accessible, criteria are used as the basis for the priority park area assessments: level of use by public, number of activities offered, program uniqueness, and geographic distribution, etc. The plan also identifies physical and programmatic solutions, timeframes and implementation strategies that are needed in order to make accessible the services, activities, and programs provided in the park.
FRV	Complete contaminated mine drainage environmental impact statement and develop funding request for cleanup	L	This plan is already underway and staff time for contributing to this effort is fully funded. Therefore, this is not a high priority planning need at this time as the *needs* to complete this work have been met. However, the park staff remain committed to contributing to this planning effort.

Data Needs			
Related to an FRV?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
FRV	Ongoing monitoring data on cobble bars	H	These are world class resources, the survival of which is directly related to flow regimes that need to be monitored. Protocol is complete and field data-collection is underway.
FRV	LiDAR mapping of the whole park	H	Topographic relief of the river system helps evaluate tree canopy coverage, analyze archeological and historical sites, and visitor use areas.
FRV	Continue to document local history	H	Including photographs and artifacts from the local community. High priority because many people with valuable knowledge are aging.
FRV	Further data needed on sections of the latest 303(d) document for impaired watersheds	H	Coordinate with the state to find out what is driving those listings.
FRV	Update to visitor use study to capture paddling season data	H	A visitor study has been completed for the fall, but this study did not capture visitor uses in other seasons. This study would provide a better understanding of how visitors use the river system year-round.
FRV	Hydrological flow and related needs study	H	As it relates to threatened and endangered species. Goal to determine what the threshold is for water removal before it impacts these habitats. Includes additional research on flow regimes and their effect on aquatic biomes and low flow measurements in relationship to critical habitats with the goal to discover critical thresholds for maintaining threatened and endangered species and their critical habitat. Species of interest include the spot fin chub and the purple bean mussel.
FRV	Study to determine the relationship between water quality and its effect on threatened and endangered species	H	Based on a funded project expected to begin in the next five years.
FRV	Acoustic survey	H	Important to protect wildlife habitats. Sound also influences the primal nature of the area.
FRV	Administrative history of Obed Wild and Scenic River	H	This study would discuss interpretations of the park's history related to designation of Obed Wild and Scenic River and the Wild and Scenic Rivers Act. Would include individuals who established the wild and scenic river. A three-year project beginning in 2016 is currently planned.
FRV	Additional USGS water research	H	Research to include aspects of flow regimes and its effect on aquatic biomes. Includes continuation of ongoing programs for baseline water quality data, monitoring, and trends. Support ongoing projects and monitoring by the US Geological Survey.
FRV	Purple bean mussel status report	H	Report is funded with an anticipated start date in 2019.
FRV	Ongoing monitoring for threatened and endangered and nonnative species	H	Rare species include spotfin chub and other rare fish, purple bean mussel, cobble bar habitats, etc.

Data Needs			
Related to an FRV?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
FRV	Complete last phase of archeological survey conducted by Cooperative Ecosystem Studies Unit, expected in 2015	H	
FRV	Upcoming geologic maps (ongoing, but not yet complete)	H	By US Geological Survey.
FRV	Visual resource inventory	M	Crucial for maintaining regulations in the Wild and Scenic Rivers Act. Staff are currently developing protocols for how to objectively assess scenic quality.
FRV	Additional impoundment studies	M	The US Geological Survey previously conducted an impoundment study, but the results were inconclusive.
FRV	Boundary survey	M	To gather data and document discrepancies.
FRV	Document gaps in cliff lines and gorge access points for emergency response condition assessment	M	Documentation of geology by GIS.
FRV	Ethnographic documentation related to the Obed River	M	Studied topics include culture, religion, historical connection to place, etc. Goal to capture this knowledge before rapidly changing cultural values replace them.
FRV	Geologic assessment and inventory of rock shelters and other features	M	Rock shelter assessments are currently ongoing with the archeological survey. Data collection effort would include the location by GPS, depth, width, condition of the rock shelters (ongoing) and other geologic features along the cliff line.
FRV	Private mineral ownership study	M	Based on land ownership records.
FRV	Natural resource condition assessment	M	In process.
FRV	Outstandingly remarkable values report	M	This report will be needed to inform the Obed Wild and Scenic River comprehensive river management plan.
FRV	Complete the abandoned mine inventory.	L	Includes data collection on historical quarry.
FRV	Rock fall or slide hazard assessment.	L	

Part 3: Contributors

Obed Wild and Scenic River

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Appendixes

Appendix A: Enabling Legislation and Legislative Acts for Obed Wild and Scenic River

Public Law 90-541

October 1, 1968
[H. J. Res. 1461]

JOINT RESOLUTION

Making continuing appropriations for the fiscal year 1969, and for other purposes.

Continuing appropriations, 1969.
Ante, p. 475.

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That clause (c) of section 102 of the joint resolution of June 29, 1968 (Public Law 90–366), is hereby further amended by striking out "September 30, 1968" and inserting in lieu thereof "October 12, 1968".

Approved October 1, 1968.

Public Law 90-542

October 2, 1968
[S. 119]

AN ACT

To provide for a National Wild and Scenic Rivers System, and for other purposes.

Wild and Scenic Rivers Act.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) this Act may be cited as the "Wild and Scenic Rivers Act".

(b) It is hereby declared to be the policy of the United States that certain selected rivers of the Nation which, with their immediate environments, possess outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values, shall be preserved in free-flowing condition, and that they and their immediate environments shall be protected for the benefit and enjoyment of present and future generations. The Congress declares that the established national policy of dam and other construction at appropriate sections of the rivers of the United States needs to be complemented by a policy that would preserve other selected rivers or sections thereof in their free-flowing condition to protect the water quality of such rivers and to fulfill other vital national conservation purposes.

(c) The purpose of this Act is to implement this policy by instituting a national wild and scenic rivers system, by designating the initial components of that system, and by prescribing the methods by which and standards according to which additional components may be added to the system from time to time.

National wild and scenic rivers system.

SEC. 2. (a) The national wild and scenic rivers system shall comprise rivers (i) that are authorized for inclusion therein by Act of Congress, or (ii) that are designated as wild, scenic or recreational rivers by or pursuant to an act of the legislature of the State or States through which they flow, that are to be permanently administered as wild, scenic or recreational rivers by an agency or political subdivision of the State or States concerned without expense to the United States, that are found by the Secretary of the Interior, upon application of the Governor of the State or the Governors of the States concerned,

94TH CONGRESS 2d Session } HOUSE OF REPRESENTATIVES { REPORT No. 94–1657

AMENDING THE WILD AND SCENIC RIVERS ACT, AND FOR OTHER PURPOSES

SEPTEMBER 22, 1976.—Committed to the Committee of the Whole House on the State of the Union and ordered to be printed

Mr. HALEY, from the Committee on Interior and Insular Affairs, submitted the following

REPORT

[to accompany H.R. 15422]

The Committee on Interior and Insular Affairs, to whom was referred the bill (H.R. 15422) to amend the Wild and Scenic Rivers Act, and for other purposes, having considered the same, report favorably thereon with amendments and recommend that the bill as amended do pass.

The amendments are as follows:

Page 2, line 13, strike out "lands.'." and insert "lands. No funds authorized to be appropriated pursuant to this paragraph shall be available prior to October 1, 1977.'."

Page 2, line 24, strike out "lands.'." and insert "lands. No funds authorized to be appropriated pursuant to this paragraph shall be available prior to October 1, 1977.'."

Page 4, line 21, strike out "section 2(1)" and insert "section 202(1)".

Page 7, line 19, strike out "section 2" and insert "section 202".

Page 9, lines 4 and 5, strike out "development.'." and insert "development. No funds authorized to be appropriated pursuant to this paragraph shall be available prior to October 1, 1977.'."

PURPOSE

The purpose of H.R. 15422,[1] as reported by the Committee on Interior and Insular Affairs, is to add segments of the following three rivers to the National Wild and Scenic Rivers System: (1) Flathead River, Montana; (2) Missouri River, Montana; and (3) Obed River, Tennessee.

The Housantonic River in Connecticut is also to be studied for its suitability as a potential component of the national system. In addition, a clarification is made of the location of the upstream terminus of that portion of the Feather River in California which is already included in the system, and an amendment is made to the Wild and Scenic River Act to delete a waiting period for State legislative review of studied rivers before Congress can act.

OBED RIVER, TENNESSEE

This river drainage, located on the Cumberland Plateau of central Tennessee, flows through canyons characterized by spectacular bluffs, mature forests, and impressive rapids. The 44 miles of this drainage included in H.R. 15422 consists of a part of the main stem of the Obed River, segments of its principal tributaries, Clear and Daddys Creeks, and a short stretch of the Emory River.

Much of the land along the Obed and its tributary streams is already protected as a part of the state operated Catoosa Wildlife Management Area, and will continue to be protected in its current status. The administration of the river by the National Park Service should protect the wildlife values of these lands, as well as provide for the retention of the scenic character of the additional lands included in the river corridor. The river is an important sport fisheries resource, and also offers challenging rapids to test experienced canoeists.

(e) To the extent and in a manner consistent with the purposes of the Wild and Scenic Rivers Act the Secretary shall permit such pumping facilities and associated pipelines as may be necessary to assure the continuation of an adequate supply of water from the Missouri River to the owners of lands adjacent to the river and for future agricultural use outside the river corridor. The Secretary is authorized to permit such pumping facilities and associated pipelines for use for fish, wildlife, and recreational uses outside the river corridor. Pumping facilities and associated pipelines.

(f) The Secretary shall permit hunting and fishing in the river area in accordance with applicable Federal and State laws, except that he may designate zones where, and periods when, no hunting or fishing shall be permitted for reasons of public safety or administration. Hunting and fishing.

(g)(1) The Secretary, acting through the Bureau of Land Management, shall exercise management responsibilities in the river area for:

(A) the grazing of livestock;

(B) the application of the United States mining and mineral leasing laws;

(C) the management of fish and wildlife habitat;

(D) the diversion and use of water for agricultural and domestic purposes;

(E) the acquisition of lands and interests therein;

(F) the administration of public recreational uses of, and any historic sites and campsites in, the river area; and

(G) all other management responsibilities except those set forth in paragraph (2) of this subsection.

(2) The Secretary, acting through the National Park Service, shall be responsible for the construction, operation, and management of any visitor facility in or near Fort Benton which is found necessary in accordance with the management plan developed pursuant to section 202 and the provision, at such facility, of interpretive services for the historic, archeological, scenic, natural, and fish and wildlife resources of the area. Visitor facility, construction.

TITLE III—OBED, TENNESSEE

SEC. 301. Section 3(a) of the Act is further amended by adding the following new paragraph at the end thereof: 16 USC 1274.

"(15) OBED, TENNESSEE.—The segment from the western edge of the Catoosa Wildlife Management Area to the confluence with the Emory River; Clear Creek from the Morgan County line to the confluence with the Obed River, Daddys Creek from the Morgan County line to the confluence with the Obed River; and the Emory River from the confluence with the Obed River to the Nemo bridge as generally depicted and classified on the stream classification map dated December 1973. The Secretary of the Interior shall take such action, with the participation of the State of Tennessee as is provided for under subsection (b) within one year following the date of enactment of this paragraph. The development plan required by such subsection (b) shall include cooperative agreements between the State of Tennessee acting through the Wildlife Resources Agency and the Secretary of the Interior. Lands within the Wild and Scenic River boundaries that are currently part of the Catoosa Wildlife Management Area shall continue to be owned and managed by the Tennessee Wildlife Resources Agency in such a way as to protect the wildlife resources and primitive character of the area, and without further development of roads, campsites, or associated recreational facilities unless deemed necessary by that agency for wildlife management practices. The Obed Wild and Scenic River shall be managed by the Secretary of the Interior. For the purposes of carrying out the provisions of this Act with respect to this river, there are authorized to be appropriated such sums as may be necessary, but not to exceed $2,000,000 for the acquisition of lands or interests in lands and not to exceed $400,000 for development. No funds authorized to be appropriated pursuant to this paragraph shall be available prior to October 1, 1977.". Cooperative agreements.

Appendix B: Inventory of Special Mandates and Administrative Commitments

Special Mandates and Administrative Commitments				
Name	**Agreement Type**	**Start / Expiration Date**	**Stakeholders**	**Purpose**
Tennessee Wildlife Resources Agency agreement	Special mandate	October 1976/ No expiration	Tennessee Wildlife Resources Agency, Catoosa Wildlife Management Area	The act states that lands within the Obed Wild and Scenic River boundary that are currently part of the Catoosa Wildlife Management Area shall continue to be owned by the State of Tennessee and managed by the Tennessee Wildlife Resources Agency.
Mineral rights (9B)	Special mandate			No new aboveground disturbance. Mineral owners can access belowground minerals from outside the boundary.
Exceptional waters (Outstanding National Resource Water)	Special mandate			Tennessee Department of Environment and Conservation: For ONWR, no new discharges, expansions of existing discharges, or mixing zones will be permitted unless such activity will not result in measurable degradation of the water quality.
Critical habitat for the spotfin chub and the purple bean mussel	Special mandate	Spotfin chub listed: 10/11/1977 purple bean mussel listed: 1/10/1997	US Fish and Wildlife Service	Area contains features essential for the conservation of a threatened or endangered species and that may require special management and protection.
Cumberland Trail	Joint management		Tennessee State Parks	Joint management of NPS-owned portion of trail.

Appendix C: Wild and Scenic River Values

In 1976, portions of the Obed River, Clear Creek, Daddys Creek, and the Emory River were designated by Congress as a national wild and scenic river. As stated in the act, these river segments include

- Obed River, from the western edge of the Catoosa Wildlife Management Area to the confluence with the Emory River
- Clear Creek, from the Morgan County line to the confluence with the Obed River
- Daddys Creek, from the Morgan County line to the confluence with the Obed River
- Emory River, from the confluence with the Obed River to the Nemo bridge

In addition to outstandingly remarkable values, the free-flowing condition and water quality of the Obed Wild and Scenic River are also described. Because free-flowing condition and water quality support the integrity of the river's outstandingly remarkable values and are key components of future planning and management, they are included as part of this publication.

An early analysis concluded that the Obed Wild and Scenic River contains the following outstandingly remarkable values: aesthetic, recreational, cultural, ecological/vegetation, geologic, wildlife, and fish. A set of broad statements has been developed that describes each of these outstandingly remarkable values for the entire Obed Wild and Scenic River.

Aesthetic Values

The Obed Wild and Scenic River cuts through the Cumberland Plateau's sandstone cap overlaying softer shale layers, creating a canyon environment that gives visitors the impression that they are in deep wilderness, far removed from human civilization. The park's massive, overhanging cliffs frequently loom more than 500 feet above the streams below, lending to the narrow canyons a sense of isolation and intimacy. In many places the Pennsylvanian-era sandstone of these large cliffs is brilliantly colored, with hues ranging from all shades of gray and brown to bright pink, orange, red and yellow. During times of medium flow the park's larger streams are often a brilliant turquoise, providing a dramatic contrast to the park's geologic features. At these times the river dances an intricate swirling course through a labyrinth of boulders and eddies, racing through narrow chutes at a breathtaking pace and plummeting from high ledges, tossing spray and foam high into the air.

The river's primitive character allows a sense of discovery. Dark night skies allow visitors to enjoy wilderness-like encounters with the stars. The park visitor can experience a wide array of natural sounds, from the roar of the river in flood stage, to spring bird song, to the deafening chorus of insects and frogs on a summer night. The totality of sensory experiences, including sights and sounds and lack of modern-day intrusions along the Obed Wild and Scenic River constitute a significant vestige of primitive America.

Recreational Values

The Obed Wild and Scenic River provides world-class climbing and regionally significant boating opportunities in the Eastern United States. Its natural flows support whitewater paddling, typically from November through May. A major characteristic of both climbing and boating at the Obed is the opportunity for challenge in a highly scenic wilderness setting. Other than bridges at put-in and take-out points, paddlers can explore the park's entire river system while encountering virtually no signs of human activity. Because of the river's natural, unregulated flow regime, limited parking and rugged terrain, the Obed has the ability to provide paddlers with opportunities for solitude. While sport climbing is restricted to two miles of cliff within the park, where encounters with other climbers are common, traditional climbing and bouldering are allowed throughout the park, providing opportunities for solitude. North facing cliffs, overhangs that provide protection from rain, and southern exposures create year-round climbing opportunities in a highly scenic setting. The Cumberland Trail traverses the park, allowing the intrepid hiker to explore the most remote and scenic sections of the Obed by foot. This planned 300-mile-long trail system provides challenge and a sense of adventure, and will ultimately allow users to hike all the way from the Obed Wild and Scenic River to the Appalachian Trail.

Cultural Values

Human occupation along the Obed Wild and Scenic River system encompasses thousands of years of diverse cultures—from prehistoric native people through 20th century European settlers. People existed along the rivers because they provided reliable year-round water and abundant riparian resources, such as plants and animal species including mussels, fish, birds and mammals. People also used the rivers as important travel corridors. Prehistoric and historic use is reflected in engineering structures and archeological sites, including rock shelters, bridges, tunnels, grist mills, and home sites throughout the river system.

All four segments of the Obed Wild and Scenic River system contain prehistoric rock shelter sites located at the base of the cliffs. Some of these rock shelters may contain significant cultural resources, which would make them eligible for nomination to the National Register of Historic Places. Artifacts, such as mussel shell and fish bone, can provide evidence of water quality conditions, species diversity, and general conditions of the river system at different periods of time. Additionally, prehistoric artifacts at these rock shelter sites may reveal the use of the river as a transportation corridor for trade and seasonal migration of prehistoric people.

Ecological/Vegetation Values

The Obed Wild and Scenic River, located within one of the most species-rich temperate ecoregions in North America, protects many regionally and nationally significant habitats, several of which are riparian. The park contains 45 miles of contiguous riparian forest, some of which have never been cleared. The Obed also contains the vast majority of the globally imperiled "Cumberland river scour prairie" plant community, of which there are fewer than 500 acres remaining. These river prairies share many characteristics with the tallgrass prairies of the American Midwest. However, where fire is the driving force sustaining Midwestern prairies, raging floods are the ecological driver in the bottom of the deep river gorges of the Cumberland Plateau, regularly scouring these habitats to maintain their open state. Associated with this community type are two federally listed plants, Cumberland rosemary and Virginia spirea, as well as other species of plants that are either regionally or nationally significant. The Obed is the most significant stronghold for Cumberland rosemary—protecting 75% of all remaining populations. In addition, there are four plant species potentially new to science associated with the Obed's riparian habitats.

Geologic Values

The Obed Wild and Scenic River is located on the Cumberland Plateau Physiographic Province. The terrain is generally flat to rolling tableland, deeply dissected by steep-walled gorges. Surface geology adjacent to the wild and scenic river consists primarily of the Crab Mountain formation group composed of conglomerate, sandstones, siltstones, shales, and coal. The spectacular gorges of the Obed River System were formed when surface drainages eroded through the Rockcastle conglomerate to contact the underlying Vandever shale formation, which is more susceptible to erosion, producing many unique scenic features, including rock shelters, arches, and chimneys. The rivers are geomorphically active, continually moving large amounts of sediment as they erode cliffs, slopes, and streambeds. Sediment transport is important in the creation and maintenance of the alluvial/cobble bars found within the river channels, which support rare plant communities.

Wildlife Values

The Obed Wild and Scenic River contains exemplary habitat for five imperiled wildlife species in the southeast region. The park provides nesting and foraging habitat for one of the largest concentrations of the rare Swainson's warbler in rhododendron/hemlock habitat in Tennessee. The abundant cliff lines provide essential roosting habitat for eastern small-footed and Rafinesque's big-eared bat populations, in close proximity to foraging habitat along the river. Both of these bat species are under consideration for federal listing. Clean, well-oxygenated waters of small tributaries to the Obed River, as well as the proximal banks, provide optimal habitat for the Black Mountain salamander and the Cumberland dusky salamander. The Cumberland dusky is endemic to the Cumberland Plateau. The Obed and its tributaries are important to the sustainability of these species, as well as the river otter which is recovering from being extirpated from the region in the late 1800s.

Fish and Other Aquatic Values

The Obed Wild and Scenic River system provides some of the most extensive and contiguous remnant habitat for the Cumberlandian aquatic species assemblage. It also represents an ecological remnant of a major free-flowing tributary to the upper Tennessee River, and it provides high quality habitat to 54 native fish species, 11 freshwater mussels, and numerous other aquatic species. Among these are at least 5 imperiled fish species, 2 species of mussel, and numerous other vulnerable aquatic species. These include the federally listed spotfin chub, tangerine darter, olive darter, ashy darter, native muskellunge, the federally listed purple bean mussel, the endemic Obed crayfish, the Emory River crayfish, and the Eastern hellbender. The hellbender was found in the Obed Wild and Scenic River as recently as 1997, which has also been deemed by the State of Tennessee to be in need of management. State-listed fish species deemed to be in need of management include the Tangerine and Olive Darter. The Ashy Darter is state-listed as threatened. The entire Obed Wild and Scenic River system has been designated as critical habitat for the spotfin chub under the Endangered Species Act.

The unique biological characteristics of the Obed system arise from a combination of low ionic water chemistry, low sediment loads, steep and moderate gradients, diverse micro-habitats, and its geographic setting. Water quality in much of the Obed system remains among the highest in Tennessee and reflects unique chemical characteristics influenced by bedrock of the Cumberland Plateau. Bedrock geology is also reflected by variable stream gradients. Where streams flow atop resistant sandstone, gradients may be gentle; steeper gradients occur where streams have breached through resistant sandstones into underlying shales, which erode more readily.

All of these factors contribute to the regional significance of the Obed River System. The area remains one of the most biologically diverse aquatic systems in the Tennessee River drainage.

Free-Flowing Condition

The Obed Wild and Scenic River system is a high quality rainfall-runoff dominated watershed characterized by extremes in stream flow, both in response to seasonal rainfall variation and individual storms. The Obed River and its designated tributaries, Daddys Creek and Clear Creek, are located atop the Cumberland Plateau physiographic province in Tennessee. Thin soils and low-porosity bedrock shales of the plateau promote rapid overland runoff and inhibit groundwater infiltration. As a result, streams respond rapidly to rainfall fronts and short term storms, but stream flow is poorly sustained during seasons of low rainfall. Stream flows rise rapidly following significant precipitations events particularly in high gradient gorges where the rivers are flanked by sandstone cliffs rising in excess of 500 feet above the floodplain.

This rapid response to precipitation events is an important component of aquatic and riparian habitats. In contrast, the system is also characterized by low flow extremes, both in response to normal seasonal conditions and drought. These factors render water resources extremely susceptible to impacts associated with increased water demand, because powerful, scouring floods are vital to the system. Although the region typically receives abundant annual rainfall, the Obed River System is every bit as susceptible to increased water demand as are those streams of the arid west during late summer and fall months.

Frequent rainfall fronts, seasonal thunderstorms, and episodic intense tropical low pressure systems producing sustained bank full conditions, moderate scour events, and catastrophic flood pulses are important mechanisms influencing the Obed's fluvial geomorphology. Powerful scouring floods associated with these events are critical to creating and maintaining diverse riparian habitats including the globally significant Cumberlandian cobble bar.

There are no impoundments within the designated boundary of the Obed Wild and Scenic River system. Within the headwaters and above the designated section of the Obed there are 2,454 impoundments as of 2002 in the 520-square-mile watershed. These impoundments occupy approximately 1% of surface area and control more than 10% of the surface drainage of the watershed. Land use activities upstream and adjacent to the Obed Wild and Scenic River influence and may threaten the integrity of park water and riparian resources.

Upstream urban and suburban growth and associated increase in water demand, wastewater discharge, an increase in recreational and water supply impoundments, and interbasin transfer are key management concerns. To date, most of the larger impoundments of concern are concentrated in the Daddys Creek and Obed River headwaters near the Interstate 40 corridor. Clear Creek, a more agrarian watershed, has been less affected thus far, but improvements to US Route 27 between Interstate 40 and the Kentucky state line will open the Clear Creek watershed to development.

Water Quality

Under undisturbed conditions, water chemistry in the Obed watershed ranges from extremely dilute, low ionic (i.e., soft) water in low order headwater drainages to moderately soft waters in the larger streams. The primary natural influence on water quality of the Obed system is geology. Sandstones such as the Rockcastle conglomerate are highly resistant to physical and chemical weathering, and streams draining predominately sandstones are poorly buffered and are moderately acidic to circumneutral. This lack of buffering capacity renders Obed waters highly susceptible to degradation by acidic input, and park waters have been adversely affected by acid mine drainage from both unregulated (prior to the Surface Mining Control and Reclamation Act) mining of the Rex, Sewanee, and other coal seams.

At the time of its designation as a wild and scenic river, waters of the Obed and its designated tributaries included waters indicative of both impaired conditions and near pristine conditions. The Clear Creek watershed drains largely rural lands in the northern portion of the watershed and is buffered from impacts by forested lands within the Catoosa Wildlife Management Area. Water quality of Daddys Creek at the time of designation also indicated high quality conditions. In contrast, various water resource investigations indicated the upper reaches of designated stream reaches of the Obed River were impaired, primarily by nutrient enrichment and bacteriological contamination. Since designation, water quality has generally improved in the Obed system.

The Obed River within the designated portion of the Wild and Scenic River System has been designated by the Environmental Protection Agency and the State of Tennessee as an "Outstanding Natural Resource Water" where no water quality degradation is allowed. All other waters within the Obed Wild and Scenic River system are classified as "Exemplary Waters" by the Environmental Protection Agency and the state with the exception of a 303(d) listed 1.4 mile section of Clear Creek, which was subject to an accidental oil spill in 2002.

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

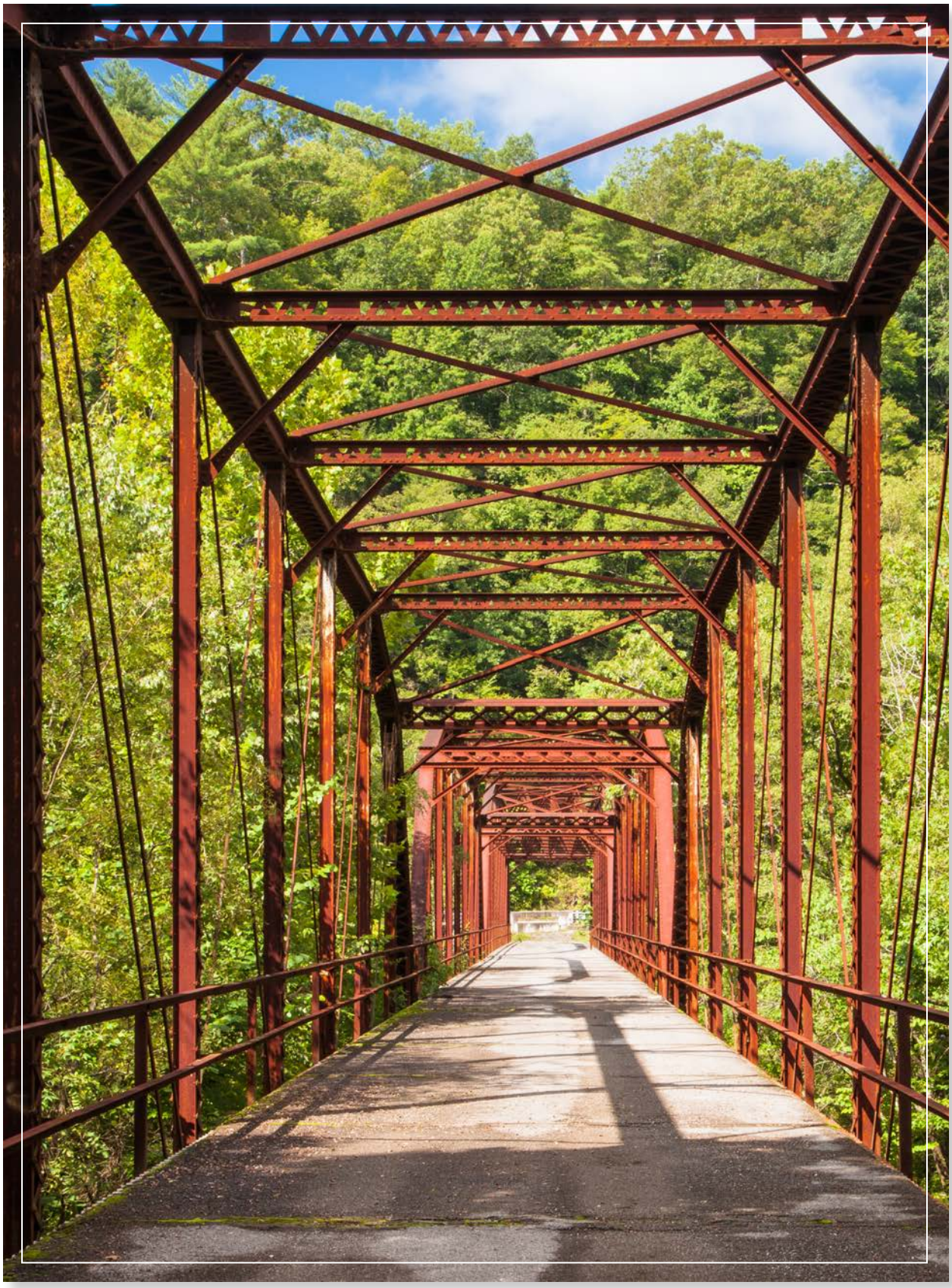
Name	Type	Published
Land Protection Plan, Obed Wild and Scenic River	Planning	2015
Data Management Plan: Appalachian Highlands Inventory and Monitoring Network	Planning	2014
Obed Wild and Scenic River Superintendent's Compendium of Designations, Closures, Permit Requirements and Other Restrictions Imposed Under Discretionary Authority	Planning	2015
Long-term monitoring protocol for cobble bar communities: Big South Fork National River and Recreation Area (BISO) and Obed Wild and Scenic River (OBRI)	Planning	2013
Draft Obed Wild and Scenic River Outstandingly Remarkable Values	Planning	2012
Final Non-Federal Oil and Gas Management Plan/Environmental Impact Statement: Big South Fork National River and Recreation Area/Obed Wild and Scenic River	Planning	2012
Amendment to the Damage Assessment and Restoration Plan/ Environmental Assessment – Howard/White unit No. 1 Oil Spill	Planning	2012
Joint Curatorial Collections Facility Environmental Assessment	Planning	2011
Howard/White Unit No. 1 Oil Spill NRDA Obed Wild and Scenic River Damage Assessment and Restoration Plan/Environmental Assessment, Public Review Draft	Planning	2008
Appalachian Highlands Inventory and Monitoring Network Vital Signs Monitoring Plan	Planning	2005
Final Internal Scoping Report, Big South Fork National River and Recreation Area/Obed Wild and Scenic River Oil and Gas Management Plan/Environmental Impact Statement	Planning	2005
Damage Assessment Study Plan: Pryor Oil Well Fire and Spill, Obed Wild and Scenic River	Planning	2004
Long-range Interpretive Plan – Obed Wild and Scenic River	Planning	2003
Emory River Watershed (06010208) of the Tennessee River Basin Water Quality Management Plan	Planning	2000
Obed Wild and Scenic River Water Resources Management Plan (Restricted access)	Planning	1998
Obed Wild and Scenic River Strategic Plan (Restricted access)	Planning	1997
Obed Wild and Scenic River, Tennessee Final General Management Plan/Development Concept Plan/Environmental Impact Statement	Planning	1995
Resource Management Plan, Obed Wild and Scenic River (Restricted access)	Planning	1993
Obed Wild and Scenic River Statement for Management – Basic Operations Statement (Restricted access)	Planning	1993
Land Acquisition Plan, Obed Wild and Scenic River	Planning	1981, 1986
Development Plan and Stream Classification, Obed Wild and Scenic River (Restricted access)	Planning	1978

Name	Type	Published
Addendum to the Final Environmental Statement, Obed Wild and Scenic River, Tennessee	Planning	1978
Obed River Wild and Scenic River Study	Planning	1976
Final Environmental Statement: Proposed Obed National Wild and Scenic River	Planning	1976
Air		
National Park Service, Air Resources Division. In Preparation. Air quality in national parks: trends (2003–2012) and conditions (2008–2012). Natural Resource Report NPS/NRSS/ARD/NRR—2014/XXX. National Park Service, Denver, Colorado	Data	2012
Appalachian Highlands Network Resource Brief: Air Quality Monitoring	Data	2008
Biota		
Cumberland rosemary monitoring	Data	2013
Patterns of Ecological Performance and Aquatic Insect Diversity in High Quality Protected Area Networks	Data	2012
Statistical Trend Analysis of 2012 Spotfin Chub and Tuxedo Darter Data for Catch Per Unit Effort	Data	2012
Underwater Video Habitat Mapping at Obed Wild and Scenic River. Park Science, no. 2 (2010): 24–25	Data	2010
Characterization of Ancient Red Cedar Communities in the Obed Wild and Scenic River Gorge	Data	2009
Threatened or Endangered Aquatic Insect Survey Obed Wild and Scenic River	Data	2009
Rare Fish Monitoring at Big South Fork NRRA and Obed Wild and Scenic River	Data	2008
Appalachian Highlands Network Resource Brief: Freshwater Mussel Monitoring	Data	2008
Appalachian Highlands Network Resource Brief: Cobble Bar Monitoring	Data	2008
Appalachian Highlands Network Resource Brief: Aquatic Macroinvertebrate Monitoring	Data	2008
Final Report of the Bird Inventory: Obed Wild and Scenic River, 2003–2005	Data	2007
Herpetofauna Survey of Obed Wild and Scenic River	Data	2005
Emory River Watershed Biological Assessment	Data	2005
Lichens of the U.S. National Parks. The Bryologist, no. 4 (2005): 544–553	Data	2005
Characterization of Plant Community Structure and Abiotic Conditions on Climbed and Unclimbed Cliff Faces in the Obed River Gorge	Data	2004
Small Parks Exotic Plant Project 1996-97 Summary Report	Data	1997

Name	Type	Published
Biota		
Vegetation of the Obed River Gorge System, Cumberland Plateau, Tennessee	Data	1988
Vascular Flora of the Obed Wild and Scenic River, Tennessee. Castanea, no. 2 (1985): 71–88	Data	1985
State Records and Other Recent Noteworthy Collections of Tennessee Plants. IV	Data	1983
Mining and Sewage Effect: Aquatic Fauna, Water Quality Survey, Obed Wild and Scenic River (Restricted access)	Data	1982
Climate and Weather		
Obed Wild and Scenic River annual climate summary for 2007	Data	2010
Appalachian Highlands Network Resource Brief: Weather and Climate Monitoring	Data	2008
Weather and Climate Inventory, National Park Service, Appalachian Highlands Network	Data	2007
Cultural		
Archeological Reconnaissance, Obed Wild and Scenic River (Restricted access)	Data	1979
Geology		
Geologic Resources Inventory Scoping Summary Big South Fork National River and Recreation Area and Obed Wild and Scenic River	Data	2009
Paleontological Resource Inventory and Monitoring—Appalachian Highlands Network	Data	2008
Howard/White Unit No. 1 Oil Spill NRDA, Obed Wild and Scenic River: Preassessment Phase Report	Data	2003
Hydrology		
Appalachian Highlands Network Resource Brief: Water Quality Monitoring	Data	2008
Obed Wild and Scenic River Baseline Water Quality Data Inventory and Analysis. Restricted Access.	Data	1999
Landscape Scale		
Evaluation of the sensitivity of inventory and monitoring national parks to nutrient enrichment effects from atmospheric nitrogen deposition: Appalachian Highlands Network (APHN)	Data	2011
Evaluation of the sensitivity of inventory and monitoring national parks to acidification effects from atmospheric sulfur and nitrogen deposition: Appalachian Highlands Network (APHN)	Data	2011
Evaluation of the sensitivity of inventory and monitoring national parks to acidification effects from atmospheric sulfur and nitrogen deposition: main report	Data	2011
Appalachian Highlands Network Resource Brief: Landscape Change	Data	2008

Name	Type	Published
Observation of Non-NPS Dams That Affect Obed Wild and Scenic River, Tennessee, and Onsite Training – Safety Evaluation of Existing Dams Program (SEED) (Restricted access)	Data	1993
Park Management		
Superintendents Annual Narrative Reports (FY 1996, 1997, 1998, 2000, 2001, 2002, 2003, 2004, and 2005)	Data	2005
Summary Report for Fiscal Year 2000 Exotic Plant Management Activities, Appalachian Cluster Small Parks	Data	2000
Socioeconomics		
Impacts of visitor spending on the local economy: Obed Wild and Scenic River, 2012	Data	2013
Transportation		
The Road Inventory of Obed Wild and Scenic River (Restricted access)	Data	2005
Visitor Use		
Obed Wild and Scenic River 2013 Visitor Survey Card Data Report	Data	2013
Obed Wild and Scenic River Visitor Study Fall 2012	Data	2013
Obed Wild and Scenic River Rock Climbing Survey Results	Data	2004

Ongoing Projects	Source
Document historic structures and submit National Register of Historic Places eligibility assessments and potential applications.	FRV Analysis
Video exhibit of the oral history program.	FRV Analysis
Management action: memorandum of understanding with other trail partners for trail management (Catoosa Wildlife Management Area, Tennessee Wildlife Resources Agency, Cumberland Trail Association).	FRV Analysis
Management action: county department of transportation / Tennessee Department of Transportation joint work.	FRV Analysis



Southeast Region Foundation Document Recommendation
Obed Wild and Scenic River

November 2015

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

RECOMMENDED
Niki Stephanie Nicholas, Superintendent, Obed Wild and Scenic River **Date**

APPROVED
Stan Austin, Regional Director, Southeast Region **Date**

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

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