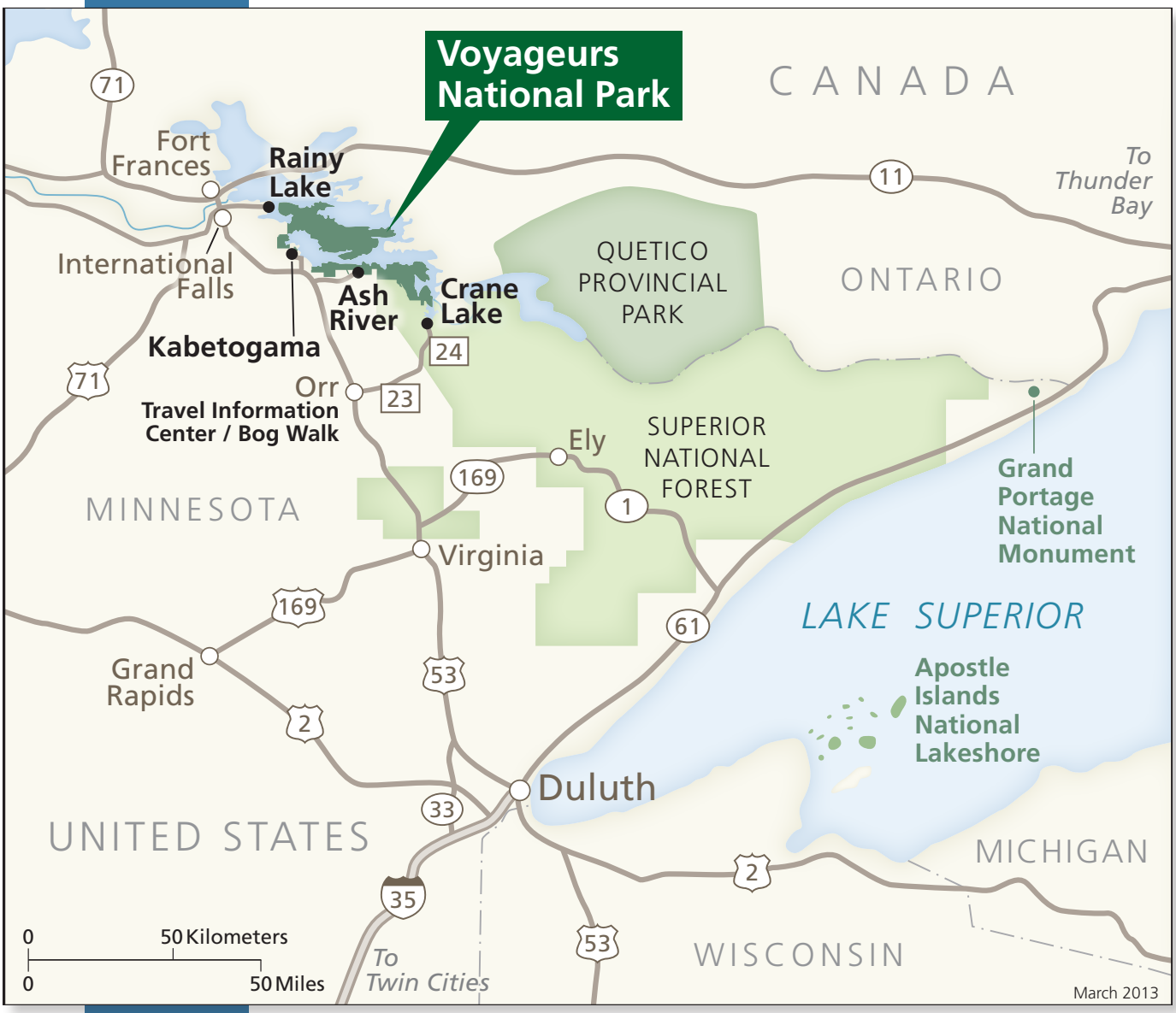
NATIONAL PARK SERVICE • U.S. DEPARTMENT OF THE INTERIOR

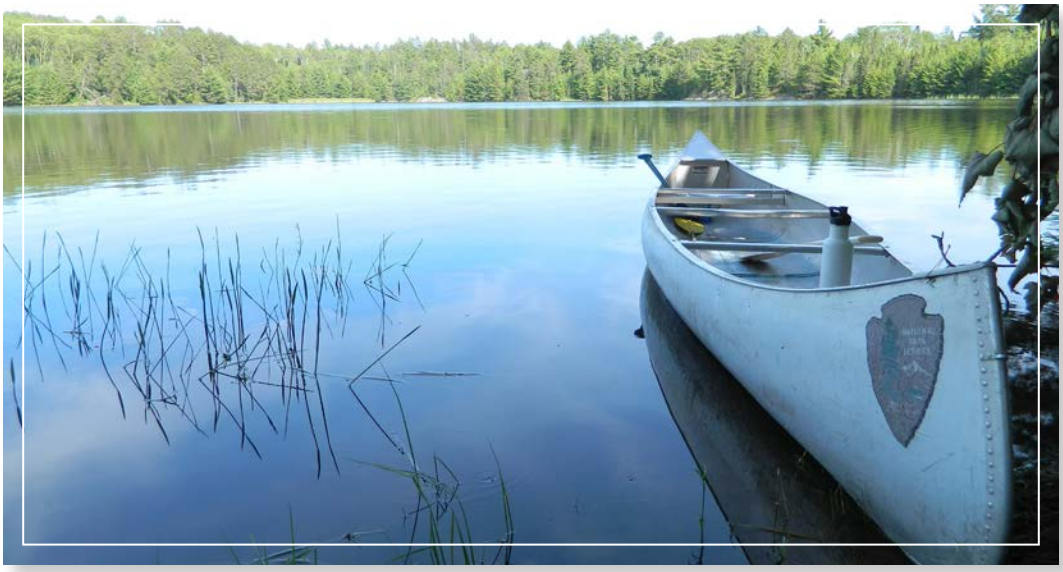
Foundation Document

Voyageurs National Park

Minnesota

August 2016


Voyageurs National Park
CANADA
Fort Frances
Rainy Lake
International Falls
Kabetogama
Ash River
Crane Lake
QUETICO PROVINCIAL PARK
ONTARIO
To Thunder Bay
Orr
Travel Information Center / Bog Walk
Ely
SUPERIOR NATIONAL FOREST
Grand Portage National Monument
MINNESOTA
Virginia
LAKE SUPERIOR
Apostle Islands National Lakeshore
Grand Rapids
Duluth
UNITED STATES
MICHIGAN
WISCONSIN
0 50 Kilometers
0 50 Miles
To Twin Cities
March 2013



Contents

Mission of the National Park Service

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

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

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

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

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

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

Introduction

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

Part 1: Core Components

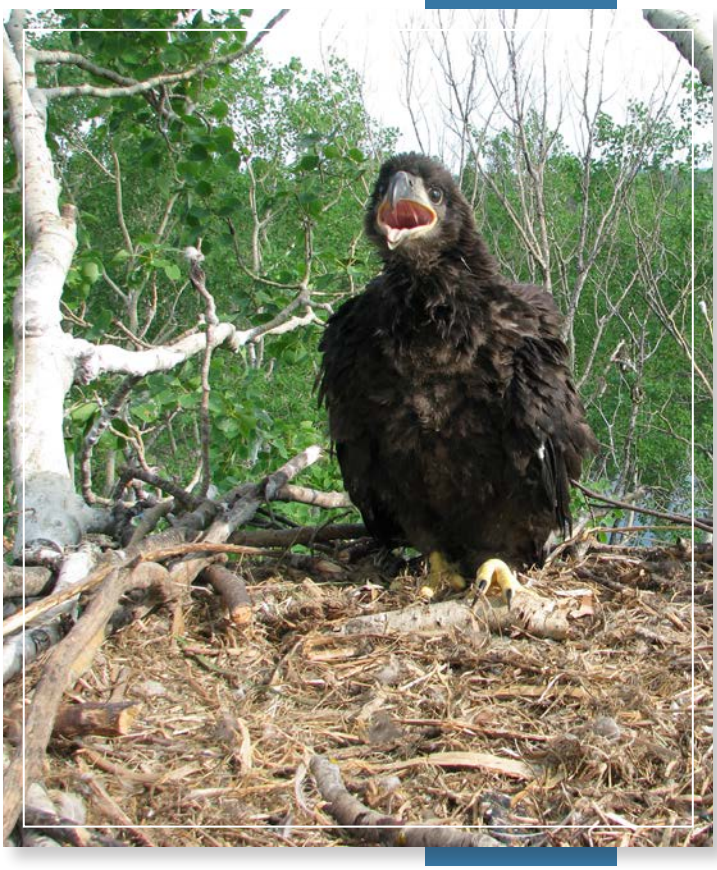
The core components of a foundation document include a brief description of the park, park purpose, significance statements, fundamental resources and values, and interpretive themes. These components are core because they typically do not change over time. Core components are expected to be used in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

Brief Description of the Park

Voyageurs National Park is a place of scenic landscapes and interconnected waterways, and is rich in human history. Named for the French-Canadian canoe-men who traveled these waters in birchbark canoes from the Great Lakes to the interior of the western United States and Canada, the park preserves one of the most important segments of the economically and culturally transformative North American fur trade route. This historic route contributed significantly to the opening of the northwestern United States during the late 1700s and early 1800s.

Well before the voyageurs, the first people to travel to this region came thousands of years ago, after the last of the glaciers had melted away and left this low landscape of expansive lakes and wetlands. The earliest people came from the Paleoindian and Archaic traditions, while the more extensively studied Woodlands, Native American, and Euroamerican eras of park history occurred from approximately 2,150 years ago to the present. Nearly every major prehistoric and historic theme associated with human interaction and development of the northwestern United States is represented within park boundaries. This includes early hunters and gatherers, homesteaders, and immigrants who came to log, fish, hunt, trap, and mine. Hundreds of archeological sites remain as a record of the area's earliest human inhabitants. In more recent years, this landscape was also home to people who sought to make their living off the land through logging, mining, commercial fishing, and recreation.

Located in sparsely populated northern Minnesota and sharing 55 miles of international border with Canada, the 218,000-acre park is part of a larger ecosystem that includes the Boundary Waters Canoe Area Wilderness and Quetico Provincial Park, although these areas are not located within the boundaries of Voyageurs National Park. Water levels in the park's four largest lakes are controlled by dams within and outside of the park's boundary and have been artificially controlled since the early 1900s for power generation, flood control, and other legally recognized uses. Three of these lakes are international waters. Rainy Lake, for example, is part of the U.S.-Canada border and is managed through international coordination.



The landscape has been shaped and carved by at least four periods of glaciation, revealing some of the oldest exposed rock formations in the world. Resulting topography of the park is rugged and varied; rocky outcrops are interspersed between bogs, beaver ponds, swamps, islands, small lakes, and four large lakes (Rainy, Kabetogama, Namakan, and Sand Point Lakes). Water covers about 40% of the national park. In the years since the last glaciation, a thin layer of soil has been created that supports the boreal forest ecosystem, the "North Woods" of Voyageurs National Park.

With a vast and diverse landscape to manage, developing and maintaining partnerships are a vital component of the park's administration. The park staff work closely with two partners in particular—the Voyageurs National Park Association and the Heart of the Continent Partnership. Created in 1965 to establish a national park in northern Minnesota, the mission of the Voyageurs National Park Association is to protect and promote the natural, recreational, and historic resources of Voyageurs National Park. The Heart of the Continent Partnership is a Canadian and American coalition of land managers and stakeholders that work together on cross-border projects to promote the economic, cultural and natural health of the lakes, forests, and communities along the Ontario–Minnesota border.

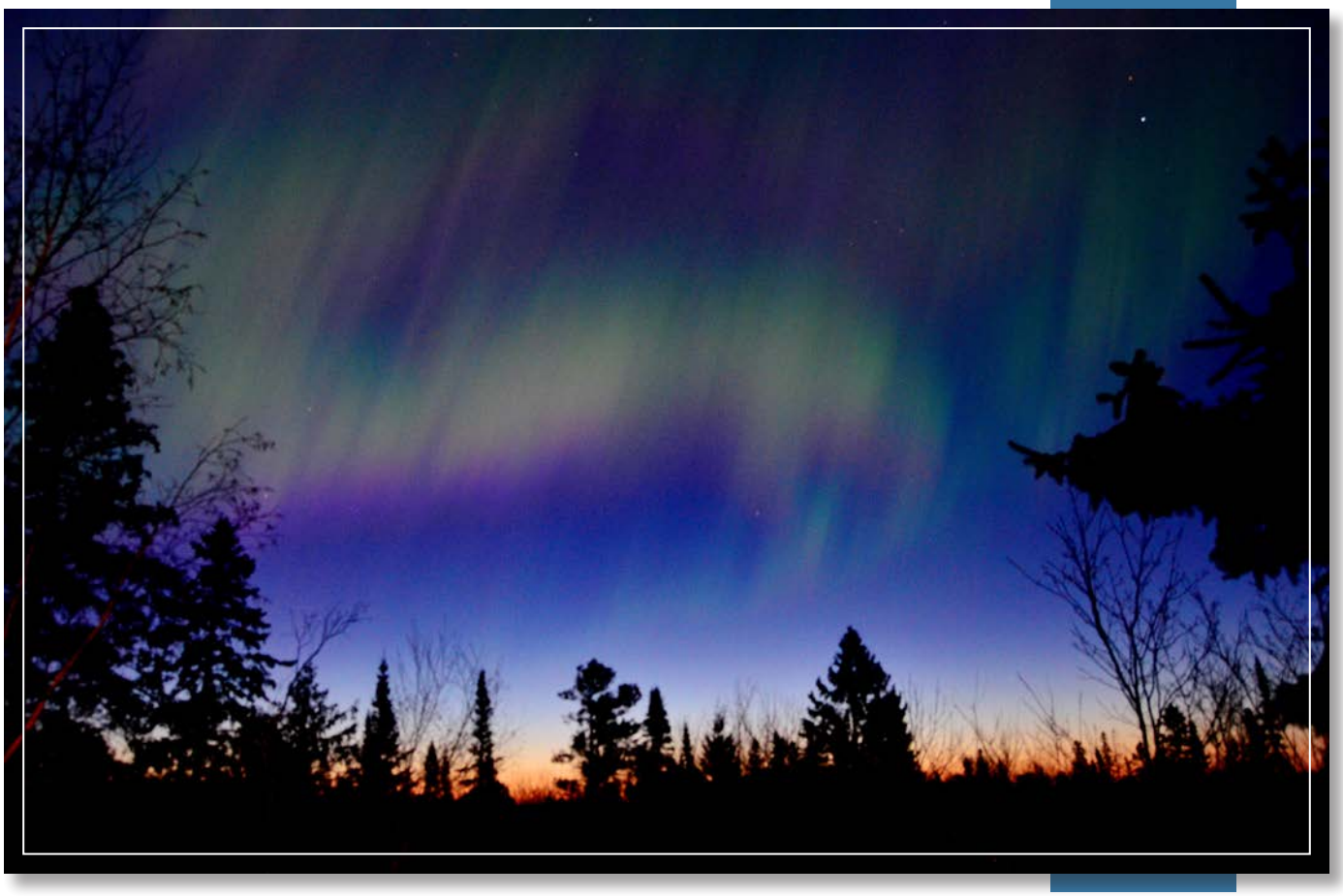
Eighteen American Indian tribes are culturally associated with Voyageurs National Park (see appendix D). Historically various Native American groups inhabited the area. These groups were descendants of late prehistoric Algonkian-speaking groups, the Ojibwe, the Cree, and the Dakotan-speaking Assiniboin. The Ojibwe were the primary occupants of the region during the historic period after about 1736, if not earlier. Four bands of the Bois Forte Ojibwe lived in what is now the park from at least the 1880s until the mid-1920s. The Bois Forte Ojibwe and Canadian Ojibwe First Nations retain strong cultural connections to traditional lands in the park.

Visitors today come to the park to see and touch rocks half as old as the world, experience the life of a voyageur, immerse themselves in the sights and sounds of a boreal forest, view the dark skies, or ply the interconnected water routes. The national park is a place where visitors may leave roads behind for waterways. These unique values represent an enduring park resource and are further elevated in NPS policies for lands that possess wilderness characteristics. Approximately 58% of Voyageurs National Park contains sufficient wilderness qualities to be considered for wilderness designation and park managers integrate these values into planning, preservation, and management activities. The water, geology, and accompanying scenery, along with rich cultural and natural resources, give the park its national significance and make it worthy of protection for the enjoyment of present and future generations.

Park Purpose

The purpose statement identifies the specific reason(s) for establishment of a particular park. The purpose statement for Voyageurs National Park 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 January 8, 1971 (see appendix A for enabling legislation and legislative acts). The purpose statement lays the foundation for understanding what is most important about the park.

The purpose of Voyageurs National Park is to preserve, for the inspiration and enjoyment of present and future generations, the outstanding scenery and geology, biological diversity, and cultural resources, within its vast interconnected waterways that shaped the historic fur trade in North America and constituted a part of the historic route of the voyageurs.



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 Voyageurs National Park, and are supported by data, research, and consensus. Statements of significance describe the distinctive nature of the park and why an area is important within a global, national, regional, and 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 Voyageurs National Park. (Please note that the sequence of the statements does not reflect the level of significance.)

1. The voyageurs further developed the North American fur trade route established by native people. The route, recognized for its transformative economic and cultural exchange, became the international boundary between the United States and Canada.

2. Lakes rather than land have defined movement across the remote landscape of northern Minnesota for thousands of years and continue as the primary means of access throughout the seasons. The vast network of interconnected waterways supports visitor access to a variety of recreational activities in a setting renowned for its quiet solitude, undeveloped shorelines, and radiant night skies.

3. Located at the southern end of the Canadian Shield formation, the bedrock underlying the park is among the most ancient in North America. Most of the geologic features found within the park are of Archean age (2.5–3.8 billion years old) and are of global significance for their relative rarity and exposure.

4. The park's abundant historic structures, cultural landscapes, ethnographic and archeological resources, and museum objects tell the story of 10,000 years of human relationships with the environment uniquely dictated by the interconnected waterway system.

5. The park's central location in a massive, interconnected international waterway system exemplified by the dynamic interrelationships of its resources in the boreal forest transition zone and extreme climate, provide outstanding scientific and educational opportunities. The park contains the most complete and extensive Precambrian geologic features in the U.S. as well as extraordinary aquatic and terrestrial resources, including the rare lake sturgeon, 230 bird species, and the iconic moose, gray wolf, and bald eagle.

6. Encompassing nearly 218,000 acres including 134,000 acres of forested woodlands, 84,000 acres of water, 645 miles of undeveloped shoreline, and more than 800 islands, the park protects a biologically rich system of plant and animal life found within the "edge" zone of the Canadian Shield and the northern boreal forest. The park is part of a larger, relatively pristine ecosystem of 2.7 million acres that includes the Boundary Waters Canoe Area Wilderness (USA) and Quetico Provincial Park (Canada).

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 Voyageurs National Park:

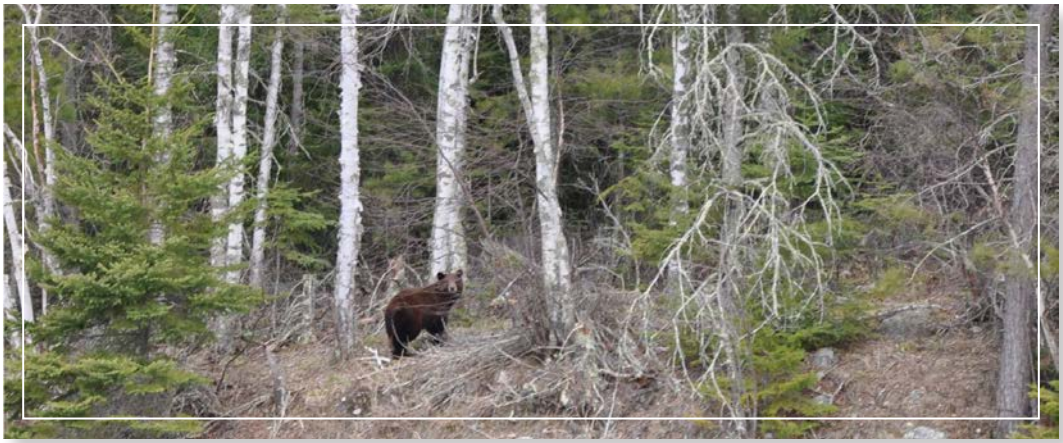
- **Aquatic Ecosystems –** Voyageurs National Park is dominated by four major lakes—Rainy, Kabetogama, Namakan, and Sand Point—along with 26 additional interior lakes, hundreds of beaver ponds as well as 130 miles of rivers and creeks. Together these water bodies encompass nearly 84,000 acres in the park, or approximately 40% of the total park area. The State of Minnesota has designated all waters within the park as Outstanding Resource Value Waters, meaning protections are in place to preserve the waters' existing qualities. Healthy aquatic ecosystems are critical to the natural ecosystem function and economic vitality of the region.

- **Waterways –** The park is a complex mosaic of interconnected lakes, ponds, and wetlands that shapes and sustains life. The park's waterways enable visitors to travel in the wake of the birchbark canoe of the Indian and voyageur. Dense forests surrounding the lake country make overland travel difficult, and as a result, waterways provide primary access to visitor destinations throughout all seasons. Visitor use within the park is water-oriented with paddling, boating, fishing, swimming, snowmobiling, camping, and cross-country skiing as primary activities.

- **Terrestrial Ecosystems –** The park's extensive lake networks are surrounded by heavily forested and relatively undeveloped lands which support abundant flora, fauna, and wildlife indigenous to the north woods. The forest mantle, consisting of dense stands of spruce, fir, pine, cedar, aspen, and birch, is interrupted by beaver ponds, streams, bogs, sand beaches, and rocky cliffs and outcrops. Ospreys, eagles, and great blue herons nest here. Dozens of species currently have state or federal protection, including species like Canada lynx, northern long-eared bats, and floating marsh-marigold.

- **Clean Air –** Voyageurs National Park is one of only 48 Class I areas in the NPS system designated by the Clean Air Act. Clean air contributes to the ecological health of the park's flora and fauna, and is also critical to maintaining a high-quality visitor experience from a human health perspective, as well as through the preservation of extensive vistas found throughout the park.

- **Geologic Features –** The geologic features of Voyageurs National Park reveal a 2.8-billion-year story of plate tectonics, continent building, and glaciation. The park's colorful granite, basalt, and schist were created by the forces of natural earth processes, exposed and sculpted by 40,000 years of glacial activity that created the landscape visible today.



- **Scenery and Wild Character –** From dramatic overlooks from rugged bluffs to stunning sunsets on glassy waters, the park's scenic grandeur and hundreds of miles of undeveloped shorelines are key elements of its establishment. The seemingly endless system of waterways, surrounding forests, hundreds of remote islands, secluded coves, and rocky undeveloped shores provide outstanding scenery throughout all seasons. Voyageurs National Park showcases some of the darkest night skies in the continental United States. Visitors can experience radiant Perseid meteor showers that can produce dozens to nearly a hundred shooting stars per hour during active periods in July and August. From the scenic ruggedness of the Kabetogama Peninsula to the hundreds of islands, from small to large, the scenic grandeur of the park provides exceptional opportunities for solitude and personal reflection.

- **Recreation –** Throughout the year, the timeless beauty of woods, rocks, water, and sky invites people to renew themselves through a variety of outdoor activities. The park is renowned for its canoeing, kayaking, fishing, and boating opportunities. Other popular recreational activities include camping, hiking, and backpacking. Winter months add to the recreational diversity at Voyageurs National Park, when snow often blankets the landscape and cross-country skiing, snowshoeing, ice fishing, and snowmobiling become popular pastimes. The park's legislation permits recreational fishing and more than 50 species of fish are found in park waters. Walleye, northern pike, lake trout, smallmouth and largemouth bass, sauger, and black crappie are most sought after by anglers.

- **Historic Resources, Cultural Landscapes, and Museum Collections –** The park includes a wealth of cultural resources representing nearly every major prehistoric and historic theme. This includes early hunters and gatherers, American Indian cultures, the American homestead era, immigrants who came to harvest timber, fish commercially, hunt, trap, and mine, and recreationists lured by the beauty of the lakes. The park preserves 16 historic properties including the Kettle Falls Historic District, hundreds of archeological sites, cultural landscapes such as the Ellsworth Rock Gardens, and thousands of objects in the museum collection. The park's museum collection includes archeological, ethnographic, and historic objects, natural history specimens, and archival documents.

- **Scientific and Educational Value –** The national park's position in the watershed makes transjurisdictional research and collaboration critical to addressing threats to ecosystem health. Regulation of water levels within Voyageurs National Park watershed needs to be considered in coordination with other users. Management of aquatic resources in international waters must be cooperatively accomplished with the Minnesota Department of Natural Resources, Ontario Ministry of Natural Resources and Forestry, and other affected agencies. Management of wildlife and addressing climate change adaptation must be accomplished through collaboration with other land managers and partners to maintain landscape-scale connectivity.

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 Voyageurs National Park in the park's 2005 long-range interpretive plan:

- **Geology –** The rocks of Voyageurs National Park reveal a 2.8-billion-year story of plate tectonics, continent building, and glaciation.
- **Water –** Voyageurs National Park is a complex mosaic of interconnected lakes, ponds, and wetlands that shapes and sustains life.
- **Scenery –** Throughout the year, the timeless beauty of woods, rocks, water, and sky invites people to renew themselves through a variety of outdoor activities.
- **Voyageurs, Ojibwe, and the Fur Trade –** The voyageurs who traveled, traded with native people, and wintered here were part of a global system of trade that shaped and was shaped by the people and environment of this place.
- **Plants and Animals –** The park is a place of transition where southern boreal forest and northern hardwood forest meet and support diverse plant and animal species.
- **People –** The place that is now Voyageurs National Park has attracted, challenged, and sustained people over time, influencing their lifeways, traditions, and beliefs—as it does today.

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 Voyageurs National Park.

Special Mandates

- **Management prescribed in 1971 enabling legislation (PL 91-661), as amended by 1983 legislation (PL 97-405)**

  - All mining and mineral activities and commercial waterpower development within the park boundaries shall be prohibited.

  - Recreational fishing shall be permitted in accordance to all applicable U.S. and Minnesota laws, except in designated areas for reasons of public safety, administration, fish and wildlife management, and/or public use and enjoyment.

  - The seining of fish at Shoepack Lake by the State of Minnesota to secure eggs for propagation shall be continued in accordance with plans mutually acceptable with the state and the National Park Service. Currently, the state no longer seines for fish in Shoepack Lake to secure eggs for propagation.

  - The authorization of such roads within the park to assure access from present and future state roads to public facilities within the park.

  - Any owner or owners of improved property on the date of NPS acquisition may retain use and occupancy reservations of the improved property for noncommercial residential purposes for a definite term not to exceed 25 years, or, in lieu thereof, for a term ending at the death of the owner, or the death of the owner's spouse, whichever is later.

- **International waters –** Three lakes in Voyageurs National Park are international waters. Since these are international waters, shared by Canada and the United States, the International Joint Commission regulates them. The International Joint Commission has two main responsibilities in managing water bodies spanning the U.S.-Canadian border: 1) regulating shared water uses; 2) investigating issues affecting these border waters and recommending solutions. Hydropower industry, fish, wildlife, water quality, cultural and natural resources, and human recreational use of these lakes are all affected by water level management (See Boundary Waters Treaty of 1909 below).

- **International treaties concerning the boundary waters –** *The Boundary Waters Treaty of 1909*. The treaty's purpose is to prevent disputes regarding use of the boundary waters between the United States and Canada; to settle all questions now pending involving the rights, obligations, or interest of each country; and to make provision for the adjustment and settlement of all questions that may arise in the future. The treaty provides that: 1) inhabitants of both countries will be allowed free use of all navigable international waters, subject equally to any and all laws and regulations of either country within its own territory that are not inconsistent with free navigation; and 2) water use and water levels will be regulated by an International Joint Commission. Under the commission, the International Rainy Lake Board of Control was responsible for monitoring the regulation of Rainy and Namakan Lakes to ensure that the dam owners followed the rule curve established by the commission. In 2013, the International Rainy Lake Board of Control and International Rainy River Water Pollution Board merged, forming the International Rainy – Lake of the Woods Watershed Board which ensures that the dam owners follow the rule curves established by the International Joint Commission.

- **Tribal trust lands within the park –** Five tracts of Chippewa Indian lands lie within the park. Three tracts (216.05 acres total) are in joint tribal trust, and two tracts (24.9 acres) are in individual trust (the National Park Service purchased a third individual trust tract in 1978). By authority of existing treaties and tribal laws, the National Park Service cannot acquire joint tribal trust lands. Individual trust lands may be exchanged or purchased upon the initiative of the individual owner. In such cases it is the policy of the Bureau of Indian Affairs to grant the tribe first right of refusal. As a result of these policies, Indian lands within Voyageurs National Park are not suitable for wilderness or potential wilderness designation.

- **Recommended/Proposed wilderness lands –** All lands and waters in the park have been evaluated for wilderness suitability. A total of 127,436 acres (approximately 58% of the park) contain sufficient wilderness values to be considered for wilderness designation based on the *Final Environmental Impact Statement for a Wilderness Recommendation* (1992). The Department of the Interior reviewed the recommendation and transmitted it to the Office of Management and Budget in 1992. The recommendation was not acted upon and was returned to the Department of the Interior in 1994 for further review. There has been no subsequent action on the wilderness recommendation. Due to the controversy and irresolution of the status of wilderness (recommended or proposed), park management has determined that the park will remain under NPS policies related to proposed wilderness.

- **Concurrent jurisdiction of waters with the State of Minnesota –** The Minnesota state statutes (Sec. 84B.06) established concurrent jurisdiction over the lands, and United States v. Brown (552 F.2d 817, 1977) confirmed the authority to include waters. State of Minnesota fishing regulations apply in Voyageurs National Park. The National Park Service and Minnesota Department of Natural Resources collaborate on fisheries management.

- **Public Law 97-405 –** Public Law 97-405 was enacted to revise the boundary of Voyageurs National Park. Boundary revisions include the deletion of 782 acres in the Neil Point area on Rainy Lake and the deletion of approximately 1,000 acres in the Black Bay area. The 1,000 acres in Black Bay were returned to the State of Minnesota which manages it as a wildlife management area. There is an agreement between the State of Minnesota and the United States to prohibit trapping in this management area (March 6, 1985 Judgment Memo and Order, Civil No. 3-84-261). The Neil Point area was deleted because of heavy residential development.
- **Clean Air Act – Class I Area –** Voyageurs National Park is designated a Class I area under the Clean Air Act Amendments of 1977 (42 USC 7401 et seq.) which provides special protection for air quality, sensitive ecosystems, and clean, clear views. State and federal permitting authorities must consult with the National Park Service regarding new sources of air pollution, and impacts to park air quality-related values must be considered in the permitting process. This designation requires federal land managers to integrate air resource management into NPS operations and planning for the protection of air quality and related values, including visibility, plants, animals, soils, water quality, cultural resources, and public health, from adverse air pollution impacts.
- **Outstanding Resource Value Waters –** All of the waters within Voyageurs National Park are designated Outstanding Resource Value Waters by the State of Minnesota for "high water quality, wilderness characteristics, unique scientific or ecological significance, exceptional recreational value, or other special qualities which warrant stringent protection from pollution." (Minnesota Administrative Rules Chapter 7050.0180)

Administrative Commitments

For more information about the existing administrative commitments for Voyageurs National Park, 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	Aquatic Ecosystems
Related Significance Statements	Significance statements 5 and 6.
Current Conditions and Trends	**Conditions** • Incomplete data on certain aquatic resources. • Water quality is monitored on nine interior lakes by the Great Lakes Inventory and Monitoring Network and the park conducts long-term monitoring of water quality on Rainy Lake and the lakes of the Namakan Reservoir. The park and Great Lakes Inventory and Monitoring Network cooperatively monitor contaminants, amphibian calling in wetlands, and temperature and oxygen in lakes with populations of coldwater fish. Aquatic invasive animal species, including rainbow smelt, spiny water flea, and rusty crayfish are documented in the park. Spiny water flea is present in all the major lakes; the interior/inland lakes are currently free of aquatic exotic animals. • Highly invasive hybrid cattails have become dominant throughout the park and have crowded out entire bays, leading to habitat degradation. • Voyageurs National Park Clean Water Project was established in 2009 to provide sewer collection service in communities that surround the park. Work is being conducted on Crane Lake and will start soon on Kabetogama. The effort to build a sewer line to the Island View area of Rainy Lake is moving forward. • Fish and zoobenthic communities are mostly in good condition. The Minnesota Department of Natural Resources is largely successful in maintaining harvest levels to within sustainable yields for gamefish populations in park lakes. The zoobenthic community appears to be stabilizing in the large lakes with the water management regime (rule curve) established in 2000. • The Minnesota Department of Natural Resources completes most fisheries monitoring. • Park collaborates with Minnesota Department of Natural Resources, Ontario Ministry of Natural Resources and Forestry, U.S. Geological Survey (USGS), university researchers, and others on fish research. • The park provides opportunities for world-class sportfishing. **Trends** • Increased numbers of aquatic invasive threats. • Some lake trout populations are declining. • Walleye total harvest has exceeded targeted yield values during some years due to high angler effort; Minnesota Department of Natural Resources has implemented more restrictive harvest regulations in an attempt to prevent overharvest. • Smallmouth bass populations are increasing. • Production of walleye and yellow perch has increased on Rainy and Kabetogama Lakes since 2000, but mortality of juvenile walleyes has been very high in Kabetogama Lake, leading to concerns over its walleye population.

Fundamental Resource or Value	Aquatic Ecosystems
Threats and Opportunities	**Threats** • Climate change impacts to coldwater fish (e.g., lake trout and cisco), to coolwater fish in shallow lakes (e.g., muskellunge), and to amphibians. Projected warming (especially in winter) and projected increase in extreme precipitation may pose the greatest impacts to fish and amphibians. • Aquatic invasive species such as nonnative cattails, spiny water flea, zebra mussels, and rusty crayfish. • Introduction of aquatic invasive animal species into the interior lakes which are currently free of invasive animal species. • Mercury contamination primarily from deposition generated by coal-fired power plants and taconite processing emissions. Mercury contamination of fish in some park lakes is above thresholds shown to have negative effects on fish. • Older boat motors with incomplete combustion that returns 1/3 of the fuel to the water unburned. • Water level fluctuations and impacts of water level management on the park's large lakes, which are not controlled by the park. Previous sets of rules governing dam operation have had negative consequences on fish production. • Gray water discharge. • Possible increase in harmful algal blooms as climate warms. • Failing or ineffective septic systems on the lakes. • Unknown impacts from historic and proposed mining activities in the watershed. • Overharvest of popular sportfish species such as walleye. • Different agency missions between the National Park Service and the Minnesota Department of Natural Resources could lead to conflicting management directions. • Viral hemorrhagic septicemia has caused fish kills in most of the Great Lakes and in some inland lakes in Michigan and Wisconsin. • Although the hydropower project on the Namakan River is no longer proposed, it remains a point of concern. • Acidification from excess deposition of nitrogen and sulfur. In nitrogen-limited boreal lakes, excess nitrogen can negatively impact biodiversity by increasing algal communities and reducing water clarity. **Opportunities** • Improve outreach and education to protect clean water resources, such as messages about reduced mercury deposition from power plants that have transitioned to non-greenhouse-gas-emitting practices. • Continue current long-term monitoring programs. • Continue working with Canadian and U.S. partners on invasive species control strategy for the entire Rainy – Lake of the Woods watershed. • Participate in International Joint Commission rule curve review process, ensuring that the NPS mission is considered as the International Joint Commission sets rules governing dam operation for the Rainy Lake and Namakan Reservoir. • Participate in meetings of the Ontario – Minnesota Border Waters Fisheries Committee to collaborate on management of sustainable populations of game fish in Rainy Lake and Namakan Reservoir. • Collaborate with agency and university researchers to better understand and reduce mercury contamination. • Improve cross-border communication and include park partners in communications. • Obtain technical assistance from the NPS Water Resources Division on specific aquatic resource management objectives.

Fundamental Resource or Value	Aquatic Ecosystems
Threats and Opportunities	**Opportunities (continued)** • Develop stronger partnership with Minnesota Pollution Control Agency to address gray water management. • Encourage the use of cleaner and more efficient boat motors by visitors. • Support sewage collection system to hook up homes, cabins, and resorts in the Ash River community to move sewage to central treatment plant. • Work cooperatively with other federal and state air quality agencies and local stakeholders to reduce air quality impacts in the park from sources of air pollution. • Continue to preserve the unique genetic strain of Shoepack Lake muskellunge, a heritage species. • Preserve native populations of coldwater fish in coldwater refugia as lake temperatures increase due to climate change. • Work closely with the International Joint Commission to promote rules governing dam operation that support healthy fish communities. • Prevent new invasive species from becoming established and monitor the effects of existing populations of invasive species so that fish populations can be maintained through adaptive management.
Data and/or GIS Needs	• Conduct studies (including groundwater) to better assess potential impacts of mining proposals on water quality. • Assessment of effects of invasive species on aquatic ecosystems including socio-economically important fish populations. • Assessment of effects of invasive spiny water flea on energy flow and fish populations. • Monitoring of coldwater fish habitat in support of climate-change management strategies. • Research and monitoring of mercury contamination to track changes after regional emissions controls have been put in place. • Continue research and monitoring of the influence of water levels on many ecological indicators in Rainy Lake and Namakan Reservoir, including after International Joint Commission sets rules governing dam operation after 2015-2016 rule curve review. • Continue water quality monitoring as an indicator of lake health and to track changes in response to climate change, contaminants, lake level management, and other influences. • Continue monitoring of wetlands and amphibians. • Monitor ice-on and ice-out dates. • Climate change research and monitoring focused on species assemblages and populations of at-risk aquatic species. • Research on the triggers of toxin production in harmful algal blooms. • Ongoing in-park air quality monitoring providing updated pollutant deposition condition in the park. • Visitor use data for interior lakes. • High resolution bathymetric LiDAR
Planning Needs	• Interior lakes management plan. • Houseboat management plan. • Visitor use management plan.

Fundamental Resource or Value	Aquatic Ecosystems
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Clean Water Act • Clean Air Act of 1977 • Water rights adjudication and law • Executive Order 11514, "Protection and Enhancement of Environmental Quality" • Executive Order 11988, "Floodplain Management" • Executive Order 12088, "Federal Compliance with Pollution Control Standards" • National Flood Insurance Program • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS *Management Policies 2006* (§4.6.1) "Protection of Surface Waters and Groundwaters" • NPS *Management Policies 2006* (§4.6.2) "Water Rights" • NPS *Management Policies 2006* (§4.6.4) "Floodplains" • NPS *Management Policies 2006* (§4.7) "Air Resource Management" • NPS *Management Policies 2006* (§4.8.1.1) "Shorelines and Barrier Islands" • Director's Order 77-2: *Floodplain Management* • Director's Order 24: *NPS Museum Collections Management* • Special Directive 93-4 "Floodplain Management, Revised Guidelines for National Park Service Floodplain Compliance" (1993) (replaced by Director's Order 77-2: *Floodplain Management)* • NPS *Natural Resource Management Reference Manual 77* • NPS *Museum Handbook*, Part II

Fundamental Resource or Value	Waterways
Related Significance Statements	Significance statements 1, 2, 5, and 6.
Current Conditions and Trends	**Conditions** • The park's complex system of waterways includes one of the most important segments of the "transcontinental highway" of the fur trade period. • Waterways remain the primary vector for transportation across the park in all seasons. • Navigation aids are well marked. • Waterways encompass 84,000 acres or approximately 40% of the park's total acreage. • Waterways are interconnected requiring few portages to navigate within and across. • There are many access points into park waters, including public boat launch ramps outside the park, through connecting waters, as well as from every resort and private home located in communities adjacent to the park (i.e., Kabetogama, Ash River, Crane Lake, and Rainy Lake). • Waterways provide opportunity for high quality and diverse recreational uses including, fishing, paddling, boating, skiing, snowmobiling, and camping along the shores. • Weather conditions profoundly influence access to and navigability across waterways. **Trends** • Recreational kayak and paddle user groups are increasing. • Group sizes are getting larger, especially among paddler groups. • Regulation and restrictions on Boundary Waters Canoe Area Wilderness numbers causing increased use at Voyageurs National Park. • Decrease in snowmobile use. • Larger boats; greater numbers of boaters. • Park managers have a better understanding of overnight use since deployment of the reservation system.

Fundamental Resource or Value	Waterways
Threats and Opportunities	**Threats** • Fluid and multiple water access points (state, private / lodge docks) makes it more difficult to count visitors, provide educational information, and to monitor threats such as aquatic exotic species. • Visual impacts of more infrastructure from park development (e.g., docks); larger boats and greater numbers of boats on the lakes. **Opportunities** • Increase educational programs along waterways. • Provide more ranger-guided tours via waterways. • Mark historic trade route physically or digitally.
Data and/or GIS Needs	• Visitor use data / usage data for day use / analysis of visitor use data.
Planning Needs	• Design / plan for marking / interpreting the historic route of the voyageurs.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Clean Water Act • Water rights adjudication and law • Executive Order 11514, "Protection and Enhancement of Environmental Quality" • Executive Order 11988, "Floodplain Management" • Executive Order 12088, "Federal Compliance with Pollution Control Standards" • National Flood Insurance Program • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (§4.6.1) "Protection of Surface Waters and Groundwaters" • NPS *Management Policies 2006* (§4.6.2) "Water Rights" • NPS *Management Policies 2006* (§4.6.4) "Floodplains" • NPS *Management Policies 2006* (§4.8.1.1) "Shorelines and Barrier Islands" • Director's Order 77-2: *Floodplain Management* • Special Directive 93-4 "Floodplain Management, Revised Guidelines for National Park Service Floodplain Compliance" (1993) (replaced by Director's Order 77-2: *Floodplain Management)*

Fundamental Resource or Value	Terrestrial Ecosystems
Related Significance Statements	Significance statements 3, 5, and 6.
Current Conditions and Trends	**Conditions** • Incomplete knowledge of many taxa, including bats, rare plants and lichens, and insects and other terrestrial invertebrates. • Population size of many wildlife species are relatively stable, including iconic species such as moose, wolves, bears, bald eagles, loons, and forest breeding birds. • The Great Lakes Inventory and Monitoring Network monitors land cover change and land birds. The park conducts long-term monitoring of air quality. The park also conducts monitoring and research to understand the population status of moose, white-tail deer, gray wolves, black bears, raccoons, American beavers, bats (6 species), bald eagles, forest breeding birds, common loons, and double-crested cormorants. • The Great Lakes Exotic Plant Management Team assists with monitoring, mapping and treating weeds. • Park cooperates with U.S. Department of Agriculture to trap for gypsy moth and emerald ash borer at all boat launches and visitor centers. • Soils inventory fieldwork completed. **Trends** • Invasive plant and animal species are increasing and changing the park's terrestrial ecosystems. • Climate change and other external forces are causing changes in forest conditions and respective wildlife species. • Abundance of the ecosystem engineer, American beavers, has declined significantly over the last 20+ years. • Cormorant and great blue heron populations are decreasing.
Threats and Opportunities	**Threats** • Increases in annual and seasonal temperatures, changes in the timing and amount of precipitation, and changes in storm frequency and intensity resulting from climate change will impact vegetation communities and associated wildlife, including possible change in forest type. • Changes in the timing and duration of ice cover and snowfall resulting from climate change will affect winter ecology of many wildlife species. • Climate change will shift some species' ranges northward out of the park and others northward into the park. • Legal harvest and illegal killing of wildlife species adjacent to park boundaries in Minnesota and Ontario will continue to impact species in the park such as wolves, bears, and Canada lynx.

Fundamental Resource or Value	Terrestrial Ecosystems
Threats and Opportunities	**Threats (continued)** • Existing and new zoonotic diseases, the spread of which are often facilitated by humans and their pets. • Increasing human-wildlife conflicts in the park and in gateway communities. • Forest insect pests such as emerald ash borer (EAB) and gypsy moth continue to threaten park forests by killing and/or defoliating trees and can have a long-term impact on community structure, hydrology, and ecosystem processes such as nutrient cycling. Emerald ash borer has not been documented within park boundaries (as of February 2016), but was confirmed in Duluth, Minnesota, in October 2015. Lake and Cook counties in northeastern Minnesota are under a gypsy moth quarantine (as of February 2016). • Exotic earthworms can impact certain forest communities by removing duff, altering soil characteristics, and reducing tree regeneration and biodiversity. • More than 100 exotic plants threaten biodiversity and habitat for native plant and animal species. The biggest threats are reed canary grass, thistles, wild parsnip, sweet clover, and tansy. • Excessive animal browsing can lead to a lack of forest regeneration of some tree species. • Fire suppression can lead to a lack of forest regeneration for fire-dependent plant communities and tree species, particularly pines. • Nutrient enrichment and acidification from excess nitrogen deposition can harm terrestrial resources such as lichen and forest trees, such as sugar maples. **Opportunities** • Continue to foster research opportunities toward applied research questions for plants and animals. • Continue vital signs monitoring with Great Lakes Inventory and Monitoring Network and long-term monitoring and research to understand the population status of key species. • Enhance regional conservation partnerships to identify conservation priorities and improve management outcomes. • Renew focus on prescribed fire management to achieve management goals. • Develop interactive outreach and educational materials, such as photos, videos, and webcams—educate visitors about how they can help protect park resources.
Data and/or GIS Needs	• Study impacts of legal and illegal killing of wildlife in and adjacent to the park on wildlife species of interest. • Baseline data on terrestrial invertebrates. • Rare plant survey. • Terrestrial LiDAR and high quality aerial imagery. • Pre-settlement forest data. • Ongoing air quality monitoring providing updated pollutant deposition condition in the park. • Forest stand age map. • Soils map. • Phenology of key species. • Climate change research and modeling to assess impacts on mammals, birds, insects, and vegetation.
Planning Needs	• Vegetation management plan. • Integrated pest management plan. • Climate change adaptation plan.

Fundamental Resource or Value	Terrestrial Ecosystems
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** • Endangered Species Act of 1973, as amended • National Invasive Species Act of 1990 • Lacey Act of 1900, as amended • Migratory Bird Treaty Act • Bald and Golden and Bald Eagle Protection Act of 1940, as amended • National Environmental Policy Act of 1969 • Federal Noxious Weed Act of 1974, as amended • Clean Water Act • Clean Air Act • Executive Order 13112, "Invasive Species" • Executive Order 13514, "Federal Leadership in Environmental, Energy, and Economic Performance" • Executive Order 13423, "Strengthening Federal Environmental, Energy, and Transportation Management" • Secretarial Order 3206, "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species 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)** • Director's Order 18: *Wildland Fire Management* • Director's Order 24: *NPS Museum Collections Management* • Director's Order 77: *Natural Resource Management* • NPS *Management Policies 2006* (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS *Management Policies 2006* (§4.1) "General Management Concepts" • NPS *Management Policies 2006* (§4.1.4) "Partnerships" • NPS *Management Policies 2006* (§4.4.1) "General Principles for Managing Biological Resources" • NPS *Management Policies 2006* (§4.7) "Air Resource Management" • NPS *Management Policies 2006* (§4.7.2) "Weather and Climate" • NPS *Natural Resource Management Reference Manual 77* • NPS *Wildland Fire Management Reference Manual 18* • NPS *Museum Handbook*, Part II

Fundamental Resource or Value	Clean Air
Related Significance Statements	Significance statement 2, 5, and 6.
Current Conditions and Trends	**Conditions** • Voyageurs National Park is a Class I area under the Clean Air Act which provides special protection for air quality and clean, clear views. • Overall air quality is of significant concern. Air quality is of significant concern for deposition including sulfur, nitrogen, and mercury and of moderate concern for ozone and visibility. • Airborne toxics, including current-use pesticides and mercury have been found in park air, vegetation, lakes, and snow. **Trends** • Available air quality trends show visibility, ozone, and nitrogen deposition is stable/unchanging while sulfur deposition is improving. • Air quality is improving regionally (due in part to capacity reductions, repairs, and lowered greenhouse gas emissions since 2010 at major coal-fired power plants, such as the Sherburne County Generating Station). • Between 2000 and 2014, sulfur dioxide and nitrogen oxide emissions from electric utilities in Minnesota were reduced by 69%. • Completed Climate Change in Parks analysis of the park's carbon footprint and working on a Green Parks Plan to identify ways to reduce the park's carbon footprint.
Threats and Opportunities	**Threats** • Coal-fired power plants, vehicle exhaust, agriculture, urban developments, and the taconite industry are contributors to air quality impacts regionally. • Proximity to Canada, whose land uses are not subject to U.S. Clean Air Act regulations. Canadian Ambient Air Quality Standards, established under the 1999 Canadian Environmental Protection Act, are voluntary objectives in Canada, whereas the U.S. Clean Air Act allows penalties to be levied on states where National Ambient Air Quality Standards are not being met. • Oil market volatility (including power and fuel generation) creates uncertainty about the types and quantity of fuel demanded annually, causing periodic production peaks that impact regional air quality. • Multiple regulatory agency missions lead to inconsistencies in air quality management and can negatively impact regional air quality. • Reduced visibility and air quality resulting from climate change-related increases in wildland fire within or upwind of park. **Opportunities** • Develop a communication strategy with adjacent park land managers, municipalities, and public stakeholders to increase awareness of the importance of park air quality. • Improve park sustainability and environmental leadership by achieving Climate Friendly Park status and reducing park's carbon footprint. • Partner with regulatory agencies to assist in air quality permitting guidance. • Continue to research mercury effects and support efforts to curb mercury emissions. • Expand interpretive and educational tools to communicate connections between clean air, scenic views, night sky, aquatic and terrestrial ecosystems, recreation, human health, climate change, and other associated resources.

Fundamental Resource or Value	Clean Air
Data and/or GIS Needs	• Monitor external threats such as atmospheric deposition. • Continue to monitor mercury contamination of park resources. • Ongoing in-park air quality monitoring providing updated visibility, ozone, deposition conditions in the park.
Planning Needs	• None identified.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Clean Air Act **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (§1.4) "Park Management" • NPS *Management Policies 2006* (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS *Management Policies 2006* (§4.7) "Air Resource Management" • NPS *Natural Resource Management Reference Manual 77*

Fundamental Resource or Value	Geologic Features
Related Significance Statements	Significance statements 3 and 6.
Current Conditions and Trends	**Conditions** • Park's location at the southern end of the Canadian Shield, a large area of exposed basement rock, contains some of the oldest Precambrian rocks in North America and forms the ancient core of the continent. • NPS Geologic Resources Division-sponsored geologic scoping sessions have been held for Voyageurs National Park. • The park has used recent research to update interpretive materials. • Relationship of archeological resources to geologic resources is poorly understood, e.g., timing and character of landform generation, locations of shorelines and habitable zones throughout prehistory, soil characteristics and soil formation, raw material sources for clay and lithic artifacts, etc. • Abandoned mines from the late 1890s are located in the northwestern portion of the park in the Gold Mine Historic District. Several have been capped or otherwise mitigated for safety hazards. **Trends** • Additional fossil discoveries may occur in future studies, but are considered unlikely. • Increase in mining activity in northern Minnesota and Northwestern Ontario (e.g., copper, gold and nickel mining in sulfide ore deposits) that could have cumulative impacts on resources in the park, particularly on air and water.
Threats and Opportunities	**Threats** • Visitor use that leads to resource damage (e.g., damage from snowmobiles traveling on bare rock). • Increased construction of docks (docks are pinned to bedrock and cover geologic features). • Liquid mercury from the historic milling process may have contaminated lake sediments. • Renewed interest in mining could create new threats (particularly air and water quality) if mining activities occur outside the park boundaries but within the park's watershed. • Impacts to soils at campsites and day use sites result in the loss of organic layers, an increase in exposed mineral soil, increased soil compaction, and soil erosion that exposes tree roots and bedrock. Bank erosion is accelerated from the natural regime by regulated water levels and wave action by boats. **Opportunities** • Increase educational opportunities such as considering specialized tours of geologic features.
Data and/or GIS Needs	• Geomorphological study.
Planning Needs	• None identified.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Paleontological Resources Preservation Act of 2009 • 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* (§4.8) "Geologic Resource Management" • Director's Order 24: *NPS Museum Collections Management* • Director's Order 77: *Natural Resource Management* • NPS *Natural Resource Management Reference Manual 77* • NPS *Museum Handbook*, Part II

Fundamental Resource or Value	Scenery and Wild Character
Related Significance Statements	Significance statements 2, 3, 5, and 6.
Current Conditions and Trends	**Conditions** • The park protects more than 645 miles of undeveloped shoreline (or approximately 659 miles of total shoreline). • As land is acquired and use and occupancy reservations expire, the park is removing buildings. • The majority of park shorelines are undeveloped and limited to campsites, day use sites, and historic structures. • Views are sometimes obscured by pollution-caused haze. Average natural visual range is reduced from about 119 miles (without the effects of pollution) to about 86 miles because of pollution at the park. The visual range is reduced to below 40 miles on high pollution days. • The best dark night sky viewing opportunities are from the Ash River Visitor Center area. The dark night sky at Rainy Lake is impacted by the lights of International Falls. • Visitors have opportunities to experience solitude and tranquility and to see and enjoy an abundance and diversity of native plants and wildlife. Remote inland lakes contain unique and vulnerable resources (e.g., scenic and geologic features, fish and wildlife). **Trends** • In communities on the edge of the park, private resorts have been sold and construction of large, single-family homes is increasing. These larger homes are becoming more visible from the park. • Night sky viewing is growing in popularity. • Trend in visibility improved on the 20% clearest days and remained relatively unchanged (no statistically significant trend) on the 20% haziest days, resulting in an overall unchanging trend. • Scenic qualities increasing within park boundaries due the removal of structures on the landscape backdrop.

Fundamental Resource or Value	Scenery and Wild Character
Threats and Opportunities	**Threats** • Private inholdings could be subdivided or sold and are vulnerable to incompatible park uses. • Changing lifestyles and dependence on technology results in more requests for construction of cell towers which may impact viewsheds. • Lake and shoreline pollution from recreational activities and other local land uses. • Lack of agreement between the National Park Service and county zoning to limit the size of structures or address other limitations for private landowners requesting building permits for construction on private land within the park. • The National Park Service is no longer using condemnation as a management tool, which allows certain structures to remain in situ, often impacting viewsheds. **Opportunities** • Work with state and local governments to site cell towers and other developments to minimize impacts to park viewsheds. • Seek designation as an International Dark Sky Park. • Build an observatory for night sky viewing. • Better connect visitors to scenic resources (e.g., fall color tours, geology tours) through charter trips or by working with travel companies or partners. • Complete purchases of private inholdings. • Continue to work with other agencies to establish ownership of lands (where ownership is in question) and develop a plan for removal of associated structures. • Decrease NPS footprint in park (e.g., reduce number of signs and structures in backcountry areas). • Expand interpretive and educational tools to communicate connections between clean air, scenic views, night sky, aquatic and terrestrial ecosystems, recreation, human health, climate change, and other associated resources.
Data and/or GIS Needs	• Night sky assessment. • Visual resource inventory. • Acoustic resource inventory. • Description of wilderness character values.
Planning Needs	• Visual resource management plan. • Interior lakes management plan. • Backcountry management plan.
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**Laws, Executive Orders, and Regulations That Apply to the FRV** • Clean Air Act • Executive Order 11514, "Protection and Enhancement of Environmental Quality" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and other Natural and Cultural Resources" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (§1.4) "Park Management" • NPS *Management Policies 2006* (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS *Management Policies 2006* (§4.7) "Air Resource Management" • NPS *Management Policies 2006* (§4.9) "Soundscape Management" • NPS *Management Policies 2006* (§4.10) "Lightscape Management" • NPS Director's Order 47: *Soundscape Management and Noise Management* • Director's Order 77: *Natural Resource Management* • NPS *Natural Resource Management Reference Manual 77*

Fundamental Resource or Value	Recreation
Related Significance Statements	Significance statements 1, 2, and 4.
Current Conditions and Trends	**Conditions** • Wide variety of high quality recreational activities during all four seasons. • Instituted camping reservation system in 2014. • Parking capacity issues during peak periods (e.g., Rainy Lake and Ash River visitor facilities fill up on weekends). • Park has identified destinations (primarily historic sites) that will be developed with day-use facilities and interpretive media. Development of facilities has been completed at some but not others. • Kab-Ash Trail is underused and under-maintained. • Majority of park visitors are from the Midwest. • Fishing is one of the most popular activities among park visitors. • Youth programs and partnerships allow children to experience wilderness. Some of these groups, especially those coming from urban areas within the state, provide the first experience children have in a truly wild area. **Trends** • Increase in non-motorized uses, such as kayaking. • Winter recreational uses are increasing: ice roads allow more access in winter, and snowmobile use has been decreasing since the mid-1990s. • More recreation- and visitation-related information is being collected using campsite reservation data. • Larger and faster motorboats are being used in park waters. • Park is becoming more accessible with visitors' GPS capabilities. • Increasing visitor desire for camping comforts. • Numbers of middle-age-to-elderly visitors are generally increasing whereas numbers of children and young adult visitors are generally decreasing. • Expectation of visitors is changing—desire for more portable, mobile information and interactive, personalized experiences. • The number of private resorts is decreasing in Kabetogama community and the traditional nature of resorts is changing in all gateway communities. • Climate change is predicted to change visitor patterns at Voyageurs National Park (9-34% increase in annual visitation, 7-28% increase in peak season visitation [3 busiest contiguous months], 36-90% increase in shoulder season visitation [2 months prior and 2 months after peak season], 33% decrease to 5% increase in low season visitation [3 contiguous months with least visitation]). • Fishing is a popular activity in the park. Minnesota Department of Natural Resources creel surveys show that Rainy Lake and Namakan Reservoir receive more than 700,000 hours of fishing pressure per year. • Fisheries managers continue to rely on creel surveys to estimate harvest and maintain gamefish populations (for example, walleye, lake trout, northern pike, and smallmouth bass). Some populations have shown declines which may relate to fishing pressure.

Fundamental Resource or Value	Recreation
Threats and Opportunities	**Threats** • Fishing may be impacted by exotic species such as the spiny water flea and rusty crayfish that impact fish populations through changes to the aquatic ecosystem. Spiny water flea can cling to visitors' boats and other equipment and clog eyelets of fishing rods. Zebra mussels present an imminent concern as this species has been found in the Rainy River watershed, downstream of the park. • Warmer temperatures as a result of climate change may alter recreational opportunities (e.g., water quality and quantity related to fish harvests of popular sportfish species such as walleye; warmer winter air temperatures will likely lead to less and more variable snowpack). • Inappropriate recreational uses have broad impacts on land and water-based activities. • Issue of designating wilderness continues to stall, affecting staff's ability to manage for wilderness qualities. • Federal "Freeze the Footprint" policy impacts park's ability to develop recreation infrastructure to better meet needs of current and future visitors. • Lack of NPS presence, accessible trails, and other visitor amenities at the very popular Kettle Falls destination. • Mercury related fish consumption advisory for anglers. • Climate change in the Great Lakes region includes increases in average annual temperatures, more frequent severe rainstorms, shorter winters, and decreases in the duration of lake ice cover, which have various impacts to fisheries. • High levels of harvest of game fish. • The park collaborates on recreation and tourism initiatives with gateway communities, cities and counties, as well as with a number of nonprofit organizations, including the Voyageurs National Park Association and the Heart of the Continent Partnership. • Youth programs and partnerships allow children to experience wilderness. Some of these groups, especially those coming from urban areas within the state, provide the first experience children have in a truly wild area. **Opportunities** • Implement houseboat reservation system. • Increase parking capacity and solve long-term parking issues in popular visitation areas. • Develop drive-in camping opportunities in partnership with gateway communities. • Work with specific user groups (e.g., paddlers, sailors, large groups) on unique recreational needs. • Reach beyond literal park boundaries and contact greater diversity of park visitors through other media and venues. • Balance visitor use in interior lakes with risk of impact to resources (introduction of exotics, fishing pressure, wilderness experience). • Increase opportunities to rent recreational equipment. • Reach beyond literal park boundaries and contact greater diversity of park visitors through social media and other venues. • Expand opportunities for hiking. • Improve park knowledge base for commercial guides. Consider increasing the number of commercial guides. • Consider leasing historic structures for recreational uses. • Continue discussing potential to develop a visitor center at Crane Lake. • Continue to build relationships with Voyageurs National Park Association and the Heart of the Continent Partnership, Explore Minnesota, and International Falls Convention and Visitors Bureau.

Fundamental Resource or Value	Recreation
Threats and Opportunities	**Opportunities (continued)** • Explore international heritage tour routes with state, county, provincial, and tribal groups to unite historic sites and communities in U.S. and Canada. • YouTube or other video-shared project on best practices for boaters. • Take more active role in fisheries management, particularly in the interior lakes. Continue to participate in fisheries management planning process with Minnesota Department of Natural Resources for all park lakes and continue to ensure that the MDNR fisheries management plans for park lakes support the NPS mission. • Improve relationship with the fishing community. • Partner with Minnesota Pollution Control Agency to mitigate gray water impacts (nontoilet waste), which is being discharged into park waters, primarily by houseboats and cruisers.
Data and/or GIS Needs	• Visitor use data / usage data for day use. • Study of historic structures and potential for historic leasing. • Studies of climate change effects on recreation such as wildlife viewing, fishing, and winter activities.
Planning Needs	• Interior lakes management plan. • Houseboat management plan. • Visitor use management plan. • Plan for new exhibits at Rainy Lake Visitor Center. • Kettle Falls development concept plan. • Campsite management plan (update). • Wayside plan. • Long-range interpretive plan (update).
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** • Americans with Disabilities Act of 1990 • Architectural Barriers Act of 1968 • "Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Architectural Barriers Act (ABA) Accessibility Guidelines" (36 CFR 1191) • Rehabilitation Act of 1973 • NPS Concessions Management Improvement Act of 1998 • "Concession Contracts"; (36 CFR Part 51) • Clean Water Act • Clean Air Act of 1977 • Endangered Species Act of 1973, as amended • National Invasive Species Act of 1990 • National Environmental Policy Act of 1969 • Executive Order 13112, "Invasive Species" • Executive Order 11514, "Protection and Enhancement of Environmental Quality" • Executive Order 12088, "Federal Compliance with Pollution Control Standards" • Secretarial Order 3206, "American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and other Natural and Cultural Resources"

Fundamental Resource or Value	Recreation
Laws, Executive Orders, and Regulations That Apply to the FRV, and NPS Policy-level Guidance	**NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (§1.6) "Cooperative Conservation Beyond Park Boundaries" • NPS *Management Policies 2006* (§4.1) "General Management Concepts" • NPS *Management Policies 2006* (§4.1.4) "Partnerships" • NPS *Management Policies 2006* (§4.4.1) "General Principles for Managing Biological Resources" • NPS *Management Policies 2006* (§4.6.1) "Protection of Surface Waters and Groundwaters" • NPS *Management Policies 2006* (§4.6.2) "Water Rights" • NPS *Management Policies 2006* (§4.7.2) "Weather and Climate" • NPS *Management Policies 2006* (§4.8.1.1) "Shorelines and Barrier Islands" • NPS *Management Policies 2006* (chapter 7) "Interpretation and Education" • NPS *Management Policies 2006* (chapter 8) "Use of the Parks" • NPS *Management Policies 2006* (chapter 9) "Park Facilities" • NPS *Management Policies 2006* (chapter 10) "Commercial Visitor Services" • Director's Order 6: *Interpretation and Education* • Director's Order 42: *Accessibility for Visitors with Disabilities in NPS Programs, Facilities, and Services* • Director's Order 48A: *Concession Management* • Director's Order 48B: *Commercial Use Authorizations* • Director's Order 77: *Natural Resource Management* • NPS *Transportation Planning Guidebook*

Fundamental Resource or Value	Historic Resources, Cultural Landscapes, and Museum Collections
Related Significance Statements	Significance statements 1, 2, and 4.
Current Conditions and Trends	**Conditions** • Park includes 16 historic properties, more than 400 archeological sites, ethnographic resources, a museum collection with thousands of historic objects and natural history specimens, and a library reference center that is open to the public. • Some sites are not stabilized and are exposed to intense weathering. • Visitor destinations highlight a representative sample of cultural themes and offer active, independent exploration at remote and dispersed sites throughout the park, but some sites lack facilities and interpretive media. • Historic structures vary in physical condition parkwide, but some have deteriorated to such a degree they are on the cusp of being lost. • There is a strong connection between American Indians and traditional lands in the park. • Park collaborates with Koochiching County Historical Society on shared history projects. **Trends** • Desire for digital access to collections and increased amount of digital material to be preserved.

Fundamental Resource or Value	Historic Resources, Cultural Landscapes, and Museum Collections
Threats and Opportunities	**Threats** • Remoteness of some resources and vastness of park makes it difficult to monitor threats. • Theft of archeological resources and vandalism at historic sites. • Effects of climate change such as potential for heavy snow / rainfall events and more intensive storms damaging historic structures, erosion of shoreline and loss of archeological resources, and changing geographical ranges of tree species that are significant to American Indians or a part of cultural landscapes. • Extreme fluctuations in temperature and humidity in the museum storage space during fall and spring transition periods. • Heavy visitor use at popular sites such as Ellsworth Rock Gardens may damage resources; park development to accommodate visitor use is difficult to balance at smaller or more fragile historic properties. • Water levels of Rainy Lake and the Namakan chain of lakes are set by the International Joint Commission, using what is known as the "rule curve," which is meant to maintain sufficient water levels for a wide variety of uses and interests. Because water levels are managed by entities external to the park and aid a variety of interests, the rule curve may not facilitate preservation of cultural resources that are located primarily along the shorelines of the four major lakes. Potential effects include increased erosion speed, submersion of cultural resources, and exposure of prehistoric sites. • Historic furnishings at Kettle Falls may be at risk as they are susceptible to wear or damage through use at the hotel. • NPS funding is targeted at deferred maintenance instead of routine maintenance which results in more expensive rehabilitation projects and loss of historic resources while waiting for funding. **Opportunities** • Increase public access to cultural resources by providing facilities at historic sites, online through digital media, or through special tours. • Increased funding would help address deferred maintenance needs and stabilization of certain historic structures. • Partner with universities on cultural landscape documentation and management. • Increased access could increase visitor education and knowledge of the park's cultural resources. • Historic leasing may increase ability to protect some historic structures. • Interpretation and educational opportunities through use of digital media. • Integrate natural and cultural resource research for more holistic understanding and interpretation of resources. • Encourage publication of books on park and regional history. • Continue collaborating with Koochiching County Historical Society on shared history projects.
Data and/or GIS Needs	• Special history studies on commercial fishing, water level management, and French fur trade period. • Condition assessments for museum collections. • Continued archeological inventory of shoreline and specific landforms. • Complete cultural landscape inventories. • Complete national register nominations. • Terrestrial LiDAR and high quality aerial imagery. • High resolution bathymetry of park lakes. • Geomorphological study. • Assessment of the HVAC system / environmental conditions in museum storage facility. • Assessment of concession and park housing needs at Kettle Falls. • Study of historic structures and potential for historic leasing.

Fundamental Resource or Value	Historic Resources, Cultural Landscapes, and Museum Collections
Planning Needs	• Cultural landscape reports and treatment plans for select historic properties. • Complete visitor destination site development plans. • Integrated pest management plan. • Collections management plan (update). • Scope of collection statement (update). • Collections emergency operations plan. • Archeological resources protection plan. • Update historic furnishings plan for Kettle Falls Hotel. • Kettle Falls development concept 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** • Antiquities Act of 1906 • Historic Sites Act of 1935 • National Historic Preservation Act of 1966, as amended (54 USC 300101 et seq.) • Archeological and Historic Preservation Act of 1974 • American Indian Religious Freedom Act of 1978 • Archaeological Resources Protection Act of 1979 • Native American Graves Protection and Repatriation Act of 1990 • Paleontological Resources Preservation Act of 2009 • Museum Properties Management Act of 1955 (54 USC 102501 through 102504) • Executive Order 11593, "Protection and Enhancement of the Cultural Environment" • Executive Order 13007, "Indian Sacred Sites" • Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments" • Secretarial Order 3289, "Addressing the Impacts of Climate Change on America's Water, Land, and other Natural and Cultural Resources" • "Curation of Federally-Owned and Administered Archaeological Collections" (36 CFR 79) • "Protection of Historic Properties" (36 CFR 800) • "Department of the Interior Policy on Consultation with Indian Tribes" **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • Director's Order 24: *NPS Museum Collections Management* • Director's Order 28: *Cultural Resource Management* • Director's Order 28A: *Archeology* • NPS *Management Policies 2006* (chapter 5) "Cultural Resource Management" • *The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* • NPS *Natural Resource Management Reference Manual 77* • NPS *Museum Handbook*, parts I, II, and III

Fundamental Resource or Value	Scientific and Educational Value
Related Significance Statements	Significance statements 1, 3, 4, 5, and 6.
Current Conditions and Trends	**Conditions** • The park contains some of the oldest exposed rock formations in the world. After decades of study, the formation of granitic bodies within the Archean crust is still being debated. The unique, exposed geologic resources of Voyageurs National Park are important for understanding the geologic history of the area. • The park is in a unique transitional zone or ecotone at the southern end of a boreal forest, resulting in a great diversity of plant and animal species. The overlap of ecotones provides unique opportunities for understanding significant and rapid climatic change. • Interfaces between land and lakes in the park are some of the most diverse, dynamic and complex habitats in the region. • The park is integral to protection of the boundary waters ecosystem by both the United States and Canada. Along with Quetico Provincial Park and the Boundary Waters Canoe Area Wilderness in Superior National Forest, Voyageurs National Park was and remains at the heart of a major conservation effort to protect the boreal forest landscape, its interconnected waterways, and associated wildlife. • Park staff administer a comprehensive research and long-term monitoring program that ensures management decisions incorporate science-based understanding of resources. The park currently works in collaboration with international, federal, tribal, provincial, state, and local agencies as well as universities on science and resource management activities. • Rainy, Namakan, and Sand Point Lakes in the park are international waters and part of the 26,930 square mile Lake of the Woods and Rainy River watershed. Water and aquatic ecosystem function are managed on a watershed scale. The park's position in the watershed makes collaborative research critical to addressing threats to ecosystem health. • Regulation of water levels within Voyageurs National Park watershed is considered in coordination with other users. Research and management of aquatic resources in international waters is cooperatively accomplished with the Minnesota Department of Natural Resources, Ontario Ministry of Natural Resources and Forestry, and other affected agencies. Management of wildlife and addressing climate change adaptation is accomplished through collaboration with other land managers and partners to maintain landscape-scale connectivity. • The rich biodiversity and unique ecosystem of the park provides an exceptional outdoor laboratory with diverse opportunities for scientific study, historical investigation, and learning at a variety of educational levels. • Voyageurs National Park Association, the park's founding partner, seeks private funding / matching funds for park projects and research, conducts volunteer and community engagement, outreach and awareness, advocates for natural resource protection, garners support for youth programs, and facilitates establishment of new partnerships. • Lack of housing on Rainy Lake and lack of year-round housing in the park. **Trends** • A collaborative approach engaging stakeholders in resource management issues is critical to effective stewardship of park resources. • With the move to watershed-based management, there is an increase in research and monitoring in Voyageurs National Park.

Fundamental Resource or Value	Scientific and Educational Value
Threats and Opportunities	**Threats** • The park is experiencing stressors on resources including elevated levels of mercury in fish and wildlife, declines in wildlife populations, climate change, threats from invasive plants and animals, and a variety of impacts to natural and cultural resources from a water level management regime with competing international interests. Research is necessary to understand these large-scale and complex issues. **Opportunities** • Partner with Minnesota State Colleges and Universities system or other university system to develop a field research station to promote excellence in research by furnishing housing, laboratory space, transportation, equipment, and financial support to enable investigators in the biological, physical, and social sciences to access the rich and diverse environments of Voyageurs National Park. • Foster a greater connection with Rainy River Community College (located in International Falls and part of the Minnesota State Colleges and Universities system). • Consider citizen science approaches to monitoring phenology and other climate change phenomena. • Develop advanced environmental education programs for high school and college students and provide learning opportunities for teachers. Leverage partners, volunteers, and distance learning technology to bring educational programming to classrooms across the state. • Continue to develop a cooperative and collaborative network of scientists and scholars interested in pursuing research in the park. • Continue collaboration with the Ontario-based Experimental Lakes Area. • Increase public education to conserve and protect natural and cultural resources. Use publications and presentations to increase interest in Voyageurs National Park research, leading to new collaborative opportunities.
Data and/or GIS Needs	• Assessment of parkwide housing needs.
Planning Needs	• Research 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** • None Identified **NPS Policy-level Guidance (NPS *Management Policies 2006* and Director's Orders)** • NPS *Management Policies 2006* (§4.1.4) "Partnerships"

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 Voyageurs National Park and the associated planning and data needs to address them:

- **Water Quality and Lake Level Management.** Water level management and water quality are two of the most significant aquatic resource issues for Voyageurs National Park. Water levels in the park's four largest lakes, which comprise 96% of the total lake area of the park, are controlled by dams within and outside of the park's boundary. Water levels have been artificially controlled since the early 1900s for power generation, flood control, and other legally recognized uses. Because Rainy Lake and Namakan Reservoir are part of the U.S.-Canada border, it is subject to the Boundary Waters Treaty of 1909 and international coordination. The rule curves, or bands of allowable high and low water levels throughout the year, are controlled and adjusted by the Rainy and Namakan Lake Water Levels Control Committee of the International Rainy – Lake of the Woods Watershed Board.

  The large lakes at Voyageurs National Park receive input from the watershed of Rainy Lake, and their quality is affected by land use both locally and regionally and by the manipulation of water levels that occurs at the dams. Water quality monitoring indicates the park's waters are generally of high quality. Although water quality is considered to be good, there are widespread and localized threats affecting the quality and quantity of park waters. There have been local instances of erosion, septic drainage and water contamination and widespread addition of petroleum byproducts and lead to park waters from snowmobiles and powerboats. Mercury is a pollutant of significant concern in precipitation, fish tissue, and surface water, necessitating fish consumption advisories in all park lakes. High mercury concentrations in birds, mammals, amphibians, and fish can result in reduced foraging efficiency, survival, and reproductive success. Also, artificial water level regimes have been shown to have significant negative effects on the aquatic ecosystems of Rainy Lake and Namakan Reservoir.

  Concerns about the effects of non-natural lake levels on aquatic biota have been expressed since the dams were built. In 2000, the International Joint Commission issued a supplemental order, specifying water level fluctuations more similar to pre-dam hydrology than past rule curves. Early indications suggest the more natural water levels have resulted in beneficial effects on wetland vegetation, water quality, macroinvertebrate communities, and ecosystem health in the Namakan Reservoir.

  - ***Related planning needs*:** Interior lakes management plan (H), houseboat management plan (M)

  - ***Related data needs*:** Conduct studies (including groundwater) to better assess potential impacts of mining proposals on water quality (H), research and monitoring of mercury contamination (H), continue research and monitoring of the influence of water levels on many ecological indicators in Rainy Lake and Namakan Reservoir (H), continue water quality monitoring as an indicator of lake health and to track changes (H), monitor external threats such as atmospheric deposition (H)

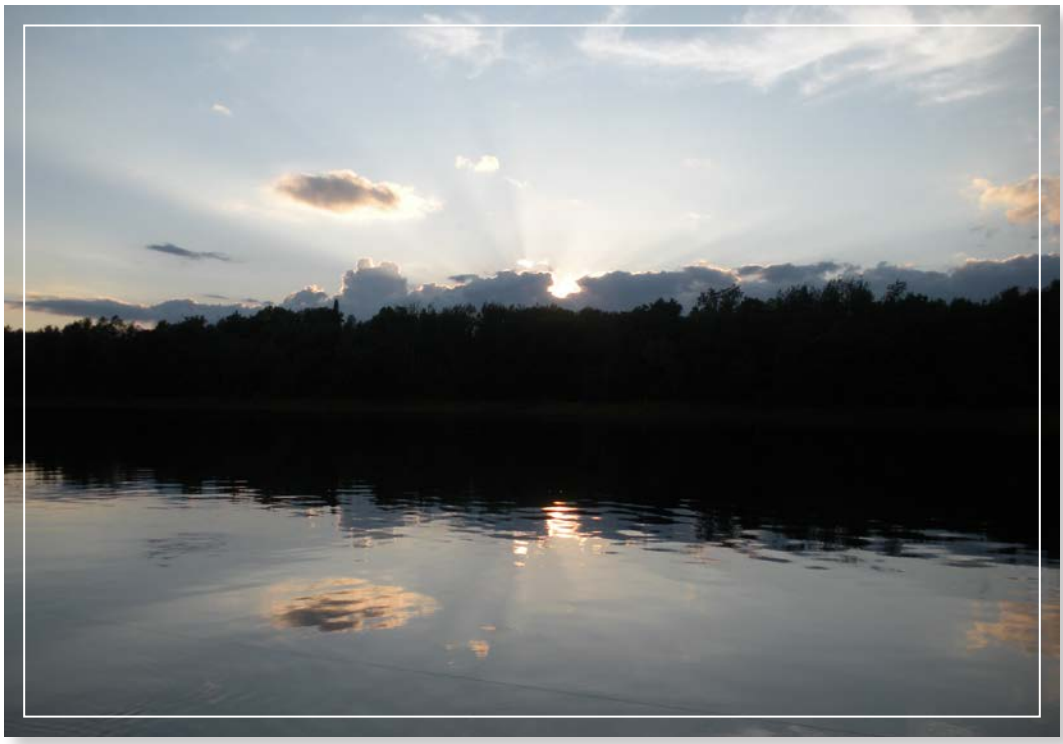
- **Invasive and Exotic Species.** The introduction and spread of invasive and exotic species can significantly alter natural systems and processes. Aquatic invasive species and terrestrial exotic species are a significant management concern at Voyageurs National Park, requiring significant staff time and resources.

  Aquatic invasive species are nonindigenous (nonnative) species that adversely affect habitats and native species. Currently, three aquatic invasive animal species—rainbow smelt, spiny water flea, and rusty crayfish—have been documented within park boundaries. Additionally, there is an imminent threat of an additional aquatic invasive species; recently, zebra mussels have been found in the Rainy River watershed, downstream of park waters. Aquatic invasive species are of significant concern at the park; the spiny water flea invasion has reduced the abundance and biomass of zooplankton in the six large lakes in and near park boundaries, creating a condition of significant concern.

  Exotic terrestrial species refers to nonnative plant and animal species. Exotic plants can threaten native plant and animal communities and processes. Many, though not all, of the problem exotic species are especially adept at invading recently disturbed areas. Examples found at Voyageurs National Park include lambs-quarters, bindweed, thistle, ox-eye daisy, brome, foxtail, and quackgrass. Spotted knapweed is another such species that is rapidly expanding its range in the lake states. For forests in general, the exotic taxa in the park which have become serious concerns in eastern North America are the alien buckthorns (*Rhamnus spp.*) and the honeysuckles (*Lonicera spp.*). These species can invade intact communities and reduce the number and/or diversity of native species. The buckthorns can thrive in richer soils, and thus could invade birch, aspen, mixed pine-hardwood, and northern hardwood forests.

  ***Related planning needs*:** Interior lakes management plan (H), vegetation management plan (M), integrated pest management plan (M)

  - ***Related data needs:*** Assessment of effects of invasive species on aquatic ecosystems including socio-economically important fish (H)



- **Climate Change.** Due to its large size, complex ecosystems, and abundance of surface waters, Voyageurs National Park has one of the most variable climates in the National Park Service. Climate change has potential to eliminate habitat suitable for coldwater fish. Climate change has the potential to severely disrupt aquatic ecosystems directly through changes in temperature and precipitation as well as indirectly though watershed effects. Possible climate-induced changes in boreal-region lakes include a longer ice-free season, higher fluctuations in temperature across seasons, increased inputs of dissolved organic carbon, shifts in algal communities, increased frequencies of blue-green algae, and health of coldwater fish species. The scientific picture is currently incomplete; the observed changes vary considerably among lakes, the physical and biological controls are poorly understood, and the consequences for higher food-chain organisms are virtually unknown. Because of year-to-year variability, long-term records are needed to decipher trends in lake biological responses to climate change.

  One predicted outcome of this change in climate is a northward shift in the ranges of species. Voyageurs National Park is located in an ecological transition zone in which many of the boreal tree species (such as jack pine, white spruce, balsam fir, paper birch, and aspen) are near the southern edges of their ranges. Conversely, trees such as red maple and northern red oak are near their northern boundaries. Because of this, the ecosystems that have largely defined Voyageurs National Park could dramatically change. Boreal species are predicted to recede northward into Canada while more southerly species will likely move into the park.

  In addition, rising temperatures, earlier springs, and more frequent and longer droughts are likely to increase the occurrence and severity of forest fires. The combined result of species shifts and more fires may be the loss of the boreal forest in Voyageurs National Park.

  With a warmer and drier climate, the forests and waters of Voyageurs National Park will also be under increasing assaults from insects and diseases, both native and nonnative. Milder winters can result in higher survival of insects. Longer and warmer summers may lead to more insect generations per season, more movement, and a northward expansion of insect ranges. Also, the climate conditions and fire frequency will likely lead to increased insect habitat due to more stressed or injured trees. A warming climate may also contribute to expanded ranges of gypsy moths and other invasive, nonnative insects.

  Predicted shifts in habitat may cause unprecedented shifts in animal species as well. The wildlife in Voyageurs National Park is already showing signs of climate-associated stress. Warming temperatures may already be contributing to a significant decline in moose in northern Minnesota. Birds that rely on insects for food are being impacted by the uncoupling of the timing of insect emergence (related to temperature) and bird migrations and nesting (related to day length).

  As the ranges for animals such as moose, Canada lynx, and boreal owls are receding northward out of Voyageurs National Park, the ranges for animals such as raccoons, opossum, badger, gray squirrel, and wild turkey are extending toward the park.

  - ***Related planning needs:*** Climate change adaptation plan (M)

  - ***Related data needs:*** Climate change research and modeling to assess impacts on mammals, birds, insects, and vegetation (H)

- **Deferred Maintenance Backlog.** Deferred maintenance refers to maintenance that has been delayed. Deferred maintenance threatens historic resources and increases the costs of operations. Persistent underfunding and staffing shortfalls have heightened the deferred maintenance backlog to a record high. Unoccupied historic structures are more likely to fall into a state of disrepair at a quicker pace because they do not have attendants caring for them. Docks, campsites, trails, and concession areas are in urgent need of repair. Due to the vastness of the park, water-based nature, and remoteness of many facilities, snowmobiles, boats, and vehicles reach high mileages quickly and require replacement at a more rapid pace.

    - ***Related planning needs:*** Kettle Falls development concept plan (H), complete visitor destination planning and development (H), cultural landscape reports and management plans for select historic properties (M)

    - ***Related data needs:*** Complete cultural landscape inventories (M), Study of historic structures and potential for historic leasing (M)

- **Park and Concessioner Housing.** Seasonal employees and volunteers create a larger demand for housing than gateway communities can absorb. Lodging in resort communities is expensive for these employees and volunteers. In addition, there is no government housing available on Rainy Lake and few short-term rental opportunities in International Falls. While the park has some unoccupied historic structures, these are not practical for seasonal housing because they are not connected to potable water and they are primarily accessible by boat, creating additional logistical challenges. The Whispering Pines housing area fills up quickly each year. The concessions operation at the remotely located Kettle Falls Hotel does not have enough housing for concession staff.

    - ***Related planning needs:*** None identified

    - ***Related data needs:*** Assessment of park housing needs (H), assessment of concession and park housing needs at Kettle Falls (H)

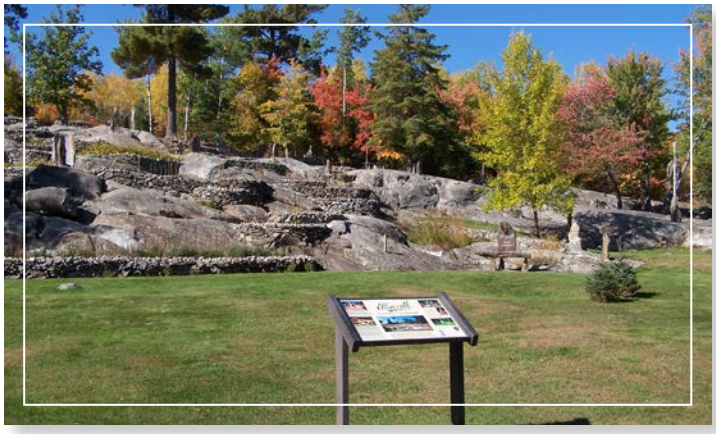
Planning and Data Needs

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

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

Planning Needs – Where A Decision-making Process Is Needed			
Related to an FRV or Key Issue?	**Planning Needs**	**Priority (H, M, L)**	**Notes**
FRV and Key Issue	Interior lakes management plan	H	Data is collected on an ongoing basis including resource condition, status of each lake, and appropriate level of recreation based on natural condition. A plan would formalize management directives and take into consideration climate change adaptation.
FRV	Visitor use management plan	H	Visitor use management plan would emphasize issues related to congested parking areas, parking turnover, marina ramps, and dock congestion.
FRV	Kettle Falls development concept plan	H	Development issues covered in cultural landscape inventories. Concessions contracts are vague and need to refocus management for Kettle Falls area. Trail development, signage, housing, visitor use, docking, and use of historic buildings would be covered in the plan. There is a need to make the NPS image more robust at this popular visitor destination.
FRV	Campsite management plan (update)	H	Existing plan was completed in 1988. Campsites have since been built out and there is a need to understand next steps along with documenting and dealing with new and emerging issues such as the relocation of sites and use of houseboats.
FRV and Key Issue	Complete visitor destination planning and development	H	Need planning for Kettle Falls, Ingersoll, Grassy Bay, Moose River, and Gold Portage area. Destinations where planning is complete but development is not. Includes Ellsworth, Rainy Lake City, and Harry Oveson Fish Camp.
FRV and Key Issue	Houseboat management plan	M	Houseboat use is at a level in which planning is needed. This need was identified in the park's general management plan.
FRV	Design / plan for marking / interpreting the historic route of the voyageurs	M	Would implement a goal in the 2005 long-range interpretive plan to provide visitors the opportunity to follow and experience (virtually and physically) the historic route of the voyageurs.
FRV	Vegetation management plan	M	Park is working on vegetation management plan which outlines a strategy for restoration of disturbed lands and treatment of invasive plants.
FRV	Integrated pest management plan	M	Park is working on integrated pest management plan (IPM) which will incorporate an IPM museum action plan.
FRV and Key Issue	Climate change adaptation plan	M	To anticipate and plan for changes in climate and prepare for impacts to natural, cultural, and recreational resources.
FRV	Visual resource management plan	M	This plan would provide a baseline for developing goals, objectives and management strategies for protection of scenic views, including those of cultural landscapes.
FRV	Backcountry management plan	M	Plan for the visitor experience, use, and facilities in the backcountry trail and primitive areas of the park including areas in proposed wilderness.

Planning Needs – Where A Decision-making Process Is Needed			
Related to an FRV or Key Issue?	**Planning Needs**	**Priority (H, M, L)**	**Notes**
FRV	Plan for new exhibits at Rainy Lake Visitor Center	M	Update to 1988 exhibits.
FRV	Wayside plan	M	Assessment of needs has occurred. Need to look at standardization and replacement of existing waysides.
FRV	Long-range interpretive plan (update)	M	Update 2005 plan. The update would provide new interpretive programming related to FRVs, in particular recreation and environmental education. It would also provide an opportunity for the park to update its interpretive themes.
FRV	Cultural landscape reports and treatment plans for select historic properties	M	For Kettle Falls Historic District, Camp Marston, Ingersoll, and Rainy Lake City. Consider potential for leasing of some historic properties.
FRV	Collections management plan (update)	M	Update of 1987 collections management plan. Includes collections emergency operations plan and assessment of the HVAC system / environmental conditions in the museum storage facility. Could be tied to furnishings and exhibit planning for Kettle Falls.
FRV	Scope of collection statement (update)	M	Update current statement.
FRV	Collections emergency operations plan	M	The museum collection was moved to new park headquarters in 2012 so emergency operations procedures need to be developed in cooperation with the City of International Falls.
FRV	Archeological resources protection plan	M	For sites that are threatened by erosion, climate change, looting, visitor use, or other factors.
FRV	Historic furnishings plan (update)	M	For Kettle Falls Hotel.
FRV	Research plan	M	Highlight what the park's priority research needs are, gaps in knowledge, and what types of research pursuits are helpful and needed, etc. Plan for development of field research station.



Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or Key Issue?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
FRV and Key Issue	Conduct studies (including groundwater) to better assess potential impacts of mining proposals on water quality	H	There are two planned copper-nickel mines south of the park and other planned mining exploration. The park would benefit from additional understanding of where water is flowing underground and impacts of mining to park resources.
FRV and Key Issue	Assessment of effects of invasive species on aquatic ecosystems including socio-economically important fish populations	H	Documented 40-60% decrease in zooplankton biomass. This will have ramifications for the aquatic ecosystem, including fish production.
FRV and Key Issue	Research and monitoring of mercury contamination	H	Fish mercury burdens are high enough to necessitate fish consumption advisories for all park lakes. Atmospheric deposition of mercury is decreasing since regional emissions controls have been put in place but it is highly important to continue monitoring mercury contamination for fish and human health.
FRV and Key Issue	Continue research and monitoring of the influence of water levels on many ecological indicators in Rainy Lake and Namakan Reservoir, including after International Joint Commission sets rules governing dam operation after 2015-2016 rule curve review	H	Participate in International Joint Commission rule curve review process, ensuring that the NPS mission is considered as the International Joint Commission sets rules governing dam operation for the Rainy Lake and Namakan Reservoir.
FRV	Continue water quality monitoring as an indicator of lake health and to track changes	H	Park needs to track changes in water quality in response to climate change, contaminants, lake level management, and other influences. Data are used as an early indication of change in the ecosystem. It is an NPS Great Lakes Inventory and Monitoring Network vital sign.
FRV and Key Issue	Visitor use data / usage data for day use	H	Need a way to capture how visitors are using the park, beyond the fee reservation system, to provide a more comprehensive understanding of user and facility needs. Identify trends in recreational activities, day uses, and destinations. This would include continued data collection and analysis of visitor demographics and use (via fee reservation system).
FRV	Study impacts of legal and illegal killing of wildlife in and adjacent to the park on wildlife species of interest	H	Legal harvest and illegal killing have the potential to influence several large predators, specifically wolves, black bears, and Canada lynx that have large home ranges that frequently include areas outside of the protection of Voyageurs National Park. Impacts to these top carnivores can have far-reaching impacts to other trophic levels.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or Key Issue?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
FRV	Ongoing in-park air quality monitoring	H	To provide updated visibility, ozone, and pollutant deposition condition in the park.
FRV and Key Issue	Climate change research and modeling	H	To assess impacts of climate change on mammals, birds, insects, and vegetation.
FRV and Key Issue	Monitor external threats such as atmospheric deposition	H	Park receives mercury contamination, nitrogen, and acid rain from industrial sources outside park boundaries.
FRV and Key Issue	Assessment of park housing needs	H	Assessment of total housing available to seasonal employees, assessment of year-round need, and to consider opportunities to collaborate with local partners to address housing needs.
FRV and Key Issue	Assessment of concession and park housing needs at Kettle Falls	H	Park concessioner lacks sufficient housing for staff. Park has frequent need for seasonal housing at Kettle Falls.
FRV	Assessment of HVAC system/ environmental conditions in museum storage facility	H	HVAC system in new park headquarters is not effective in controlling temperature and humidity in the museum storage facility, placing collections at risk.
FRV and Key Issue	Monitoring of coldwater fish habitat	M	Monitoring will support climate-change management strategies including scenario modeling of future habitat conditions.
FRV and Key Issue	Continue monitoring of wetlands and amphibians	M	Amphibian populations are decreasing across the continent and are vulnerable to effects of climate change.
FRV and Key Issue	Monitor ice-on and ice-out dates	M	Ice-free season is increasing with climate change, which affects lake ecology and recreation.
FRV and Key Issue	Climate change research and monitoring focused on species assemblages and populations of at-risk aquatic species	M	Park is in a region predicted to experience considerable warming and expected to see shifts in the ranges of species and species assemblages. Research is needed to inform modeling and management strategies. Relates in part to in terior lakes management plan.
FRV and Key Issue	Research on the triggers of toxin production in harmful algal blooms	M	Important to understand triggers so park can manage to reduce toxin production and to improve ability to predict toxin production and ensure a safe park experience for visitors.
FRV	Visitor use data for interior lakes	M	This would address fishing pressure, campsite, and day use on interior lakes.
FRV	High resolution bathymetric LiDAR	M	A seamless, high quality bathymetric dataset over the entire park is needed as a baseline for submerged resource monitoring, fisheries and wildlife habitat modeling, prehistoric landscape modeling and identification, water level management analysis, climate-change modeling, and for producing highly detailed interpretive materials.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or Key Issue?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
FRV	Baseline data on terrestrial invertebrates	M	Baseline inventories needed to measure current biodiversity of these important taxa to climate change and other natural and anthropogenic changes. Would include a terrestrial synthesis to summarize research completed to date and identify gaps in the existing knowledge base.
FRV	Rare plant survey	M	Needs to be conducted to gather baseline data.
FRV	Terrestrial LiDAR and high quality aerial imagery	M	A seamless, high quality elevation dataset over the entire park is needed as a baseline for shoreline resource monitoring, vegetation classification, wildlife environment modeling, predictive modeling of resource locations, viewshed analyses, and for producing highly detailed interpretive materials.
FRV	Pre-settlement forest data	M	Understand what forest composition was before settlement. Tied with vegetation management plan.
FRV	Forest stand age map	M	Baseline data about forest age that the park does not currently have. Needed for habitat modeling, forest management decisions, and understanding historical land use of the park. Relates to vegetation management plan.
FRV	Soils map	M	Fieldwork has been completed but production of map and completion of other anticipated products was delayed by changes in the NPS geology / soils program. Baseline information about soils is essential for resource management and protection as well as providing the ability to predict the behavior of soil under a variety of uses.
FRV and Key Issue	Phenology of key species	M	Phenology is changing in concert with changes in climate which can in turn, cause changes interspecies interaction.
FRV	Night sky assessment	M	Complete the night sky assessment that was started in 2010.
FRV	Visual resource inventory	M	Visual resource inventory identifies scenic quality characteristics and visitor values of important scenic views and serves as the baseline for developing a visual resource management plan for protection of views.
FRV	Acoustic resource inventory	M	Has not yet been completed. Would support management decisions about noisy vehicles and appropriate placement of camping sites.
FRV	Description of wilderness character values	M	Requires revisit and direction from NPS leadership.
FRV and Key Issue	Studies of climate change effects on recreation	M	To determine potential impacts on activities such as wildlife viewing, fishing, and winter activities.

Data Needs – Where Information Is Needed Before Decisions Can Be Made			
Related to an FRV or Key Issue?	**Data and GIS Needs**	**Priority (H, M, L)**	**Notes**
FRV	Special history studies	M	On commercial fishing, water level management, and French fur trade period.
FRV	Condition assessments for museum collections	M	Needed to plan for preservation requirements of the ethnographic, natural history, paper, and rare books collections.
FRV	Continued archeological inventory of shoreline and specific landforms	M	Archeological surveys since 1979 have not addressed 100% of the shoreline where archeological sites are likely to occur. Surveys are currently conducted on-demand according to development needs, potentially leading to delays or complications in development. Impacts of climate change and water level management to undiscovered sites are not known.
FRV	Complete cultural landscape inventories	M	Need to complete cultural landscape inventories for eight properties that have been determined eligible for the National Register of Historic Places.
FRV	Complete national register nominations	M	Nominations needed for Oveson Fish Camp, Camp Marston, Kaukola, Mittet, and Meadwood Resort properties as well as a number of archeological sites which have been determined eligible for the National Register of Historic Places.
FRV	Geomorphological study	M	Study would show the relationship between archeological sites and landforms within the park, leading to a predictive model of archeological site locations, an understanding of soil characteristics on archeological sites, and the necessary information to prioritize and stabilize threatened landforms of greatest antiquity.
FRV	Study of historic structures and potential for historic leasing	M	Investigate opportunities to occupy vacant structures.

Part 3: Contributors

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Appendixes

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

Public Law 91-661

AN ACT

January 8, 1971
[H. R. 10482]

To authorize the establishment of the Voyageurs National Park in the State of Minnesota, and for other purposes.

Voyageurs National Park, Minn.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the purpose of this Act is to preserve, for the inspiration and enjoyment of present and future generations, the outstanding scenery, geological conditions, and waterway system which constituted a part of the historic route of the Voyageurs who contributed significantly to the opening of the Northwestern United States.

ESTABLISHMENT

Publication in Federal Register.

SEC. 101. In furtherance of the purpose of this Act, the Secretary of the Interior (hereinafter referred to as the "Secretary") is authorized to establish the Voyageurs National Park (hereinafter referred to as the "park") in the State of Minnesota, by publication of notice to that effect in the Federal Register at such time as the Secretary deems sufficient interests in lands or waters have been acquired for administration in accordance with the purposes of this Act: *Provided*, That the Secretary shall not establish the park until the lands owned by the State of Minnesota and any of its political subdivisions within the boundaries shall have been donated to the Secretary for the purposes of the park: *Provided further*, That the Secretary shall not acquire other lands by purchase for the park prior to such donation unless he finds that acquisition is necessary to prevent irreparable changes in their uses or character of such a nature as to make them unsuitable for park purposes and notifies the Committees on Interior and Insular Affairs of both the Senate and the House of Representatives of such findings at least thirty days prior to such acquisition.

Notification to congressional committees.

Boundaries.

SEC. 102. The park shall include the lands and waters within the boundaries as generally depicted on the drawing entitled "A Proposed Voyageurs National Park, Minnesota," numbered LNPMW–VOYA–1001, dated February 1969, which shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior. Within one year after acquisition of the lands owned by the State of Minnesota and its political subdivisions within the boundaries of the park the Secretary shall affix to such drawing an exact legal description of said boundaries. The Secretary may revise the boundaries of the park from time to time by publishing in the Federal Register a revised drawing or other boundary description, but such revisions shall not increase the land acreage within the park by more than one thousand acres.

Boundary revision; publication in Federal Register.

LAND ACQUISITION

SEC. 201. (a) The Secretary may acquire lands or interests therein within the boundaries of the park by donation, purchase with donated or appropriated funds, or exchange. When any tract of land is only

partly within such boundaries, the Secretary may acquire all or any portion of the land outside of such boundaries in order to minimize the payment of severance costs. Land so acquired outside of the park boundaries may be exchanged by the Secretary for non-Federal lands within the park boundaries. Any portion of land acquired outside the park boundaries and not utilized for exchange shall be reported to the General Services Administration for disposal under the Federal Property and Administrative Services Act of 1949 (63 Stat. 377), as amended. Any Federal property located within the boundaries of the park may be transferred without consideration to the administrative jurisdiction of the Secretary for the purposes of the park. Lands within the boundaries of the park owned by the State of Minnesota, or any political subdivision thereof, may be acquired only by donation.

40 USC 471 note.

(b) In exercising his authority to acquire property under this section, the Secretary shall give immediate and careful consideration to any offer made by any individual owning property within the park area to sell such property to the Secretary. In considering such offer, the Secretary shall take into consideration any hardship to the owner which might result from any undue delay in acquiring his property.

SEC. 202. (a) Any owner or owners (hereinafter referred to as "owner") of improved property on the date of its acquisition by the Secretary may, if the Secretary determines that such improved property is not, at the time of its acquisition, required for the proper administration of the park, as a condition of such acquisition, retain for themselves and their successors or assigns a right of use and occupancy of the improved property for noncommercial residential purposes for a definite term not to exceed twenty-five years, or, in lieu thereof, for a term ending at the death of the owner, or the death of his spouse, whichever is later. The owner shall elect the term to be retained. The Secretary shall pay to the owner the fair market value of the property on the date of such acquisition less the fair market value on such date of the right retained by the owner.

Right of use and occupancy.

(b) If the State of Minnesota donates to the United States any lands within the boundaries of the park subject to an outstanding lease on which the lessee began construction of a noncommercial or recreational residential dwelling prior to January 1, 1969, the Secretary may grant to such lessee a right of use and occupancy for such period of time as the Secretary, in his discretion, shall determine: *Provided*, That no such right of use and occupancy shall be granted, extended, or continue after ten years from the date of the establishment of the park.

Termination.

(c) Any right of use and occupancy retained or granted pursuant to this section shall be subject to termination by the Secretary upon his determination that such use and occupancy is being exercised in a manner not consistent with the purposes of this Act, or upon his determination that the property is required for the proper administration of the park. The Secretary shall tender to the holder of the right so terminated an amount equal to the fair market value of that portion of the right which remains unexpired on the date of termination.

"Improved property."

(d) The term "improved property", as used in this section, shall mean a detached, noncommercial residential dwelling, the construction of which was begun before January 1, 1969, together with so much of the land on which the dwelling is situated, the said land being in the same ownership as the dwelling, as the Secretary shall designate to be reasonably necessary for the enjoyment of the dwelling for the sole purpose of noncommercial residential use, together with any structures accessory to the dwelling which are situated on the land so designated.

Concession contracts.

SEC. 203. Notwithstanding any other provision of law, the Secretary is authorized to negotiate and enter into concession contracts with former owners of commercial, recreational, resort, or similar properties located within the park boundaries for the provision of such services at their former location as he may deem necessary for the accommodation of visitors.

Commercial timberlands, differential payment.

SEC. 204. The Secretary is authorized to pay a differential in value, as hereinafter set forth, to any owner of commercial timberlands within the park with whom the State of Minnesota has negotiated, for the purpose of conveyance to the United States, an exchange of lands for State lands outside the park. Payment hereunder may be made when an exchange is based upon valuations for timber purposes only, and shall be the difference between the value of such lands for timber purposes, as agreeable to the State, the Secretary, and any owner, and the higher value, if any, of such lands for recreational purposes not attributable to establishment or authorization of the park: *Provided*, That any payment shall be made only at such time as fee title of lands so acquired within the boundaries is conveyed to the United States.

ADMINISTRATION

SEC. 301. (a) Except as hereinafter provided, the Secretary shall administer the lands acquired for the park, and after establishment shall administer the park, in accordance with the provisions of the Act of August 25, 1916 (39 Stat. 535) as amended and supplemented (16 U.S.C. 1–4).

Review. Report to President.

(b) Within four years from the date of establishment, the Secretary of the Interior shall review the area within the Voyageurs National Park and shall report to the President, in accordance with subsections 3(c) and 3(d) of the Wilderness Act (78 Stat. 890; 16 U.S.C. 1132 (c) and (d)), his recommendation as to the suitability or nonsuitability of any area within the lakeshore for preservation as wilderness, and any designation of any such area as a wilderness may be accomplished in accordance with said subsections of the Wilderness Act.

Prohibition.

(c) All mining and mineral activities and commercial water power development within the boundaries of the park shall be prohibited, and further, any conveyance from the State of Minnesota shall contain a covenant that the State of Minnesota, its licensees, permittees, lessees, assigns, or successors in interest shall not engage in or permit any mining activity nor water power development.

Recreational fishing.

SEC. 302. (a) The Secretary shall permit recreational fishing on lands and waters under his jurisdiction within the boundaries of the park in accordance with applicable laws of the United States and of the State of Minnesota, except that the Secretary may designate zones where and establish periods when no fishing shall be permitted for reasons of public safety, administration, fish and wildlife management, or public use and enjoyment. Except in emergencies, any regulations of the Secretary pursuant to this section shall be put into effect only after consultation with the appropriate agency of the State of Minnesota.

(b) The seining of fish at Shoepac Lake by the State of Minnesota to secure eggs for propagation purposes shall be continued in accordance with plans mutually acceptable to the State and the Secretary.

Recreational sports.

SEC. 303. The Secretary may, when planning for development of the park, include appropriate provisions for (1) winter sports, including the use of snowmobiles, (2) use by seaplanes, and (3) recreational use by all types of watercraft, including houseboats, runabouts, canoes, sailboats, fishing boats, and cabin cruisers.

SEC. 304. Nothing in this Act shall be construed to affect the provisions of any treaty now or hereafter in force between the United States and Great Britain relating to Canada or between the United States and Canada, or of any order or agreement made or entered into pursuant to any such treaty, which by its terms would be applicable to the lands and waters which may be acquired by the Secretary hereunder, including, without limitation on the generality of the foregoing, the Convention Between the United States and Canada on Emergency Regulation of Level of Rainy Lake and of Other Boundary Waters in the Rainy Lake Watershed, signed September 15, 1938, and any order issued pursuant thereto. 54 Stat. 1800.

SEC. 305. The Secretary is authorized to make provision for such roads within the park as are, or will be, necessary to assure access from present and future State roads to public facilities within the park. Access roads.

APPROPRIATIONS

SEC. 401. There are authorized to be appropriated such sums as may be necessary to carry out the provisions of this Act, not to exceed, however, $26,014,000 for the acquisition of property, and not to exceed $19,179,000 (June 1969 prices) for development, plus or minus such amounts, if any, as may be justified by reason of ordinary fluctuations in construction costs as indicated by engineering cost indices applicable to the types of construction involved herein.

Approved January 8, 1971.

Public Law 97-405
97th Congress

An Act

Jan. 3, 1983
[S. 625]

To revise the boundary of Voyageurs National Park in the State of Minnesota, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the Act entitled "An Act to authorize the establishment of the Voyageurs National Park in the State of Minnesota, and for other purposes", approved January 8, 1971 (84 Stat. 1971), is amended—

Voyageurs National Park, Minn. Boundary revision.
84 Stat. 1970.
16 USC 160.
16 USC 160a-1.

(1) in section 102 by striking out "The" after "SEC. 102." and inserting in lieu thereof "(a) Except as provided in subsection (b) of this section, the";

16 USC 160a-1.

(2) by inserting after section 102(a), as redesignated by paragraph (1), the following new subsection:

"(b)(1) In addition to such revisions as the Secretary may make in the boundaries of the park from time to time pursuant to other provisions of law, the Secretary may, according to the provisions of subsection (a)—

"(A) delete approximately 782 acres in the Neil Point area of the park;

"(B) add approximately 180 acres in the Black Bay Narrows areas of the park;

"(C) add approximately 18.45 acres owned by the State of Minnesota at the Kabetogama Forestry Station;

"(D) add approximately 120 acres owned by the State of Minnesota, being a strip of land through that portion of section 1, township 68 north, range 20 west, fourth principal meridian, which is parallel to and 400 feet on both sides of the unimproved road extending northward from the Ash River Trail as such road crosses each section; and

"(E) subject to the provisions of paragraph (2), delete approximately 1,000 acres at Black Bay and convey such lands to the State of Minnesota.

Public inspection.

All of the aforementioned boundary changes if accomplished shall be accomplished such that the boundary of the park shall conform to that generally depicted on the drawing entitled "Boundary, Voyageurs National Park, United States Department of the Interior, National Park Service", numbered 172-80, 008-MWR, and dated November 1981, which shall be on file and available for public inspection in the offices of the National Park Service, Department of the Interior.

Land conveyances, conditions.

"(2) The Secretary may not delete or convey the lands referred to in paragraph (1)(E) unless, prior to or simultaneously with such deletion or conveyance and in consideration of such conveyance, the State of Minnesota—

"(A) tenders a conveyance of the lands described in paragraph (1) (C) and (D) to the United States by such instrument and in such manner as are satisfactory to the Secretary, including but not limited to lease or easement: *Provided,* That if the interest conveyed is a lease or easement, the State of Minnesota shall substitute therefore a transfer of all right, title, and interest in the land by June 30, 1987: *Provided further,* That if the State does not transfer all right, title, and interest in such lands by June 30, 1987, the land described in paragraph 1(E) shall revert to the United States for administration by the Secretary as part of the park; and

"(B) enters into a recordable agreement satisfactory to the Secretary which provides that—

"(i) the State has established a wildlife management area in the area authorized to be deleted and conveyed to the State by paragraph (1)(E);

"(ii) the State has prepared a plan acceptable to the Secretary to manage all the waters of and State lands riparian to Black Bay (including all of the State-owned lands and waters of Rainy Lake) to preserve the natural resources of the area so as to complement to the fullest extent possible the purposes for which the park was established;

"(iii) the State shall not transfer any right, title, or interest in, or control over, any land described in paragraph (1)(E) to any person other than the Secretary; and

"(iv) the State shall permit access by the Secretary at reasonable times to the land described in paragraph (1)(E).

Agreement requirements, State noncompliance.

"(3) If at any time the State fails to comply with the material requirements of the agreement referred to in paragraph (2)(B), all right, title, and interest in the land described in paragraph (1)(E) shall revert to the United States for administration by the Secretary as part of the park. Such reversion shall take effect upon the delivery by the Secretary of notice to the State respecting such failure to comply without further notice or requirement for physical entry by the Secretary unless an action for judicial review is brought in the United States Court of Appeals for the appropriate circuit within ninety days following such notice. In any such action the court may issue such orders as are appropriate to carry out the requirements of this subsection.";

Judicial review

Presidential recommendations to Congress. 16 USC 160f.

(3) by adding after the last sentence of section 301(b) the following new sentence: "The President shall, no later than June 1, 1983, advise the United States Senate and House of Representatives of his recommendations with respect to the suitability or nonsuitability as wilderness of any area within the park."; and

Appropriations authorization. 16 USC 160k.

(4) in section 401—

(A) by inserting "(a)" after "SEC. 401.";

(B) by striking out "$26,014,000" and inserting in lieu thereof "$38,314,000"; and

(C) by adding at the end the following new subsections:

Visitor use and facilities plan.

"(b) The Secretary shall, in cooperation with other Federal, State, and local governmental entities and private entities experienced in the fields of outdoor recreation and visitor services, develop and implement a comprehensive plan for visitor use and overnight visitor facilities for the park. The plan shall set forth methods of achieving an appropriate level and type of visitation in order that the resources of the park and its environs may be interpreted for, and used and enjoyed by, the public in a manner consistent with the purposes for which the park was established. Such plan may include appropriate informational and educational messages and materials. In the development and implementation of such plan the Secretary may expend funds donated or appropriated for the purposes of this subsection. Effective October 1, 1983, there is authorized to be appropriated for the purposes of this subsection not to exceed $250,000, to remain available until expended.

"(c) The Secretary is directed to study existing road access to the park and to report to Congress on the impact of park-related use of those roads and to report specific recommendations on improvements necessary to insure adequate road access to the park. The Secretary is directed to report, within one year of the date of enactment of the Act which appropriates funds authorized under this subsection, to the Committee on Interior and Insular Affairs of the House of Representatives and to the Committee on Energy and Natural Resources of the Senate. Effective October 1, 1983, there is authorized to be appropriated for the purposes of this subsection not to exceed $75,000.

"(d) For purposes of section 7(a)(3) of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601-9(a)(3)), the statutory ceilings on appropriations established by this section shall be deemed to be statutory ceilings contained in a provision of law enacted prior to the convening of the Ninety-fifth Congress.

Approved January 3, 1983.

Appendix B: Inventory of Administrative Commitments

Agreement Name	Type of Agreement	Start Date	Expiration Date	Stakeholders	Purpose
Minnesota Department of Natural Resources	General agreement	6/27/11 (signed)	6/26/16 (5 years)	Minnesota Department of Natural Resources	Relates to fisheries management and research activities related to fish, wildlife, vegetation, fire management, and other environmental management in Voyageurs National Park and elsewhere in Minnesota; and use of buildings/facilities through appropriate permits or supplemental agreements.
Rainy River Community College	Student intern agreement	Agreement signed with each intern	N/A	Rainy River Community College	Relates to work-study and cooperative education programs between the park and community college.
Vermilion Community College	General agreement	9/18/11 (signed)	9/17/16 (5 years)	Vermilion Community College	Relates to work-study and cooperative education programs between the park and community college.
Crane Lake Volunteer Fire Department	General agreement	8/5/11 (signed)	8/4/16 (5 years)	Crane Lake Fire Department	Emergency care and transportation in and near Voyageurs National Park.
Kabetogama Lake Volunteer Fire Department	General agreement	8/18/12 (signed)	8/17/17 (5 years)	Kabetogama Lake Volunteer Fire Department	Fire / EMS services in and near Voyageurs National Park.
Koochiching County Sheriff's Office	Memorandum of understanding	3/14/12 (signed)	3/13/17 (5 years)	Koochiching County Sheriff	To provide emergency assistance to maintain public safety and welfare within and immediately surrounding Voyageurs National Park.
Minnesota Incident Command System	Cooperative agreement	Ongoing	Ongoing	Minnesota Incident Command System	Fire management and radio frequencies.
Inter-park Agreement Border Waters Area Fire Management	Memorandum of understanding	6/29/12	6/28/17 (5 years)	Inter-park Agreement Border Waters Area Fire Management	Fire agreement between national parks.
Border Agreement	International and inter-agency agreement	Ongoing	Ongoing		Fire agreement between multiple agencies in Canada and the United States.
International Voyageurs Snowmobile Club	Memorandum of agreement	12/29/15 (signed)	12/28/20 (5 years)	International Voyageurs Snowmobile Club	Maintenance of snowmobile trails within the park.

Agreement Name	Type of Agreement	Start Date	Expiration Date	Stakeholders	Purpose
Crane Lake Voyageurs Snowmobile Club	General agreement	12/15/15 (signed)	12/14/20 (5 years)	Crane Lake Voyageurs Snowmobile Club	Maintenance of snowmobile trails within the park.
Voyageur Trail Society, Inc. (VTSI)	General agreement	12/16/15 (signed)	12/15/20 (5 years)	Voyageur Trail Society, Inc.	Maintenance of snowmobile trails within the park.
Boat storage	Commercial use authorization (CUA)	2014	12/31/16 (2 years)	Separate CUAs for: -Voyagaire Lodge -Park Point Resort -Scott's Peaceful Valley Resort -Norway Lodge	Boat storage on Mukooda Lake.
Concession Contract (lodging, food and beverage, retail, marina and other services)	Concession contract	1/1/11	12/31/20	Oveson Kab-Con, Inc.	Accommodations in a historic hotel, including lodging, food and beverage, retail, marina and other services.
Fishing guides, outfitting, resort-related services	Commercial use licenses	01/01 every year (2 groups or cycles)	One group due every 12/31	Outfitters	Fishing guide service, outfitting, resort-related tour services, marine repair / towing, aircraft charter services, etc.
Consultation with Bois Forte Band of the Minnesota Chippewa	Consultation	Nov. 2014	Nov. 2019	Bois Forte Band of the Minnesota Chippewa	Consultation agreement for Section 106 of the National Historic Preservation Act.
Programmatic agreement with the Minnesota State Historic Preservation Office (SHPO)	Programmatic agreement	Expired 2005; revisions in progress		Minnesota SHPO	Programmatic agreement between the NPS and SHPO for compliance with Section 106 of the National Historic Preservation Act.
Voyageurs National Park Association	General agreement	1/22/13 (signed)	1/21/18 (5 years)	Voyageurs National Park Association	Purpose of cooperative endeavors in support of preservation, interpretation, promotion, and maintenance of Voyageurs National Park.
Sister Sites Arrangement	Arrangement	9/20/11 (signed)	9/19/16 (5 years)	Quetico and LaVerendrye Provincial Parks, Grand Portage National Monument, Superior National Forest, Voyageurs National Park	Cooperation on management for the purpose of conservation, preservation, and public education (formed by Heart of the Continent Partnership).

Agreement Name	Type of Agreement	Start Date	Expiration Date	Stakeholders	Purpose
Jefferson National Park Association	Cooperating agreement	10/20/10 (signed)	10/19/15 (5 years)	Jefferson National Park Association	Providing support and assistance to interpretive, educational, and research activities and providing interpretive and educational materials to the visiting public.
International Falls Fire/Rescue /EMS Department	General agreement	6/20/11 (signed)	6/19/16 (5 years)	International Falls Fire/ Rescue/ EMS Department	Agreement between International Falls and Voyageurs National Park—emergency medical assistance and transportation, rescue, fire suppression, and hazardous spill management.
International Joint Commission (IJC)	Cooperative agreement	9/11/15 (signed)	9/30/17	DOI, NPS, VNP, IJC	Method of regulating the levels of the boundary waters of Rainy and Namakan Lakes.
Great Lakes Network Office	Memorandum of understanding	1/26/15 (signed)	1/25/20 (5 years)	Great Lakes Network Office	Establishing terms and conditions of a shared water quality technician position.
St. Croix National Scenic Riverway	Memorandum of understanding	6/20/14 (signed)	6/19/19 (5 years)	St. Croix National Scenic Riverway	Establishing terms and conditions for a shared terrestrial ecologist position.
Boise White Paper, LLC	Special use permit	3/1/12	3/1/17	Boise White Paper, LLC	Agreement for use of the dam tender's house at Kettle Falls.
North Star Electric Colorado	Utility service contract	In process of being renewed (10 years – at solicitor's office)		North Star Electric Colorado	Contract for electricity for Rainy Lake, Kettle Falls, Kab-Ash, and Hoist Bay areas.
Radio Frequency Use Agreement	Inter-agency agreement	3/5/15 (signed)	3/4/20 (5 years)	Customs and Border Protection/ U.S. Border Patrol	Provides authorization for Customs and Border Protection / U.S. Border Patrol to program and operate on radio frequencies licensed to the National Park Service.
Cooperative National Security and Counterterrorism Efforts on Federal Lands along the United States Border	Memorandum of understanding	3/31/06 (signed)	Valid until terminated	U.S. Department of Homeland Security, U.S. DOI, U.S. Department of Agriculture	Provides consistent goals, principles, and guidance related to border security.

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

Natural Resources Planning Document or Data Collection Effort	Year
Christensen, V.G., Wakeman, E.S., and Maki, R.P. Discharge and nutrient transport between lakes in a hydrologically complex area of Voyageurs National Park, Minnesota 2010-2012. *Journal of the American Water Resources Association.* DOI: 10.1111/1752-1688.12412.	2016
Kerfoot, W.C., Hobmeier, M.H., Yousef, F., Lafrancois, B.M., Maki, R.P., and Hirsch, J.K. A plague of waterfleas (*Bythotrephes*): impacts on microcrustacean community structure, seasonal biomass, and secondary production in a large inland-lake complex. *Biological Invasions.* 18(4): 1121-1145.	2016
Christensen, V.G., and Maki, R.P. Trophic state in Voyageurs National Park lakes before and after implementation of a revised water-level management plan. *Journal of the American Water Resources Association.* 51(1): 99-111.	2015
Great Lakes Network Resource Brief: How Will Northern Lakes Respond to Climate Change? Fort Collins, Colorado.	2015
Great Lakes Network Resource Brief: From Whence They Came: Fish Community Biogeography. Fort Collins, Colorado.	2015
Fisichelli, N.A., et.al. *Forest Vulnerability Project Brief: Climate, Trees, Pests, and Weeds: Change, Uncertainty, and Biotic Stressors at Voyageurs National Park.* Fort Collins, Colorado.	2015
Fisichelli, N.A., Schuurman, G.W., Monahan, W.B., and Ziesler, P.S. *Voyageurs National Park: How might future warming alter visitation?* Fort Collins, Colorado.	2015
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Appendix D: List of Traditionally Associated American Indian Tribes

Traditionally associated tribes refer to those groups that have had a significant connection to a place that has endured for two generations or more. Traditionally associated include:

Bad River Band of Lake Superior Chippewa Indians

Lac Courte Oreilles Band of Lake Superior Chippewa Indians

Lac du Flambeau Band of Lake Superior Chippewa Indians

Lower Sioux Indian Community of Minnesota Mdewakanton Sioux

Minnesota Chippewa Tribe

- **Bois Forte Band (Nett Lake)**
- **Fond du Lac Band**
- **Grand Portage Band**
- **Leech Lake Band**
- **Mille Lacs Band**
- **White Earth Band**

Prairie Island Indian Community of Minnesota Mdewakanton Sioux

Red Cliff Band of Lake Superior Chippewa Indians

Red Lake Band of Chippewa Indians

Shakopee Mdewankanton Sioux Indian Community of Minnesota

St. Croix Chippewa Indians of Wisconsin

Turtle Mountain Band of Chippewa Indians of North Dakota

Upper Sioux Indian Community of Minnesota

Midwest Region Foundation Document Recommendation
Voyageurs National Park

August 2016

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

William K Carlson 8/16/16

RECOMMENDED
William Carlson, Acting Superintendent, Voyageurs National Park **Date**

8/17/2016

APPROVED
Cameron H. Sholly, Regional Director, Midwest 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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Foundation Document • Voyageurs National Park

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