

Voyageurs

National Park Service
U.S. Department of the Interior

Voyageurs National Park



Environmental Education Plan 2010



ENVIRONMENTAL EDUCATION PLAN

Voyageurs National Park

2010

Prepared by:

The Interpretive Staff at Voyageurs National Park

This Environmental Education Plan (EEP) provides a vision for the future of education at Voyageurs National Park. The intended life span of the EEP is five to ten years. The Plan defines why we provide education programs and materials, describes the current program, and identifies what the park staff is working to achieve in the future.

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Part I: Introduction

Foundation for Planning

This Environmental Education Plan defines why Voyageurs National Park provides environmental education programs and materials, describes the current program, and identifies what the park is working to achieve in the future. This plan is connected to the General Management Plan (2001), Long Range Interpretive Plan (2005), and the Publication Plan (2009).

Park Setting

Voyageurs National Park is a land and water environment of great beauty, exceptional natural and cultural resources, and abundant recreation opportunities. Located in the lake- country of northern Minnesota, the park protects 218,054 acres that include roughly 134,000 acres of woodlands, 84,000 acres of water, 655 miles of undeveloped shoreline, and hundreds of islands. The park's 55- mile northern boundary is the international border between the United States and Canada.

This forested lake country along Minnesota's northern border was once the scene of an epic chapter in North American history. The park's complex system of waterways includes an important segment of the "transcontinental highway" traversed by French- Canadian voyageurs during the late 1700s and early 1800s. For more than a century, voyageurs plied the maze of lakes and streams in birch bark canoes and transported vast quantities of furs and goods between Montreal and the Canadian Northwest. The economic impact of the fur trade during this era was immense, as was the effect on natural and social systems. Although the park is named for the voyageurs and their role in the North American fur trade, there are other human stories here - - from the native peoples who lived on this land beginning 10,000 years ago, to the gold miners and settlers of the past century.

The rocks tell the oldest story here. Lying in the southern portion of the Canadian Shield, the bedrock of Voyageurs National Park is between 2.1 and 2.8 billion years old, some of the oldest exposed rock in the world. Younger rock formations do not appear here. Perhaps they never existed; but more likely a series of glaciers removed them. Those glaciers - - ice sheets two miles thick - - also gouged out the lake and river beds here and set the stage for vast forests.

Voyageurs is a place where the southern boreal forest meets and mixes with the northern hardwood forest. Wildlife thrives here. Voyageurs is

one of only two national parks in the continental United States with an indigenous population of Eastern timber wolf. Bald eagles, black bears, moose, beaver, river otter, loons, and many other animal species also live here.

But it is water that dominates the Voyageurs National Park landscape. Within its boundaries more than 30 lakes fill glacier- carved rock basins. Once visitors arrive at one of the park's four primary entry points, most of them leave their cars behind and set out by water, much as the voyageurs did centuries ago. Today park visitors can still enjoy those same waterways and sense the spirit that beckoned American Indians and French- Canadian voyageurs.

Legislative Background

Voyageurs National Park (VOYA) was authorized by an Act of Congress on January 8, 1971 (84 Stat. 1971) "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." The park was established in 1975.

Park Mission

During the course of creating the General Management Plan/Final Environmental Impact Statement for Voyageurs National Park in 2002, a park mission statement was composed that states:

Voyageurs National Park preserves the landscapes and scenic waterways that shaped the route of the North American fur traders and defined the border between the United States and Canada. The park and its diverse resources provide outstanding opportunities for outdoor recreation, scientific study, sport fishing, education, and appreciation of the northwoods lake country setting.

Park Purpose

Park purpose is the reason or reasons for which a park area was established. The basic purposes of Voyageurs National Park were identified in the General Management Plan/Environmental Impact Statement of 2002. The purpose statements listed below reflect that planning team's analysis of the 1971 Act that created Voyageurs National Park, its legislative history, and comments received in public meetings:

- Preserve the scenery, geologic conditions, and interconnected waterways within the park for the inspiration and enjoyment of people now and in the future.
- Commemorate the voyageurs' routes and fur trade with the native peoples of the north, which contributed significantly to the opening of northwestern North America to European settlement.
- Preserve, in an unimpaired condition, the ecological processes, biological and cultural diversity, and history of the northwoods lake country border we share with Canada.
- Provide opportunities for people to experience, understand, and treasure the lake country landscape - - its clean air and water, forests, islands, wetlands, and wildlife - - in a manner that is compatible with the preservation of park values and resources.

General direction of the park's purpose comes from the National Park Service's Organic Act of 1916 which states that the purpose of the NPS is "...to conserve the scenery and the natural and historic objects and the wildlife therein, and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Park Significance

The significance of a park is summarized in statements that capture the essence of the park's importance to our natural and cultural heritage. Knowing the park's significance helps to set resource protection priorities and identify primary park interpretive themes.

As stated in the park's 2002 General Management Plan, Voyageurs National Park is significant for the following reasons:

- The park's waterways include an important segment of the fur trade route used in the opening of northwestern North America.
- Located near the headwaters of the Arctic watershed of Hudson Bay, the park's lakes - - rather than land - - have been the primary travel route throughout history. The lakes continue to shape transportation and recreational uses of the area today.
- The park's exposed rocks and landscape exemplify the glacial activity of the Pleistocene epoch and some of the most complete and extensive Precambrian geologic features in the United States.
- The park preserves the timeless beauty of woods, rocks, water, and sky that invite people to renew themselves through a variety of outdoor activities.
- The designation of Voyageurs as a national park is integral to the 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, Voyageurs was and remains at the heart of a major conservation effort to protect the boreal forest landscape, its interconnected waterways, and associated wildlife.
- The park holds vital evidence of the continuity of 10,000 years of human relationships with the environment uniquely dictated by the interconnected waterway system. The park provides an exceptional, largely unstudied storehouse of knowledge for the future and preserves resources associated with a long period of use, including those representing the Native Americans, fur trade, logging, and recreation.

Primary Interpretive Themes

Primary interpretive themes are ideas about park resources that the park would like each visitor to comprehend in order to better understand, enjoy, and care for the park. They are based on the park's legislation, mission, purpose, significance and primary resources. The following theme statements were developed by park staff and partners through a collaborative planning process to provide the core subject matter for all interpretation at Voyageurs National Park. The primary interpretive themes should be used to develop future personal services programs and interpretive media.

As visitors enjoy the resources at Voyageurs, it is the responsibility of the park staff and volunteers to provide opportunities for them to form intellectual and emotional connections to park resources. The interpretive themes are listed in the order that they appear in the park's legislation and significance statements. They are numbered for reference purposes.

1. Geology

The rocks of Voyageurs reveal a 2.8 billion year story of plate tectonics, continent building, and glaciation.

2. Water

Voyageurs is a complex mosaic of interconnected lakes, ponds, and wetlands that shapes and sustains life.

3. Scenery

Throughout the year, the timeless beauty of woods, rocks, water and sky invite people to renew themselves through a variety of outdoor activities.

4. Voyageurs & the Fur Trade

The voyageurs who traveled, traded with native people, and wintered here were the strength of a global system of trade that brought change to the people and environment they found here.

5. Plants & Animals

Voyageurs is a place of transition where the southern boreal forest and the northern hardwood forest meet and support diverse plant and animal species.

6. 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.

Basis for Environmental Education

Purpose and need for Voyageurs' Environmental Education Program

In 1916 the National Park Service was created by Congress with the passage of the Organic Act (16 U.S.C. 1 2 3, and 4). This law states the purpose of the National Parks is, "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

Four main goals were identified for Voyageurs' Interpretation and Education Program to evaluate what the park has done to date and to help guide the future development of the program. The four primary goals for interpretation and education are to:

1. Effectively orient visitors to the park.
2. Provide information for a successful visit that covers safety, stewardship, rules and regulations, opportunities, and pre- visit planning.
3. Provide opportunities for visitors to form intellectual and emotional connections to the park's resources, thereby facilitating understanding and appreciation.
4. Educate the public about resource management issues and facilitate informed stewardship.

Part 2: Environmental Education and Outreach Program

Current Environmental Education Program

Personal Services

The term “personal services” is used to describe programs that are presented by an employee of the National Park Service to an audience in person. Naturalist- led hikes, talks, and programs are examples of personal services.

Environmental Education Program Staff

Voyageurs National Park employs one permanent, full- time Chief of Interpretation who is responsible for managing the park’s environmental education program. This includes training and overseeing the parks’ environmental education interpreter, overseeing the research and development of new programs, responsible for the education plan, coordinating and tracking education programs, and public outreach of education programs.

The park has obligated funds for one full- time, six- month seasonal, as the winter environmental educator who will develop lesson plans in accordance to this plan and who works with area schools to deliver education programs.

The park employs one subject- to- furlough, permanent interpreter who’s main duties are front desk in nature but will work the autumn to deliver education programs at the Rainy Lake Visitor Center.

The park also employs one permanent, full- time Namakan District Naturalist who will help with education programs as needed.

Employees from the Resource Protection and Maintenance Divisions also present public outreach programs each year in addition to their primary duties. They are as follows:

- Lost in the Woods – Resource Protection
- Water Safety Education – Resource Protection
- Snowmobile Safety – Resource Protection and Maintenance

On- site Programs

On- site programs are those that take place within Voyageurs National Park. They are categorized into four categories: Ecology, Geology, Cultural History, and Outdoor Recreation and are organized by grade.

Autumn

Fall field trips occur typically at the Rainy Lake Visitor Center. They are primarily for pre- school through sixth grade students and are tied to the Minnesota State Academic Science Standards.



Winter

The park primarily offers snowshoe programs for second through sixth grade. These programs teach students the historical significance of snowshoeing and the different

styles of snowshoes. These programs offer a chance for students to go for a walk on the Oberholtzer Trail on park- provided snowshoes.

Spring

Spring Environmental Education field trips have been offered sporadically over the years at Voyageurs due to a couple of very important reasons: the park reduced staff in 2006 and lost its permanent Environmental Education Specialist and the existing permanent interpretive staff are gearing up for and teaching seasonal interpretive employees for the upcoming summer thus not allowing time for education trips.

With the allocated funds going to a seasonal education interpreter, starting in 2010, the park will offer spring field trips.

Summer

Special requests occur throughout the summer but there are typically fewer requests for education programs during the summer as most schools are in recess during this time. However, the park does try to accommodate special requests that are in addition to the summer interpretation programs.

During 2005, and in other previous years when staff was available, the park participated in the “College for Kids” program based out of the Rainy River Community College in International Falls. This is no longer an option as the park staff does not have a permanent Education Specialist.

The following list outlines the programs offered by grade.

Pre- school – Kindergarten

Ecology Classes:

I Spy...students join a park naturalist on a walk to discover the many different “things” nature has to offer. 1/2 hr. Fall and spring.

The Bare Bones...students get the opportunity to examine and talk about the “sensations” of different animal furs and skulls. 1/2 hr. Fall, winter, and spring.

Outdoor Recreation Classes:

Eco Games...let a park naturalist choose an age appropriate activity that encompasses animal adaptations, predator/prey relationships, and the food web. 1/2 hr. Fall, winter, and spring.

First Grade

Ecology Classes:

It Makes Perfect Sense...students use their five senses to explore the park and discover how wildlife uses their senses to survive. 1/2 hr. Fall and spring.

Looney Tunes...an introduction to one of Voyageurs most fascinating birds. Students will be provided with hands- on examples of the adaptations of the loon, hear loon calls, and learn what an important role loons play in the environment. 1/2 hr to 1 hr. Fall, winter, and spring.

Geology Classes:

Rock- n- Roll...students are introduced to the different rocks found in the park and learn why this area is important as a national park, geologically speaking. 1/2 hr. Fall, winter, and spring.

First Grade Continued

Outdoor Recreation Classes:

*Eco Games...*let a park naturalist choose an age appropriate activity that encompasses animal adaptations, predator/prey relationships, and the food web. 1/2 hr. Fall, winter, and spring.

Second Grade

Ecology Classes:

*Busy as a Beaver...*students will be provided with hands- on examples of the physical adaptations of the beaver and learn what an important role beavers play in the park. 1/2 to 1 hr. Fall, winter, and spring.

*Habi- Tracks...*by taking an adventure around the visitor center grounds, the students learn how to read a map and discover what components of a habitat are necessary for plants and animals to survive. 1/2 to 1 hr. Fall and spring.

Outdoor Recreation Classes:

*Bigfoot Boogie...*students learn about the different types of snowshoes and their history. Afterwards, students will go on a snowshoe hike. 1 hr. Winter only.

*Nature Scavenger Hunt...*students are given a list of nature's bounty and see how much of it they can locate. 1/2 hr. Fall and spring.

*Eco Games...*let a park naturalist choose an age appropriate activity that encompasses animal adaptations, predator/prey relationships, and the food web. 1/2 to 1 hr. Fall, winter, and spring.

Third Grade

Ecology Classes:

*Mammals of Voyageurs National Park...*students are introduced to some of the mammals that inhabit Voyageurs. Skulls, furs, and track samples are used to explain the adaptations of these mammals. 1/2 hr. Fall, winter, and spring.

*If Not for the Leaves, Trees, and Forests...*students are introduced to the reason we all need forests and the types of trees found in Voyageurs during a hike along the Oberholtzer Trail. 1/2 hr. Fall and spring.

Third Grade Continued

Outdoor Recreation Classes:

Bigfoot Boogie...students will have the opportunity to explore the “wonders of winter” with a snowshoe hike along the Oberholtzer Trail. 1/2 hr. Winter only.

Eco Games...let a park naturalist choose an age appropriate activity that encompasses animal adaptations, predator/prey relationships, and the food web. 1/2 hr to 1 hr. Fall, winter, and spring.

Fourth Grade

Ecology Classes:

Ecology Boat Cruise...students will enjoy a ride aboard the *Voyageur* tour boat and, depending on weather, will either be introduced to the bald eagle or stop and hike the Black Bay Beaver Pond Trail for a pond study. 1.5 hrs. Fall only.

Cultural History Classes:

Life as a Voyageur... a park naturalist will transform before your eyes into a true artisan of the fur trade from the 19th Century. Come and learn what life was like being a “supplier” to the markets in Europe and the elite of the “New Frontier”. 1/2 hr. Fall, winter, and spring.

Outdoor Recreation Classes:

Bigfoot Two- Step...students will have the opportunity to explore the “wonders of winter tracking” while snowshoeing. 1 hr. Winter only.

Lost or Found...an introduction to the basics of using a compass. If time permits newly learned skills will be used on an orienteering course. 1 hr. Fall and spring.

Ojibwe Lacrosse...students will learn this traditional Ojibwe game and its historical significance by participating in the activity. 1/2 to 1 hr. Fall only.

Eco Games...let a park naturalist choose an age appropriate activity that encompasses animal adaptations, predator/prey relationships, and the food web. 1/2 to 1 hr. Fall, winter, and spring.

Fifth and Sixth Grade

Ecology Classes:

Hydrology...students will be introduced to the water cycle and its importance to Voyageurs National Park. Using scientific techniques, they will be exposed to different testing principles. 1 hr. Fall and spring.

Ecological Outdoor Survival...studying the forms of heat loss, students will discover the necessary components of surviving while doing outdoor activities any time of the year. (May incorporate snow cave construction during the winter.) 1 hr. Fall, winter, and spring.

Cultural History Classes:

Rainy Lake Gold Rush...students are introduced to the gold rush that occurred on Rainy Lake and the significance of resource stewardship via role playing. 1 hr. Fall, winter, and spring.

Outdoor Recreation Classes:

Eco Games...let a park naturalist choose an age appropriate activity that encompasses animal adaptations, predator/prey relationships, and the food web. 1 hr. Fall, winter, and spring.



Off- site Programs

Off- site programs are those that take place outside of Voyageurs National Park. They are organized by grade. Any of the above mentioned classes can be offered off- site except the water class.

Traveling Trunks:

The park offers two different traveling trunks:

Wolf Trunk... Students learn about wolves, their habitats, and behaviors. This is a series of six 50- minute classes. *Grade: 4 - 6.*

*Voyageur and Fur Trade Cassette...*students learn about the life of a voyageur and the fur trade, the Ojibwe, and life in the 19th century. This is a series of six 50- minutes classes. *Grade: 5 - 6.*

Other Off- site Programs

*Oh Deer...*students learn firsthand about the many adaptations of the white- tailed deer, their behavior, and a shared stewardship message about deer populations. This is a series of three 50- minute classes. *Grade: 5.*

National Parks Across the Nation...a park naturalist will present an engaging and interactive PowerPoint presentation about the many different national parks in America, including Voyageurs. 1 hr. Mid to late April. *Grade: 2 - 6.*

Non- Personal Services

The term “non- personal services” refers to materials that are developed by National Park Service staff to be used by an audience that is not interacting directly with a NPS employee. Traveling trunks, websites, printed materials, bulletin boards, and exhibits are examples of non- personal services. Non- personal services that are primarily interpretive in nature are described in the park’s Long Range Interpretive Plan. This document describes only those services that are primarily educational, and are tied to State of Minnesota Academic Science Standards.

Traveling Trunks

Wolf Traveling Trunks

Voyageurs National Park received a National Park Foundation “Parks as Classrooms” grant to purchase materials necessary to complete five traveling trunks with lesson plans and support materials and are tied to the National Academic Science Standards and Minnesota State Academic Standards for third, fourth, and fifth grade students.



In 2009, the traveling trunks were redesigned, rewritten, and field tested in local schools in partnership with area educators.

The Wolf Education trunks contain three- ring binders containing a series of six lesson plans that address wolf awareness, predator/prey relationships, wolf adaptations, wolf communication, the wolf life cycle, and changes in wolf populations. The trunks also contain support materials, including: replica wolf skull, tracks and scat, wolf resource books, wolf pelt, and a variety of materials for activities. The trunks are currently available for loan, although the lesson plans are considered dynamic, and are subject to change as wolf management issues evolve and shift over time.

The Wolf Education trunks are now available and are advertised on the park’s website. Schools outside the state have expressed a great deal of interest in this education trunk.

Fur Trade Traveling Cassettes (trunks)

Voyageurs National Park received a National Park Foundation “Parks as Classrooms” grant to purchase materials necessary to complete three traveling trunks with lesson plans and support materials tied to National Academic Science Standards and Minnesota State Academic Standards for fifth and sixth grade students.

These cassettes contain three- ring binders with six lesson plans and support materials related to the Fur Trade of the 1700 - 1800 centuries. The lesson plans were redesigned and rewritten in 2009. The trunks contain: reference books, a top hat, a



beaver pelt, voyageur clothing, trade silver, tobacco, tea, a clay pipe, and a variety of materials for activities.

The Voyageur and Fur Trade Education Cassettes are now available and are advertised on the park's website.

Website

Voyageurs has all the basic environmental education program information posted on the park's website that a teacher would need to organize a field trip or order education materials. The Wolf Education Trunks, Voyageur and Fur Trade Cassettes, an environmental education prospectus for schools, teacher resources, and professional developments are currently advertised.

Discovery Packs

In 2008, the park received a grant from the Minnesota National Association for Interpretation (MNAI), and funding from the Friends of Voyageurs National Park (FVNP) for the development of seven Discovery Packs. Each Discovery Pack represents a different interpretive theme of the park: Geology, People, Plants and Animals, Scenery, Voyageurs and the Fur Trade, Water, and Winter. Over the course of two years the seasonal interpretive staff have completed six of the seven packs.



These packs are targeted for the sixth grade level; however, there is something for all ages in each pack. Each pack contains a Field Guide for visitors to read and an Activity Book for them to take notes on and take home. There are six to seven activities in each pack that promote park stewardship, ecology, cultural history, outdoor survival, and natural resources.

Discovery Packs are available for checkout at each of the three visitor centers in Voyageurs National Park. Visitors must leave a driver's license for checkout and return the pack the same day.

Education Program Prospectus

Each year the park's education/interpretive staff design and write an Environmental Education Prospectus for schools. This prospectus gives a description of what programs teachers may choose from for each grade (pre- school through sixth) and dates of programs park staff are available, for visiting the park or when a park naturalist visits them.

The prospectus is mailed or delivered to all the area schools and is available on the park's website.

Proposed Environmental Education Programs

Environmental Education Program Staff

The public and park would benefit from a permanent Subject- to- Furlough Environmental Education Interpreter for the main reason of consistency. Area educators call each year wondering what the park can offer at any given time and are sometimes disappointed in the park's lack of consistency. What is offered one year may not be able to be offered the next year. If an education interpreter worked a minimum of 9 months a year the park would be able to offer spring, fall, and winter programs on a consistent basis. This permanent employee would also be able to oversee the program and reduce the work- load of the Chief of Interpretation.

Proposed On- site Programs

On- site programs are those that take place within Voyageurs National Park.

The park would like to see an increase in the variety of programs offered to the public. The interpretive staff would like to be able to offer the following programs when staffing becomes available:

- Exploritas- Educational Travel and Learning Vacations for Adults
- Advanced Learning Institute
- Advanced Environmental Education programs for high school
- Teacher Workshops
- Fire program
- Cultural history programs
- Exotics program
- Winter aquatics program
- Boy and Girl Scout programs
- Forest resources program
- Scout Day Camp
- Ojibwe program
- Geology programs
- Commercial fishing program
- Minimal Impact Camping when visiting a national park program

Proposed Off- site Programs

Off- site programs are those that take place outside of Voyageurs National Park. At this time there are no proposed off- site programs.

Traveling Trunks

The park has no plans to develop more traveling trunks.

Website

The park would like to expand its education section on the website. The interpretive staff would like to add the following:

- Interactive web pages for kids
- Pre and Post activities for area educators and students

Education Partnerships

Participating Schools

- International Falls Home School Group
- Fort Frances Home School Group
- West End Elementary, International Falls
- Orr School
- Little Fork/Big Falls School
- Falls Elementary, International Falls
- Indus School
- International Falls High School
- Bloomington/Kennedy High School
- St. Thomas School

Partner Agencies

Voyageurs National Park works with a variety of partners to accomplish resource management, visitor enjoyment and interpretation goals. Park partners include federal, state, and local agencies, as well as a number of private organizations. This section of the Environmental Education Plan lists the primary organizations that partner with the park for education programs and materials.

The Friends of Voyageurs National Park

The Friends Group is a non-profit membership organization that supports the park education program through sponsorship of events, volunteers, and funding projects such as children's snowshoes, ski equipment, education props, and materials. The park will continue to partner with the Friends Group, and seek ways to expand and improve the partnership to address education program needs.

Minnesota Department of Natural Resources

Voyageurs National Park would benefit from increased partnering with the Minnesota Department of Natural Resources (DNR). The park's education program along with the DNR work together to conduct a kid's fishing clinic each year with emphasis on catch and release. The DNR also has an active environmental education program that may complement work being done by the park. Opportunities for additional partnering should be explored.

Voyageurs National Park Association

Voyageurs National Park Association (VNPA) is a membership organization that plays a variety of roles in interacting with the park. VNPA raises funds to support park interpretive and education projects, including the education travel grants. Opportunities to expand and improve the partnership between the park and VNPA should be pursued. This may include building support and raising funds for the park in the Minneapolis/St. Paul area.

Tourism and Visitor Services Partnerships

Orr Information Center

The Orr Information Center is located outside of the park on Highway 53 just south of the turn-off for the park's southern entrance near Crane Lake. This location provides the southern-most point of contact between park visitors and the park. Voyageurs National Park is a member of the information center and park staff serve on the Board of Directors. Occasionally, park education staff have given education programs at the center. Opportunities to expand park presence and improve the partnership should be explored.

Rainy River Community College

The park uses Rainy River Community College facilities for programs and vice versa. On occasion, the park hires students through the work study program partnership and has participated in the College for Kids program. The history instructor at the college teaches local and fur trade history and the park should pursue partnering with them.

Resource Partnerships

The following organizations partner with the Division of Resources Management at Voyageurs National Park to conduct research and review plans; they are a source of information for interpreters/educators.

- Bois Forte Tribe - Minnesota Band of Chippewa
- Hibbing Community College
- Michigan State University
- Michigan Technological University
- Midwest Archeological Center
- Minnesota Department of Natural Resources
- Minnesota Historical Society
- Minnesota State Historic Preservation Office
- Natural Resource Research Institute
- The Nature Conservancy
- Northern Michigan University
- Ontario Ministry of Environment
- Ontario Ministry of Natural Resources (OMNR)
- Science Museum of Minnesota
- University of Minnesota School of Forestry
- University of Minnesota – Duluth

- University of Minnesota - St. Paul
- University of North Dakota
- University of Wisconsin
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- U.S. Geological Survey
- Vermilion Community College

Part 3: Needs and Issues Related to Knowledge of the Resources

Resource Management Issues

Like effective interpretation, education programs are an integral part of the park's resources management program. Education programs not only provide factual information to students about resource management issues in the park, they can also serve as a catalyst for shared stewardship. When students are presented with intriguing facts, and are then allowed to form their own intellectual and emotional connections with the meanings of park resources, they are more likely to care about the preservation of those resources, and to make appropriate choices when visiting the park.

This section of the education plan describes core resource management issues that were identified in the park's General Management Plan, Interim Resource Management Plan and Long Range Interpretive Plan. Resource management issues should be integrated into education programs and materials to foster greater understanding and caring for park resources.

Fire Management

Fire is a natural disturbance that helps determine the composition and structure of forests, and affects the health and functioning of forest systems. The National Park Service manages fire and forest fuels to promote healthy, natural forests while ensuring the safety of neighboring communities, in-holders, visitors and park staff. Fire management activities at Voyageurs National Park include managing wildland fire use fires and the use of prescribed fire to mimic natural fire and manage forest fuels. Interpretation can help park visitors to understand the role of fire in the forest, how ideas about fire management have changed over time, and how park visitors can prevent unwanted fires by acting responsibly when using fire in the park.

Managed Lake Levels

Although the advance and retreat of glaciers created the system of lakes that characterize the border waters area, dams control the water level of the larger lakes within the park. One dam, outside the park, provides electricity for industrial use. Human induced changes in lake levels have had many effects on the natural systems protected in Voyageurs National Park, as well as the plant and animal life that exists here. The lake levels are managed by the International Joint Commission with members

appointed by the governments of the United States and Canada. A new rule curve was established in 2000 to more closely match natural lake level fluctuations. The park is conducting research to determine what effect, if any, the new rule curves have on park loons, muskrats and beaver, benthic invertebrates, wetland vegetation and fish communities. Interpretation can help park visitors to understand how the park environment has changed over time, and the challenges resource managers face when working to protect the long- term health and sustainability of park resources.

Mercury

The level of mercury in the park's ecosystem is an issue at Voyageurs because of concern over the potential health effects on people who consume fish containing a high level of mercury, and the effects on wildlife within the park. The elemental mercury is altered to become methyl-mercury, a form that can accumulate in body tissues and cause problems for living organisms. Interpretation can help visitors to understand the sources of mercury contamination, the effects of mercury on park systems and wildlife, and the potential for risks to people from mercury.

Black Bears/Proper Food Storage

Black bears are abundant at Voyageurs National Park. Bears are opportunistic feeders that can become a problem when people visiting the park do not properly store their food and other scented or food- related items. Black bears that have successfully acquired food from human sources quickly learn to associate people with food, leading to problems at park campsites. The only way to avoid this problem is for park visitors to understand the importance of not feeding bears, or other park wildlife, and for them to take responsible and appropriate actions to ensure their food is stored properly. Interpretation should play a vital role in communicating this important message to park visitors.

Wildlife Area Closures

At times, certain areas in the park are closed in order to avoid negative human/wildlife interactions. For example, the park may close a campsite where repeated bear activity has occurred, or it may close an area where an active bald eagle nest exists and where public use may contribute to the failure of the nest. Other wildlife issues may lead to public area closures. Interpretation is important in each case to help visitors understand why the closure has been implemented and to ensure that visitors comply with the area closure.

Protecting Plants and Animals

Voyageurs National Park was established to protect the landscape within its boundary, and the plants and animals that exist here. Some park visitors do not understand this, which at times results in the destruction of park resources. Interpretation must help park visitors understand the park's mission so that they will share in the responsibility of protecting and caring for the Voyageurs landscape, and the plants and animals that make it home.

Exotic Species

Exotic species of plants and animals exist in Voyageurs National Park. Some exotic species are invasive and may place native plant and wildlife species at risk. Some exotic species of concern in Voyageurs are purple loosestrife, Eurasian milfoil, and earthworms. Interpretation is important in helping people to understand what exotic species are and what can be done to avoid the introduction of new species, as well as control the spread of existing exotics.

Forest Health

The forests of Voyageurs National Park have changed over time. Interpretation can help visitors to understand the ecological significance of Voyageurs' forests, and can help them to make decisions that support the health of the forest. For example, park visitors should understand why it is not appropriate to cut living trees and to only collect dead and downed wood. They should also understand why it is important not to import firewood from outside of the regional area to minimize the risk of importing forest pathogens.

Fishery Management

Sport fishing is one of the primary reasons visitors come to Voyageurs National Park. Interpretation can help visitors to understand issues related to fishery management and to know what the regulations are and abide by them.

Climate Change

Voyageurs National Park is located at the intersection of the southern boreal forest and northern hardwood forest. The park's geographic location makes it an ideal place to study the effects of climate change on the area's landscapes and wildlife. Interpretation can help introduce park visitors to the issues surrounding climate change and connect them to research that occurs in the area.

Water Quality

Maintaining good water quality is important for park resources and the people who enjoy them. Interpretation can help visitors to understand water quality issues, introduce them to work being done related to water quality, and help them to understand the choices for themselves that protect water resources.

Air Quality

Visitors to Voyageurs National Park expect to find an area with good air quality. Interpretation can help visitors to understand work that is going on to monitor air quality as well as create an understanding of regional air quality issues.

Effects of Past Land Use

The landscape now within the boundary of Voyageurs National Park has been used by people for thousands of years. Past uses of the land have had an effect on the composition, structure and function of park ecosystems. Interpretation can help visitors to understand the effects of past land use and facilitate stewardship of the land today.

Protecting & Preserving Cultural Resources

Voyageurs National Park contains physical evidence of past human use and occupation. Artifacts and other historic properties are protected by law. Interpretation can help visitors to understand the significance of Voyageurs' human history and foster a sense of stewardship that will result in better protection of artifacts and historic properties.

Appropriate Use of Historic Properties

Some historic properties within the park are managed for use by park staff and visitors. Interpretation can help park visitors to understand management decisions related to these properties and the importance of their preservation.

External Influences and Servicewide Initiatives

Some external factors influence how Voyageurs National Park accomplishes its education goals. These include laws, regulations, policies, trends, and other influences that are items outside the park's realm of control. This section of the plan highlights these challenges.

Funding Issues

The park does not always receive its annual budget in a timely manner. This makes it difficult to plan programs when it is unknown whether or not, or to what extent, we will be able to hire a seasonal education interpreter or acquire new supplies and materials.

Also, fixed costs such as permanent employee salaries, benefits, and utilities continue to escalate at a higher rate than increases to the park's base budget. The need to cover fixed costs decreases the park's ability to hire seasonal interpreters/educators.

Part 4: Implementation Plan (FY10 - FY15)

2010

- Voyageur and Fur Trade Cassettes completed and on website
- Exotics program and curriculum
- MN State Academic Standards on all education programs
- Water Discovery Pack finalized
- Education Prospectus on website and sent to schools
- People Discovery Pack finalized
- Scout programs developed

2011

- Update Education Prospectus
- Pre and post activities online for area educators
- Geology programs for 2- 6 grade developed
- Interactive web page
- Ojibwe program developed

2012

- Update Education Prospectus
- Forest resources program developed
- Interactive web pages
- Cultural history programs
- Minimal Impact Camping program (for NP) developed

2013

- Update Education Prospectus
- Winter aquatics program developed
- Fire program developed
- Commercial Fishing program developed

2014

- Update Education Prospectus
- Scout Day Camp
- Teacher Workshops
- High School programs developed

2015

- Update Education Prospectus
- Leadership Institute
- Exploritas

Part 5: Appendixes

Appendix A: Planning Team

Superintendent- Mike Ward

Interpretation:

Chief of Interpretation - Tawnya Schoewe

Environmental Education Interpreter - Kim Reich

Resource Management:

Chief of Resource Management - Mary Graves

Aquatics Ecologist – Ryan Maki

Museum Technician – Catherine Crawford

Administration:

Chief of Administration - Kathleen Przybylski

Appendix B: Minnesota State Academic Science Standards

<http://education.state.mn.us>