Today we call them the Great Lakes. First Nation people gave them names like Kitchi Gummi for Lake Superior and Michi Gami for Lake Michigan. No matter the name, these lakes exert an enormous presence on our lives and the land we live in. At the very least we must be impressed with their size and grandeur. Superior, for example, is the largest Great Lake by surface area and second largest lake on Earth by volume. Lake Michigan is the second largest Great Lake and fifth world-wide. It would take a four foot deep swimming pool the size of the continental U.S. to contain all of Lake Superior’s water!

The sheer size of the lake is impressive. It takes a modern lake carrier 15.5 hours (in good weather) to haul a load of salt the 350 miles from Sault Ste. Marie to Duluth. It is 160 miles from Munising due north to Ontario’s shore – the same distance as from Detroit to Grand Rapids. Lake Superior’s shoreline stretches 2,726 miles, equal to the distance between Kalispell, Montana and Winter Haven, Florida.

Though diminished in the number of ships from the great shipping heyday of the late 1800s, the lakes still serve as the life blood of Midwest commerce in commodities like grain, sand, iron ore, coal, cement, fertilizer, salt, and even enormous wind turbine blades and towers. The lakes account for 2.5 million jobs and $62 billion in U.S. wages. Recreational anglers add $7 million through their activities. And though not all are Great Lakes craft, Michigan boasts the highest number of registered boats for any state at over one million.

Impressive as these economic figures are, they fail perhaps to convey the special qualities we find in the lakes. How do you put an economic value on the things nature provides for free? Many communities depend on the clean fresh water, fisheries, and the climate the lakes provide. Consider how Lake Superior creates its own weather with fresh water, fisheries, and the climate the lakes provide.

Superior’s large watershed slowly feeds the lake, but it takes approximately 191 years for a complete exchange of water to occur. Superior is what we call “oligotrophic” or nutrient poor compared to the other Great Lakes. There are some 38 species of native fish in Superior, and another 17 non-native reproducing in the lake for a total of 88 species – some with considerable assistance from humans.

When was the last time you saw a few billion microscopic blue-green algae, flagellates, diatoms or rotifers, the very base of the food web? When were you introduced to a handful of mollusks (clams), mayfly nymphs, amphipods or opossum shrimp? When did you last stare a sculpin or bloter in the eye? These and many other life forms live at the very base of the food web? When were you introduced to a handful of mollusks (clams), mayfly nymphs, amphipods or opossum shrimp? When did you last stare a sculpin or bloter in the eye? These and many other life forms live at the very base of the food web? When were you introduced to the lake’s – and our – long term viability in a changing climate.

How can you stand on the shore, paddle on its surface, or take a cruise boat, imagine these waters through the millennia, think of the people who have lived on or visited the shore, who, like you are moved when you experience the greatest of lakes.
The money spent on souvenirs in gift stores at the Park, Forest or Refuge, generously donate, or contribute for membership all goes to non-profit natural history associations to be spent on interpretation, education and research. Each natural history association is guided by a volunteer Board of Directors, which votes on how revenue and donations should be spent based on budget and projects suggested by agency staff and volunteers.

Here are some improvements paid for in whole or part by these associations:

• Campground programs
• Informational leaflets
• Exhibits and interpretive signs
• Observation scopes and decks
• Summer internships
• This newspaper!
• Teacher workshop materials and support

Natural History Associations - Partners in Interpretation and Education

The money spent on souvenirs in gift stores at the Park, Forest or Refuge, generously donate, or contribute for membership all goes to non-profit natural history associations to be spent on interpretation, education and research. Each natural history association is guided by a volunteer Board of Directors, which votes on how revenue and donations should be spent based on budget and projects suggested by agency staff and volunteers. Here are some improvements paid for in whole or part by these associations:

- Campground programs
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- Exhibits and interpretive signs
- Observation scopes and decks
- Summer internships
- This newspaper!
- Teacher workshop materials and support

Recommended Skills

Know how to properly use a spray skirt and be able to get back in your boat if you tip over.
Know how to paddle around the wake from large boats. Be aware of wave bounce near cliffs.
Know how to paddle within your skills and abilities. If there is any doubt, don’t go out!

ARE YOU READY TO KAYAK LAKE SUPERIOR?

Kayaking at Pictured Rocks National Lake Shore and Grand Island National Recreation Area can be a fun adventure. However, it is not recommended for the novice kayaker (unless accompanied by a professional tour guide). Both Pictured Rocks and Grand Island feature many miles of sheer cliffs which offer no way off the water if wind and waves increase. Lake Superior can become hazardous for any size vessel even in moderate weather. The weather can suddenly change, exposing you to cold temperatures, wind, fog, lightning and rough seas.

Except for shallow areas, Lake Superior’s temperatures rarely reach above 55 degrees. Hypothermia can happen in as little as 15 minutes. Before you go, check the marine forecast! PFD’s and wet suits should be worn at all times on Lake Superior.

Sea Kayaks vs Recreational Kayaks

Sea kayaks with a spray skirt are recommended because they are safer on Lake Superior. Recreational kayaks are designed for inland waters and are not suited for high winds and big waves. Recreational kayaks can fill with water and sink because of the large open cockpit. Sea kayaks are generally 16 to 19 feet long, with hatches and bulkheads providing flotation in the front and back.

Recommended Skills

- Know how to properly use a spray skirt and be able to get back in your boat if you tip over.
- Know how to paddle around the wake from large boats. Be aware of wave bounce near cliffs.
- Know how to paddle within your skills and abilities. If there is any doubt, don’t go out!

Preparation checklist

At a minimum, you should have:

- Sea kayak
- PFD (personal flotation device)
- Wet suit
- Spray skirt (and know how to use it)
- Whistle and foghorn
- Bilge pump, paddle float and tow rope
- Weather radio
- Float plan
- A partner (kayaking alone is not advised)
- Spare clothes, food and water


Summer Interpretive Programs Are Popular

All three agencies present a variety of thought-provoking and fun interpretive programs from May through September. For a schedule, consult area bulletin boards, stop at a visitor center, or view our websites - then join us!

Hiawatha Interpretive Association
PO Box 913
Munising, MI 49862
www.hiawathainterpretive.com

Seney Natural History Association
1674 Refuge Entrance Rd.
Seney, MI 49883
friendsofseney.org

Eastern National
470 Maryland Drive, Suite 1
Ft. Washington, PA 19034
www.easternnational.org

ENFIA
307-1/2 N. State Street
Oscoda, MI 48750
www.enfiamich.org
What are National Wildlife Refuges?
The National Wildlife Refuge System is a network of lands that benefits wildlife, provides unparalleled outdoor experiences for all Americans, and protects a healthy environment. The Refuge System includes 150 million acres of land and water from the Caribbean to the Pacific, Maine to Alaska. There is at least one National Wildlife Refuge in every state.

Mission
The Mission of the National Wildlife Refuge System is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Upper Peninsula National Wildlife Refuges
There are four National Wildlife Refuges located in the Upper Peninsula of Michigan: Seney, Harbor Island, Huron and Michigan Islands.

Wildlife First
• There are more than 560 National Wildlife Refuges and over 3,000 Waterfowl Production Areas, which are small wetlands located mainly in the upper Midwest, located throughout the 50 states and several U.S. territories. The Refuge System is the world’s largest system of lands and waters whose primary purpose is the conservation of wildlife and habitat.
• National Wildlife Refuges provide habitat for over 700 bird species, 220 mammal species, 250 reptile and amphibian species, and more than 1,000 species of fish.
• Refuges are home to more than 280 federally threatened and endangered species.
• Each year, millions of migrating birds use refuges as stopovers to rest as they fly thousands of miles south for the winter and return north for the summer.

Welcoming People
• Hunting and Fishing: Hunters are welcome on more than 300 National Wildlife Refuges and on 3,000 Waterfowl Production Areas. Anglers also enjoy the fishing opportunities available at more than 260 Refuges where they catch a variety of fish. Fishing is allowed at Seney National Wildlife Refuge. Hunting is allowed at Seney and Harbor Island National Wildlife Refuges. Consult the Refuge brochures or the website for regulations.
• Wildlife Observation and Photography: Bird watchers, photographers and nature lovers visit Refuges for great opportunities to see wildlife in their natural habitats and great congregations of birds, during peak migrations. Seney National Wildlife Refuge offers observation decks, nature trails, an auto tour, and miles of backcountry roads for observing wildlife and their habitats. Whitefish Point Unit of Seney National Wildlife Refuge offers excellent opportunities to see birds, especially during migration.
• Interpretation and Environmental Education: Refuges are great places for children and adults to learn about the natural world. Programs are offered at over 230 National Wildlife Refuges around the country. Seney National Wildlife Refuge offers tours, programs and special events.
Discovering Seney

The Refuge is a great place for visitors of all ages and abilities to watch and learn about the local flora and fauna. Established in 1935 as a sanctuary and breeding ground for migratory birds and other wildlife, today the 95,238 acre Refuge supports a variety of wildlife including endangered and reintroduced species by providing a rich mosaic of habitats – scrub-shrub, wetlands, forest, meadow, and lakes/ponds.

Visitor Center - Open May 15 – October 20 from 9 a.m. – 5 p.m., seven days a week, including holidays. Highlights include exhibits, a children’s touch table, “The Wonder of Nature” orientation film, and a bookstore. Binoculars, field guides, fishing poles, tackle boxes, geocaching supplies, and kids packs can be checked out free of charge courtesy of the Seney Natural History Association.

Canoeing - Enjoy a day of paddling on the Manistique River, which flows through the south-eastern part of the Refuge. Use is limited to daylight hours with no overnight camping allowed. No boats or other flotation devices are allowed on Refuge pools. Due to numerous snags, shallow water, limited access and the length of the Driggs River, canoeing the entire stretch is not recommended. The best way to explore the Driggs is to paddle upstream from the Manistique River.

Nature Trails - The Pine Ridge Nature Trail starts at the Visitor Center. This 1.4 mile loop trail takes visitors through a variety of landscapes. Songbirds, swans, muskrat and beaver are commonly sighted along the trail. The Wigwam Connector Trail ties into the Pine Ridge Nature Trail and offers hikers a one mile extension (round trip) leading them to the Wigwams Access Area and the show pools. From there you can enjoy the newly constructed South Show Pool Loop (one mile). The Northern Hardwoods Cross-country Ski Trails are also a nice backdrop for a hike. In the spring, woodland wildflowers delight the senses and, in the summer and fall, ferns and mosses carpet the forest floor.

Bicycling - Many miles of backcountry roads are available for biking throughout the Refuge. For those who seek wildlife and solitude, these trails are for you. The roads are open during daylight hours only, so you need to plan your trip carefully. You may see vehicles on these backcountry roads as staff and researchers conduct investigations, so please be aware of the possibility of vehicles on the roads. To help you plan your visit, mileage is marked on the Refuge map above. Roads/areas may be closed due to biological or management (fire, logging, maintenance) reasons; please be aware of the possibility of vehicles on the roads. To help you plan your visit, mileage is marked on the Refuge map above. Roads/areas may be closed due to biological or management (fire, logging, maintenance) reasons; please be aware of the possibility of vehicles on the roads.

Mushroom & Berry Picking - Foragers may enjoy picking mushrooms or berries at the refuge. Raspberries, blueberries and other wild fruits help satisfy your sweet tooth. Morels, chanterelle, boletes and other edible mushrooms offer savory flavors. Some mushrooms and berries are poisonous!

Hunting - Ruffed grouse, American woodcock, common snipe, snowshoe hare, white-tailed deer and bear may be hunted during some state seasons in designated areas with the proper licenses. Only approved non-toxic shotgun shot is allowed on the Refuge. Check the hunting brochure for current regulations.

Fishing - Pools are open on the Refuge from May 15 – September 30. Anglers may fish along the 3.5 mile Fishing Loop including the accessible fishing pier or in other designated pools. The Manistique, Creighton and Driggs Rivers, as well as the Welsh Creek and Ditch are open for fishing during regular state seasons. The Refuge is open to ice fishing from January 1 to February 28 on any pool. Species found on the Refuge include northern pike, yellow perch, brown bullhead, brook trout, and sunfish. To protect the trumpeter swan and common loon, lead sinkers cannot be used on the Refuge. Check the fishing brochure for current regulations.

Winter Activities - The Northern Hardwoods Cross-country Ski Area offers ten miles of groomed trails. The trailhead is at the end of the road. Brochures and maps are available at the trailhead or may be downloaded from our website. Dogs are not allowed on ski trails. Snowshoeing is allowed almost anywhere on the Refuge except on the groomed tracks. Snowmobiles are not permitted.
**Seney National Wildlife Refuge**

**Calendar of Events - Summer 2013**

Visit our website – www.fws.gov/refuge/seney for more events and additional information about the Refuge.

### Twilight Tours

**Thursdays May 23 and 30 – 9:00 p.m. to Midnight**

Use your ears, not just your eyes, on these special nighttime tours of Seney National Wildlife Refuge. The Refuge is closed from dusk to dawn, so this tour is a rare opportunity to experience the Refuge in the twilight and early evening hours when many animals are active. We will be listening for secretive marshbirds like the yellow rail, Virginia rail and sora, as well as frogs and other animals.

### Wildlife Wednesdays

**Wednesday Nights 7 – 9:30 p.m. June, July, August**

Join us for a casual, guided auto tour. Tours take you onto part of the Marshland Wildlife Drive and into the backcountry. This is a great chance to view wildlife, enjoy the scenery, and ask questions. Some seating is available in Refuge vehicles; once those seats are full, participants drive their own vehicles (caravan style) and use a radio to communicate with the guides.

### Children’s Fishing Day

**Saturday, June 22**

Catch the excitement! Open to youth up to age 16. Registration begins at 9:00 a.m. All fish being entered in the contest must be registered at the Visitor Center by 2:00 p.m. Fish dinner and prizes offered to all participants.

### Amateur Photo Contest - Photos Due August 31

**Did you get some great shots while enjoying the Refuge? Enter them in the Amateur Photo Contest! In September we will display all the entries in the auditorium and on the Seney Natural History Association’s Flick site, where visitors will vote for their favorites. When on display for voting, the entries depict an incredible array of Refuge experiences. Details can be found in the Visitor Center or on our website.**

**Youth in the Outdoors**

**Saturday, September 28**

This fun filled day is open to youth ages 7 to 17 and is designed to get youth out into the Refuge to explore and learn. A variety of activities are available for kids to choose from. There is sure to be an activity that will pique anyone’s interest. Pre-registration and a $5 registration fee are required. Some activities may have an additional charge.

### Fall Color Float

**Saturday, October 5**

Take a float down the Manistique River and see the beautiful fall colors. The tour takes approximately 4-5 hours. Early October is a beautiful time to visit the Refuge as the leaves will be changing color. Pack a lunch, dress for the weather (it could be warm or cool), and remember to pre-register so we know that you’re coming. Boat rentals are available locally.

### Whitefish Point Unit

The Whitefish Point Unit of Seney National Wildlife Refuge was established in 1998 with the transfer of 33 acres from the United States Coast Guard. An additional 20 acres were acquired in 2012. The Whitefish Point Unit is nearly 80 miles away from the rest of the Refuge and is a stop-over for birds migrating to and from Canada. The Whitefish Point region is renowned for its concentrations of birds during migration. Each year thousands of raptors, passerines (perching birds) and water birds funnel through the point to cross Lake Superior. The unit’s primary natural features are gravel beaches, sandy beach dunes and stunted jack pine-dominated forest.

**Allowable Activities:**

- Dogs allowed on leash only.
- Open during daylight hours only.
- Hiking, cross-country skiing, snowshoeing, wildlife observation, photography, and mushroom and fruit picking are permitted.
- Fires, camping, rock collecting, removal of natural items, and off road vehicles are not permitted.

### Harbor Island National Wildlife Refuge

Harbor Island National Wildlife Refuge is located just off the northwestern shore of Drummond Island in Potaganning Bay on Lake Huron. Managed by Seney National Wildlife Refuge, the 695-acre horseshoe-shaped island hosts a variety of habitats and wildlife. Harbor Island was obtained from The Nature Conservancy in 1983.

Refuge habitats include a marsh-lined harbor in the center, sandy beaches, and mature stands of balsam fir, white cedar, paper birch, sugar maple and red oak. The gently rolling terrain of the island peaks around 100 feet above the level of the lake. Resident wildlife species include red fox, ruffed grouse, snowshoe hare, white-throated sparrows, white-tailed deer, gray jays, magnolia warblers, and several species of frogs and snakes.

**Huron National Wildlife Refuge**

Eight small islands, totaling 147 acres, make up the Huron National Wildlife Refuge. It is located just three miles off the south shore of Lake Superior in Marquette County, Michigan. The Refuge was established as a refuge and breeding ground for migratory birds and other wildlife, especially the herring gull, which has large nesting colonies on the islands. These green sanctuaries were vital for a number of species of birds, including the herring gull, whose populations had been drastically reduced by plume hunters and egg collectors in the 1800s and early 1900s.

Lighthouse Island is the only island open to the public. In 1868, a lighthouse was built on the island.

Learn More about the Refuge - www.fws.gov/refuge/harbor_island

Learn More about the Refuge - www.fws.gov/refuge/huron

*Image: Northern Water Snake - Mark Vaniman/USFWS*
Can you find and identify the 21 animals hidden in this picture?

HARDWOODS HUNT

Need help naming the animals above? Look for their names in the word search below.

W H E M Y Z E E D A K C I H C D E P P A C K C A L B
E P H L D G H R E K C E P D O O W Y N W O D R C E L
B O W R G A R T E R S N A K E I U O B M B B G A U A
R E H K F S V A N X E K D L R X E L O D P R V M E C
O W I E B K T P Y H M N E I R R A J V U Q E M R J K
A F T F U E N A Z T J R U Y A C K G B T R K A Y V S
W I B A N W I S A I B E E B E T F C L W E I I F Q A
I R R L G H N B U V F O E Y D B S D C N W L W R D L
N L E T T M C Q G D H A Y F O E D V A E I F R E P L
G M A I D A S L F S R I E C R Z X R Y K G N V T S O
E E S M F D I U W F A K B S L O C P W E Y R Z T K W
D Y O E X G O E E B G V F U L G F S X B E H U B T
H E E R I R N O J Y Q E K J L O N C G D O H C B O A
A C D E J S I K D R H L C I V O R M M U X T P H U I
W P N O E U G C N T M K H Y O P W G E L C R S C N L
K K U R V U C O A W H D L C L M L Y D M D O R R M N
D E T I S M U R H N N G C A J S F Q A E W N E A L D
B G H O Z B Y G Q A T A Z S O X C P D R F Q S N C I
U W A L E W N I S J R O I Z M P R E N O G F R O T E
Q H T E R E E D D E L I A T E T I H W D X X U M F O
L X C Q J I P I L E A T E D W O O D P E C K E R S K
M U H A P D Y X M E E H N O M E L R R J E C G J E

Answers for the Fun Page are available at www.fws.gov/refuge/seney/publications.html
Welcome to your National Lakeshore! If you have been here before, you know how incredible this park is. From day to day and season to season, the Lakeshore provides a wide array of outdoor experiences. So, why is this place special and why was it designated as our nation’s first Lakeshore? Could it be that the park borders Lake Superior - the world’s largest freshwater lake? From Miners Castle you can look out over 1/10th of the world’s fresh water! Could it be the five square miles of Grand Sable Dunes, the largest collection of perched sand dunes on Lake Superior?

Did you know?...

- Many cliff areas along the North Country Trail are actually overhangs with free space below. If you are hiking in the park - stay back from the edge.
- Rip currents are possible at several beaches along the Lakeshore depending on weather and water conditions. Check the bulletin boards to know what they look like and how to get out of one.
- When visiting the park, if you need to talk on your cell phone, pull over at a safe location out of traffic. Talking on your cell phone may cause a collier at the Schoolcraft blast furnace or imagine hitching up your draft horses.

Be aware that sand banks can collapse - sending you downslope or perhaps covering you – take care when traversing dune faces. People often remark they would love to see a bear during their visit to the park, but at a safe distance. Remember that a fed bear is a dead bear. Please follow food storage guidelines posted on bulletin boards and in backcountry regulations by hanging your food on the food pole provided or securing food in the food locker provided or in a vehicle. If you encounter a bear while on foot in the park, make noise and wave your arms. Do not drop your day pack or other items with food in them. Please report all incidents to a Park Ranger or visitor center.

H-58 - A Very Scenic Drive

With this newly completed road project, Lakeshore staff anticipate additional traffic with bicycles, tour buses, larger motorhomes, fifth-wheel trailers, and motorcycles. The road has been engineered as a slow speed, scenic drive through the Lakeshore, accessing such popular sites as Sable Falls, Log Slide, Hurricane River, and Twelvemile Beach.

A new addition to the drive in 2012 was the Lake Superior Overlook between Twelvemile Beach and Hurricane River Campgrounds, so be sure to stop there. Two new viewing platforms and a fully accessible restroom help you enjoy this pristine section of the Lake Superior shoreline.

Alger County H-58 between Grand Marais and Munising is now completely paved, creating one of the most beautiful drives in the Great Lakes region.

Help us make your and others vacation one to write home about:

- Watch for bicycles and pedestrians.
- Use the vehicle turnout lanes if you wish to stop and take a photo.
- Obey all no passing zones.
- Watch for motorcycles.
- Report all accidents to a Park Ranger, National Lakeshore employee or visitor center.
- Drive at a leisurely speed, keeping in mind that the journey is important, not just the destination.

Enjoy the scenic drive at your own pace, but if you notice traffic backing up behind you, please pull over to let them by to help avoid unsafe passes.

Follow the Lakeshore on www.nps.gov/piro.

Pictured Rocks National Lakeshore
P.O. Box 40
Munising, MI 49862-0040
906-387-3700
www.nps.gov/piro
Your visit to Pictured Rocks National Lakeshore may be only an hour or two or you may spend a week or more. If you only have a day or two to spend at the Lakeshore, consider visiting these popular attractions in developed areas of the park. Please note that bicycles are not permitted on Lakeshore trails. Pets are allowed along all park roads and are permitted in some other areas. Pets must always be on a 6-foot leash.

**Munising Falls**
Nestled in a cool, shady valley, the 50 foot falls are at the end of a short 800 foot walk on an improved trail. The trail is a good place to look for wildflowers in spring and early summer. Water from the creek was once used in the production of iron at the Schoolcraft blast furnace, a story told on wayside exhibits and in the Munising Falls Interpretive Center. Pets are allowed on the trail to Munising Falls, but not on Becker Farm entrance road and fields or on North Country Trail.

**Sand Point**
The Sand Point beach is a popular spot for walking in the evening to watch the sun go down over Munising Bay. The Sand Point Marsh Trail, a half-mile accessible interpretive trail, features a large print brochure for visually impaired visitors. Sand Point is a good place to look for warblers in spring and fall. Park Headquarters is also located on Sand Point in a former U.S. Coast Guard building. Pets are prohibited on Sand Point Marsh Trail.

**Miners Castle**
Beginning at the picnic area, a paved foot trail leads you past interpretive exhibits to breathtaking overlooks of Lake Superior and Grand Island. Erosion over long periods of time has created the interesting rock formations that give this place its name. Pets are permitted in picnic and overlook area but prohibited on the North Country Trail.

**Miners Falls**
A 1.2 mile round trip gravel path through deep woods environment leads to the falls overlook. Miners River plunging some 60 feet over a cliff is home to brook and steelhead trout. A free, self-guiding interpretive trail guide is available at the trailhead. Pets are permitted in picnic area on a 6 foot leash, but are prohibited on the trail to Miners Falls.

**Miners Beach**
A picnicker and beach walker’s delight, Miners Beach extends for one mile on Lake Superior where waves roll in to polish beach cobbles. Miners River is popular for steelhead fishing in spring and fall. A 1.0 mile trail connects Miners Castle developed area and the picnic area at Miners Beach. Pets are allowed in picnic area and on Miners Beach.

**White Pine Trail**
Located at the Little Beaver Lake Campground this 1.0 mile self-guiding interpretive trail explores the plant and animal communities of a cool, shady valley. Free trail guides are located at the trailhead. No pets are allowed on the White Pine Trail.

**Chapel Rock**
Circumnavigating Chapel Lake takes you to the beautiful Chapel Beach and Chapel Rock. The 6.6 mile trip makes a great day hike. Pets are not permitted on this trail.

**White Birch Trail**
Located at the Twelvemile Beach Campground, this two mile self-guiding interpretive trail explores a variety of ancient Lake Nipissing beach and upland plant communities. Free trail guides are located at the trailhead. Pets are not allowed on this trail.

**Log Slide Overlook**
The 1000 foot trail to the viewing platform from the picnic area is worth the walk. Newspaper accounts tell of logs sent down the dry log chute generating enough friction to cause the chute to catch fire. Today the chute is gone, but the lumberjack stories still linger as you gaze out over the Grand Sable Banks and Dunes. This is a good place to glimpse the Au Sable Light Station to the west and Grand Marais to the east. Pets are not allowed on this trail.

**Au Sable Light Station**
Strolling about the grounds on a stormy day, one can feel the sense of duty and history for which this station is preserved. Access to the station is by a 1.5 mile hiking trail beginning at the east end of the lower Hurricane River Campground. Check at visitor centers and park bulletin boards for summer interpretive tours scheduled at the light station. Tour fee $3 adults. Pets are not allowed on the trail to or at the lighthouse.

**Au Sable Falls**
A picnic lunch at Sable Falls can begin a great afternoon of exploring. A 0.5 mile hike from the parking lot leads you an extensive staircase to the falls and Sable Creek and on to Lake Superior. Pets are not allowed on the trail to the falls.
The Fish Tug Lydia Story

The year was 1932. Amelia Earhart was the first woman to fly solo across the Atlantic. Gangster Al Capone was sent to prison, President Hoover cut his own salary 15%, and immigrant Adolph Hitler got German citizenship. Ford unveiled the V-8 engine.

But in Grand Marais, it was a cold, miserable day after Thanksgiving – November 25. Joseph "Rex" Block got up early as he was supposed to accompany his father-in-law Louis Larson on the fish tug Lydia out of Grand Marais. The boat with crew of four and one visitor "out for the experience" were headed to "Chummy's Hump" to set gill nets for lake trout.

While they were working the island reefs, a storm blew up out of the northwest. The other boats decided to make a run for Michipicoten Island some 60 nautical miles almost due north of Grand Marais, 7.5 nautical miles off the Ontario shore. There they planned to hunker down and remain in the lee of the island to wait out the storm, but Captain Larson decided to head for home with a gale howling behind her.

The Lydia was a beautiful little boat powered by a Kahlenberg steam engine. The Lydia was built in 1913 by Henning Larson in Manitowoc, Wisconsin, but began running up to Lake Superior in the 1920s, fishing gill nets for lake trout.

Rex Block later told his young son Guy the tale about how he was "lucky to be born." Had he not had the funny feeling early that morning - that he should step off the Lydia and return home - Guy and his brother Steve would not have been born, and the family history would have been significantly altered.

That day, just 12 miles to the west of Grand Marais, Keeper Arthur Taylor's November log from Au Sable Light Station fails to mention anything unusual:

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun 20</td>
<td>Cleaning up after Storm Bar (barometer) 29-70</td>
</tr>
<tr>
<td>Mon 21</td>
<td>Snowing most all Day Tending Signal</td>
</tr>
<tr>
<td>21</td>
<td>Snowing Hard Sounding (fog signal) all Day</td>
</tr>
<tr>
<td>22</td>
<td>Station Dutys Sounding</td>
</tr>
<tr>
<td>24</td>
<td>Thanksgiving - Station Dutys a very fine Day lots of Snow</td>
</tr>
<tr>
<td>25</td>
<td>Threatening Weather Tending Signal</td>
</tr>
<tr>
<td>25</td>
<td>Saturdays House cleaning Bar 29-90</td>
</tr>
<tr>
<td>Sun 27</td>
<td>first Asst. Meggitt Arrived 11 am from Sick Leave, David Taylor left 12 am.</td>
</tr>
<tr>
<td>28</td>
<td>Cleaning Assist Toilet and Station Dutys</td>
</tr>
<tr>
<td>29</td>
<td>Cleaning Plate Glass Windows</td>
</tr>
</tbody>
</table>

As the Lydia approached the Grand Marais breakwall, following seas amid the storm drove the little craft and her crew to the bottom where she broke up on the sand bar. The crew from the Grand Marais Life Saving Station were called out, but by the time they arrived on the scene, all five aboard were drowned. Captain Louis Larsen; crew members Tommy Larsen, Alex Mannia, Joe Tomkelt; and visitor Fred Hazen were lost to the gale. Rex Block must have been stunned by his decision earlier that morning. Great Lakes fish tugs hold a special appeal to those interested in the maritime history of the lakes. Only a few of them are left and far fewer are still afloat and working. The gill netters with their gracefully pointed bows have largely been replaced by flat decked trap net boats.

As the tugs disappear from the small town harbors, so too do stories like this one of "wooden ships and iron men." Let us be reminded of these incredibly interesting and dangerous days of fishing out on Lake Superior and the families and towns that industry once supported.

Next time you visit Grand Marais or experience a gale off Lake Superior with steel grey water, howling wind, and roaring, white foamed surf, think of the Lydia and five men who went down with her.
Do you hear the high pitched peeping coming out of wetlands on a spring night? How about the untuned banjo string being plucked along a lakeshore on a warm summer afternoon?

What do a kayak or hiker rescue, sandstone bedrock, and ice have to do with each other? It’s a topic Park Rangers think about frequently – and you should too.

The story begins with 500+ million year old Cambrian and Ordovician sandstone here along the south shore of Lake Superior. The bedrock that forms the Pictured Rocks cliffs was laid down in shallow oceans millions of years ago. The lower portions of the cliffs we see today are layers of Munising Formation that are poorly cemented together and prone to water seeping through them throughout the year. The sand that makes up this rock came from the erosion of the Michigan Highlands, an ancient and now extinct range of mountains south of our location. The Au Train Formation lies atop the Munising Formation, but is more strongly cemented together. Though sturdier, it too is very water permeable – which is where the ice comes in.

In spring, winter and autumn, water travels slowly through the porous bedrock freezing and thawing, freezing and thawing. This particularly occurs near the exposed surface of the cliffs. This freeze-thaw action is a basic erosional process known worldwide, but is particularly active here on Lake Superior where we have fairly extreme weather conditions.

Layers of bedrock fracture along fault lines, lineaments, or cracks in the rock, often causing tiny or enormous rock falls along the cliffs. If you are hiking along the edge of the cliffs or kayaking or boating below the cliffs, you could be in danger from one of these unpredictable calving events.

Imagine a peaceful summer day. You and some friends are kayaking along the cliffs and decide to move in closer to see the multi-colored stains where mineral laden water seeps to the surface. All of a sudden, you hear a dull roar, and the water around you comes alive with pieces of rock rapidly splashing into the water around you. You back paddle furiously away from the cliffs and, luckily, no one in your group was hit by a 300 pound piece of rock falling from over 100 feet.

The next time you hike, boat, or visit the cliffs, think about the connection between ancient bedrock, water, and ice, and your safety. And if you plan on making a big splash in life, please do it somewhere else!

Listen and look.

There are 13 frog and toad species in the Great Lakes region, seven of which are found at Pictured Rocks: eastern American toad (Anaxyrus americanus americanus), gray treefrog (Hyla versicolor), spring peeper (Pseudacris crucifer), northern green frog (Lithobates clamitans melanota), northern leopard frog (Lithobates pipiens), mink frog (Lithobates septentrionalis), and wood frog (Lithobates sylvaticus). The target species represent three types of breeding habitat: temporary to semi-permanent wetlands (spring peeper, wood frog), semi-permanent to permanent wetlands (eastern American toad, both treefrogs, northern leopard frog), and permanent wetlands (American bullfrog, northern green frog, mink frog). Of the target species at Pictured Rocks, three are at or near their range limits: Cope’s gray treefrog, gray treefrog, and American bullfrog.

How can we keep track of all these frogs and toads? By listening for their calls. But instead of sending someone out to listen and write down what they hear, we will use automated recorders placed at ten locations around the park. The recorders are programmed to automatically turn on and off at regular intervals, allowing us to collect recordings day or night, rain or shine. We can use this information to determine where species are (calls are identifiable to species), roughly how abundant they are, and track species’ occupancy of those habitats over a period of years. Collecting the same information at other national parks in the Great Lakes region allows us to put Pictured Rocks into a regional context by comparing the parks to one another.

If resources allow, scientists may also conduct visual searches for salamanders in the park. Six salamander species can be found at Pictured Rocks: Blue-spotted salamander (Ambystoma laterale), spotted salamander (Ambystoma maculatum), four-toed salamander (Hemidactylus nelsoni), eastern newt (Notophthalmus viridescens), and eastern red-backed salamander (Plethodon cinereus). Like the frogs and toads, salamanders are sensitive to environmental changes, but unlike the others, salamanders do not move very far and so are dependent on a very small area.

This long-term monitoring program at Pictured Rocks helps the National Park Service to keep a “finger on the pulse” of the park’s amphibian populations and to take management action when possible to prevent or halt declines. Reports on the monitoring effort and presentations about it will become available once we have enough data to begin drawing some conclusions. In the meantime, you can monitor our progress by checking in with park biologists or visiting the Great Lakes Network website for the latest updates -- http://science.nps.gov/im/units/GLKN/monitor/amphibians/amphibians.cfm
When you first enter the Hiawatha National Forest, look around. At first glance, you'll see a forest with abundant wildlife, miles of rivers and streams, and dozens of waterfalls. You'll see a forest that touches the scenic shorelines and beaches of three Great Lakes, and is home to six historic lighthouses. You'll see historical structures, archaeological sites, and prehistoric Native American artifacts that are a window to our past, which are being preserved for our future.

With one hundred miles of shoreline on three Great Lakes, the Hiawatha National Forest is uniquely positioned to provide visitors with a range of nationally distinct forest recreation opportunities. From lighthouses to Great Lakes islands, spectacular shorelines to the Midwest's finest winter playground, the Hiawatha brings to life a fascinating natural and cultural history while providing unique recreation opportunities to the visiting public.

Then look closer and you may catch sight of rare birds like bald eagles, Kirtland's warblers, and piping plovers, or hear the distinctive calls of sandhill cranes. You may hear the howl of a timber wolf or perhaps the cry of a bobcat. You'll see a forest that is home to rare plants like the Houghton's goldenrod, dwarf lake iris, Pitcher's thistle and lakeside daisy.

For info about Hiawatha's West Unit:
Hiawatha National Forest 400 E. Munising Ave.
Munising, MI 49862
906-387-2512
www.fs.fed.us/R9/forests/hiawatha

More Detailed Map for Sale at Visitor Center or any Hiawatha National Forest District Office

Legend
- USFS Ownership
- Town
- USFS Administrative Site
- Lighthouses
- Campground
- Trailhead
- Recreation Trail
- Major River
- Major Waterbody
Roads by Operational Maintenance Level
- 3 - Suitable For Passenger Cars
- 4 - Moderate Degree Of User Comfort
- 5 - High Degree Of User Comfort
The Hiawatha National Forest consists of about a million acres in two large units. The map on the previous page shows the Forest’s West Unit, located between Munising, Manistique and Rapid River. Shown on this page, the Forest’s East Unit is located between St. Ignace and Sault Ste. Marie. The Forest touches Lake Superior, Lake Michigan and Lake Huron and boasts six lighthouses and a 26 mile scenic byway along Lake Superior’s south shore.

The Hiawatha National Forest was created in 1931 from abandoned farms, razed logging tracts and lands devastated by forest fires. Replanted originally by the Civilian Conservation Corps and cared for since by the US Forest Service, today’s Hiawatha provides quality habitat for a variety of fish, wildlife and rare plants. The Forest is dotted with about 420 inland lakes, and eight hundred miles of streams and rivers flow through the Hiawatha, emptying into the Great Lakes. Five of those rivers are National Wild and Scenic Rivers.

This is today’s Hiawatha National Forest. We hope you’ll plan to visit us while you’re in the Upper Peninsula. Whether you enjoy historic sites, scenic drives, wildlife viewing, or wide range of recreation opportunities, there is truly something for everyone. Check us out!

For info about Hiawatha’s East Unit: Hiawatha National Forest W1900 US 2 St. Ignace, MI 49781 906-643-7900 www.fs.fed.us/R9/forests/hiawatha

More Detailed Map for Sale at Visitor Center or any Hiawatha National Forest District Office
Hiawatha National Forest

Lighthouses of the Hiawatha

Point Iroquois Light Station

Point Iroquois Light Station marks the mouth of the St. Mary’s River between the shoals off Point Iroquois and the rocky reefs of Gros Cap, Ontario. In 1620, the first white men to the area were French explorers Brule and Grenoble. From that time, Point Iroquois became a familiar landmark for the French explorers, fur traders and the missionaries who were to follow. The discovery of copper and iron ore in 1844 necessitated a passage for ore-carrying vessels through the rapids of St. Mary’s River to the steel plants of the lower Great Lakes. In 1865, the St. Mary’s Falls Falls (commonly known as the Soo Locks) was opened. The light was exhibited for the first time on September 20, 1857. With the growth of traffic through the locks, the importance of the light station increased. In 1870 the wooden tower and residence were replaced with the brick buildings that stand today. After one-hundred seven years of service, the light at Point Iroquois was replaced in 1962 with an automated light in the channel off Gros Cap. The lighthouse became the property of Hiawatha National Forest in 1965. Through the efforts of the US Forest Service and Bay Mills/Brimley Historical Society, the light station was restored for all to enjoy. Visit the museum to learn more about life as it once was in a lighthouse on Lake Superior.

**Winter Hours**
- October 16 - May 14
- Open 10 am to 3 pm
- Saturday and Sunday

**Summer Hours**
- May 15 - September 20
- Open 9 am to 5 pm

**Peninsula Point Light**

Peninsula Point Light is a special place to visit on Lake Michigan. When iron ore loading docks were built in Escanaba by Chicago Northwestern Railroad in 1864, Congress appropriated the funds to build a lighthouse at Peninsula Point. Construction was completed in 1865 and a hand-operated oil lamp burned in the lighthouse until 1922, when an automated acetylene light replaced it. In 1936, when the Minneapolis shoal lighthouse was put in operation, Peninsula Point light was decommissioned by the Coast Guard and the Forest Service was granted custodianship. Although the lighthouse keepers quarters burned down in 1959, the brick tower survived and is now listed on the National Register of Historic Places. Today, visitors can climb the 40 foot circular staircase to find a panoramic view of Lake Michigan. In addition to the Lighthouse, the limestone shoreline is a great place to find fossils 400 to 500 million years old, and Peninsula Point is a popular spot to enjoy the Monarch butterfly migration in the late summer.

**East Channel Lighthouse**

The small wooden frame lighthouse on the southeast shore of Grand Island was constructed during the period 1869 - 1870 for the purpose of guiding vessels into Munising Harbor from the east. The location, opposite the dangerous shoal at Sand Point, was critical for safe navigation. When the Range Lights were constructed in 1908, this lighthouse was no longer needed and by 1913, the light was abandoned. The land and lighthouse were privately purchased and divided into lots. Today, the lighthouse is community property and a private group has made efforts to stabilize the shoreline and renovate the lighthouse to preserve it in its current condition. Since the lighthouse is private, it cannot be accessed by land and can only be viewed by water. Several commercial boat tours pass close by and allow for great photo opportunities.

**North Lighthouse**

Situated atop a 175 foot cliff on Grand Island’s north end, this light-house has been identified as the highest lighthouse above sea level in the United States. Originally built of wood in 1856, this remote lighthouse was a key navigational marker. In 1867, the lighthouse was replaced with the current brick keepers house and a 40 foot tower. The lighthouse is privately owned and not accessible by land, but can be viewed from the water by private watercraft.

**Grand Island Harbor Range Lights**

Tucked away among the tag alders and swamp conifers along M-28, the Grand Island Harbor Range Light (a.k.a. Christmas Range Light) is easy to drive by without noticing. Range lights are different from traditional lighthouses because they were not used to warn away ships but to provide them with a line of travel through dangerous waters. As shown above, the Grand Island Harbor Range Lights can be clearly seen from the water and have been a very valuable navigation tool. The 62-foot rear and the smaller 23-foot front range lights were designed to work as a pair. By keeping the rear range light aligned with the front range light, mariners were able to stay on the proper heading through the narrow channel west of Grand Island leading to Munising Harbor. The Range Light was abandoned in 1969 and was transferred to the Forest Service in 1977.
Monarchs of Peninsula Point Lake Michigan

During the summer months, monarch butterflies use the Stirlington Peninsula as a nursery. They lay their eggs on milkweed plants and the caterpillars grow and mature there. While the migration dates are unpredictable, large numbers of monarchs are often seen from late July to early September, particularly if a cold front is passing through the area. Monarchs use the northerly winds associated with these fronts to speed their flight southward 1900 miles to Mexico. Monarchs may spend several days at the point as they wait for favorable winds. If you are lucky enough to time your visit just right, you may be fortunate enough to see thousands of monarchs congregate at the Point, covering the cedar trees and flitting about the picnic area as the day warms. Before you make a journey to see this special phenomenon, be sure to contact the Rapid River/Manistique District of the Hiawatha National Forest at 906-474-6442.

GREAT LAKES PIPING PLOVER

Since 2004, Piping plover (Charadrius melodus), have been monitored on the west unit of the Hiawatha National Forest. You may ask “Why does the Forest Service participate in monitoring of a federally endangered shorebird?” As a federal agency, the Forest Service is required to assist in recovery efforts of endangered species as directed in the Endangered Species Act. The Forest’s program is just a small part of a much larger regional interagency monitoring and protection effort coordinated through the U.S. Fish and Wildlife Service. Monitoring is conducted by volunteers and wildlife biologists along with a shared seasonal employee (funded with a grant from the National Fish and Wildlife Foundation). Surveys are conducted in suitable habitat along the Lake Michigan shoreline. If nesting occurs, monitoring occurs daily and the nest is protected with a fenced enclosure that allows piping plovers easy passage but stops ground and aerial predators. Once placed, plovers are observed to see if they accept the predator enclosure. If they do not, the enclosure is immediately removed. Upon hatching, chicks are able forage for invertebrates along the shoreline. Yearly, chicks are banded by researchers from the University of Minnesota.

In rare occasions and as directed by U.S. Fish and Wildlife Service, if biologists need to recover eggs from a site due to wash-out or another emergency, a dedicated group of zookeepers volunteer from zoos across the country at the Biological Station in Pellston to incubate eggs. Captive raised chicks are released in an area with piping plovers of similar age.

Over 2007-2009, the west unit of the Forest provided nesting habitat for 2.0% of the Great Lakes breeding population, produced 3% of the naturally fledged young-of-year and 7.5% of the fledged captive raised. However, nesting has not occurred on the Hiawatha National Forest for the past two nesting seasons; it seems the plovers are finding more enticing habitat elsewhere.

Over the entire Great Lakes, 58 nesting pairs established 64 nests in 2012. From these nests 193 chicks hatched, of these 121 chicks fledged in the wild. Additionally the captive rearing facility reared and released 6 chicks. Interested in Volunteering? Contact Janet Ekstrum jekstrum@fs.fed.us (906) 474-6442 ext 140 (west unit) or Steve Sjogren ssjogren@fs.fed.us (906) 643-7900 ext 134 (east unit).

For information regarding assisting at other Great Lake State localities, contact Vince Cavalieri, Fish and Wildlife Biologist, (Great Lakes piping plover coordinator) U.S. Fish and Wildlife Service, East Lansing Field Office, 2651 Coolidge Road, East Lansing, MI 48823, (517) 351-5467 vincent_cavalieri@fws.gov

Note: While there are two other populations of piping plover, the Great Plains and Atlantic coast populations, only the Great Lakes piping plover is endangered. The other two populations are threatened.
Whitefish Bay Scenic Byway provides an outstanding opportunity to escape to the shores of Lake Superior for a relaxing drive, to explore scenic sand beaches, and to journey back in time at Point Iroquois Light Station.

The Byway begins just north of Brimley on Curly Lewis Memorial Highway, also known as Lake Shore Drive. Beginning on the Byway’s east end, Point Iroquois Light Station is a highlight of the Whitefish Bay Scenic Byway experience. The historic light station is open during the busy summer season. Visitors can tour the grounds, and during the visitor center’s open hours, can also see exhibits inside the historic structure.

Heading west along the byway, beautiful landscapes abound. The two lane road passes through hardwood forest of birch, maple, and oak, which blaze red, orange and gold during late September and early October.

The Big Pine Picnic Area provides a lovely stopping point. Nestled among giant red and white pine trees you’ll find tables and grills – the perfect setting for a picnic. Plan to watch huge freighters passing or the sunset from benches overlooking the waterfront.

Between Big Pine Picnic Area and Michigan Hwy 123, visitors will find numerous scenic pull-offs featuring white sand paths to the lake shore. These secluded stops offer the opportunity to spend quiet time walking the beach, fishing the many streams, wading in Lake Superior, or having a picnic.

In addition, the North Country National Scenic Trail follows the shore with frequent access points from the byway.

Whether you’re looking for a scenic auto tour or prefer to park your car and get outdoors, there’s something for everyone! For more information about the Whitefish Bay Scenic Byway, call the Forest Service at 906-643-7900 or stop by the Light Station for information.

Hiawatha National Forest touches the shores of three Great Lakes, including Lake Michigan. On the Forest’s east unit, visitors will find National Forest lands beside the beaches and dunes of Lake Michigan, approximately 5 miles west of the St. Ignace Ranger Station on US Hwy-2.

The accumulation of windblown sand marks the beginning of one of nature’s most interesting and beautiful phenomena: sand dunes. Stand before the enormous, gleaming white sand dunes and consider that all of this was once an ancient lake bed or coastal plain. Gradually, the piles of sand are colonized by unique communities of plants and animals, known by scientists as “Beachgrass Dune Communities”. This specialized landscape hosts a variety of Federal and State of Michigan endangered and threatened species including piping plover, Prairie warbler, common tern, Caspian tern, Pitcher’s thistle, Houghton’s goldenrod, and more. Hiawatha National Forest biologists work to protect these astonishing resources.

If you have a moment on a hot sunny summer day, stop along these expansive sand beaches and enjoy sun bathing and relaxation along Lake Michigan’s blue waters. While you’re there, help preserve the beauty and habitats of the dunes. To avoid trampling sensitive plants and minimize the spread of non-native invasive plants, use only the designated trails to access the beach.

Rip Currents

Before you (or your children) swim in the Great Lakes, you should learn about “rip currents.” Rip currents are dangerous currents or undertows may develop without warning from any increase in wind speed. Personal flotation devices are recommended in areas where such currents may develop.
Pictured Rocks National Lakeshore consists of two zones: The Lakeshore Zone is federal land managed by the National Park Service (NPS). The Inland Buffer Zone is a mixture of federal, state, and private ownership. Please respect the rights of private landowners.

**Lakeshore Zone (NPS)**
- Includes 13 miles of Lake Superior shoreline.
- Other unpaved road access.
- Wilderness within the Lakeshore Zone is federal land managed by the National Park Service (NPS). The Inland Buffer Zone is a mixture of federal, state, and private ownership. Please respect the rights of private landowners.

**Inland Buffer Zone (mixed ownership)**
- Consists of two zones. The Lakeshore Zone is federal land managed by the National Park Service (NPS). The Inland Buffer Zone is a mixture of federal, state, and private ownership. Please respect the rights of private landowners.

**Wilderness**
- Wilderness is meant to protect forever the land's natural conditions, opportunities for solitude and primitive recreation, and scientific, educational, and historical values. In wilderness people can share being a part of the whole community of life on Earth. Preserving wilderness in its present and primitive condition and benefits generations that follow us. Learn more at www.wilderness.net.