

Pictured Rocks

Pictured Rocks National Lakeshore
Michigan

National Park Service
U.S. Department of the Interior

Official Map and Guide



Chapel Creek and Chapel Rock by Scot Stewart



Pictured Rocks Cliffs

Stories in Sand

Sandstone cliffs—ochre, tan, brown, sandwiched with layers of white and green—tower 50 to 200 feet above the water. Lake Superior—so vast, so blue—glistens against a cloud-streaked sky. Deep forests—emerald, black, gold—open onto small lakes and waterfalls. The image is reminiscent of a master's painting: a palette of nature's colors, shapes, and textures creates the scene that is Pictured Rocks National Lakeshore.

This place of beauty was authorized as the country's first national lakeshore in 1966 to preserve the shoreline, cliffs, beaches, and dunes, and to provide an extraordinary place for recreation and discovery. Little more than 6 miles across at its widest point, Pictured Rocks National Lakeshore hugs Lake Superior's shore for nearly 40 miles. The park consists of two zones: the Lakeshore Zone, owned and managed by the National Park Service, and the Inland Buffer Zone, a mixture of federal, state, and private ownership. Together these nearly 72,000 acres protect a portion of Lake Superior's shoreline and watershed.

Icy Architects Massive glaciers inched back and forth across this land for a million years, scouring and molding, while the land yielded and took on a new shape. Moving ice ground the volcanic and sedimentary rock of previous eras into rubble and slowly enlarged river valleys into the wide basins that would become the Great Lakes. The last glacier began its retreat about 10,000 years ago. Meltwater from this wasting glacier formed powerful rivers and scattered rubble onto outwash plains and into crevasses. The water scooped out basins and channels that harbor the wetlands found in the park today. Eventually, as the weight of the glacier lessened, the land rose and exposed bedrock to lake erosion. It was this onslaught by the lake—centuries of battering waves and ice—that carved the bedrock into young cliffs. Relentlessly the water continues to pound and sculpt the cliffs, eroding them inland while enlarging the lake.

Solid or liquid, the force of the water profoundly altered the landscape and created the largest freshwater lake system in the world. It is hard to visualize that power, until you examine the evidence. You will soon recognize the clues. Look at the water-sculpted arches and profiles of the cliffs. Observe the inland lakes formed when glacial outwash buried enormous

blocks of ice. The ice melted over time, forming depressions that filled with water and became kettle lakes. Examine the stones along Twelvemile Beach—horn coral from an ancient sea, polished granite and quartz rounded like eggs, and disk-shaped fragments of the Jacobsville sandstone.

Colorful Cliffs The name “pictured rocks” comes from the streaks of mineral stain that decorate the face of the sculpted cliffs. The ramparts of the cliffs are composed of 500-million-year-old Cambrian sandstone of the Munising Formation. The Munising Formation makes up much of the angled slopes and formations, such as Miners Castle. Closest to lake level is the Jacobsville Formation, a late-Precambrian mottled red sandstone that is the oldest exposed rock in the park. Covering all is the 400 million-year-old Ordovician Au Train Formation, a harder limy sandstone that serves as a capstone and protects the underlying sandstone from rapid erosion. The streaks on the cliffs occur when groundwater oozes out of cracks. The dripping water contains iron, manganese, limonite, copper, and other minerals that leave behind a colorful stain as water trickles down the cliff face.

Living with Lake and Land

The bounty of the lake and land has attracted people to this area since the glaciers retreated northward. Archaic and Woodland Indians made summer camps along the coast between what is now Munising and Grand Marais. Later, Ojibwa Indians hunted and fished here, as their descendants still do, while en route to their summer fishing grounds at the Sault rapids of the Saint Marys River between Lakes Superior and Huron.

Schoolcraft and Other Adventurers In the 1600s and 1700s French and English explorers and voyageurs came searching for furs and minerals. They left little behind except place names, such as Grand Marais and Miners River. In the 1800s American and European settlers arrived to make fortunes in mining and logging. One adventurer was Henry Rowe Schoolcraft, Indian agent and wilderness scholar. In 1820 he said, “We had been told of the variety in the colour and form of these rocks, but were wholly unprepared to encounter the surprising groups of overhanging precipices, towering walls, caverns, waterfalls...mingled in the most wonderful disorder.”

The demand for timber attracted lumber barons who bought vast forests of white pine, beech, and maple. By the 1890s boomtowns supported sawmills. Grand Marais, bustling with a population of 2,000, produced millions of board feet of lumber annually. Business on the lake flourished, too. Wooden-hulled freighters and sidewheelers transported lumber and pig iron to distant markets. To help ships navigate the dangerous reefs, the U.S. Life Saving Service (later to become the U.S. Coast Guard) built light stations along the lakeshore. By the early 1900s most of the forests were gone, and the fortune-seekers moved on. Only a few small towns and lonely lighthouse keepers remained.



The 1874 Au Sable Light Station still warns mariners of the Au Sable reef. Its kerosene burner has

been replaced by a modern solar powered light.

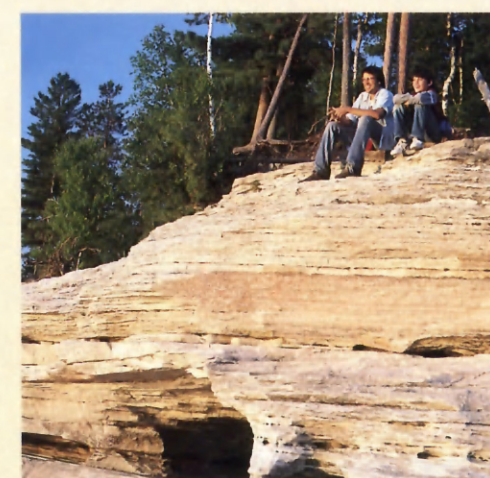
Richard Longnecker

Life of the Lake

Measured by surface area, Lake Superior is the largest freshwater lake in the world. It is 350 miles long, 160 miles across at its widest spot, and more than 1,300 feet at its deepest spot, which is about 35 miles north of Pictured Rocks National Lakeshore. This natural vessel holds so much liquid that, if drained, the water would fill a swimming pool the size of the continental United States to a depth of nearly five feet.

Like all things on Earth, Lake Superior is part of an interdependent ecosystem. Picture a giant web with energy flowing from point to point. The spark igniting the web comes from sunshine. Solar energy flows into phytoplankton —

microscopic plants — that turn it into food eaten by zooplankton — tiny animals, such as water fleas and fairy shrimp. These are eaten by forage fish, sculpins and lake herrings, which are eaten by predator fish, such as lake trout. These, in turn, are eaten by bald eagles and other birds, by small mammals, such as otter and mink, and by humans. Humans are an important link in this energy flow because of the “residence time” of Lake Superior's water. It takes 191 years to completely replace the lake's volume of water with an equal amount of “new” water. What humans consume, produce, and throw away will affect the Lake Superior food web for a long time.



Day hikers near Mosquito Beach Campground

Fred Young

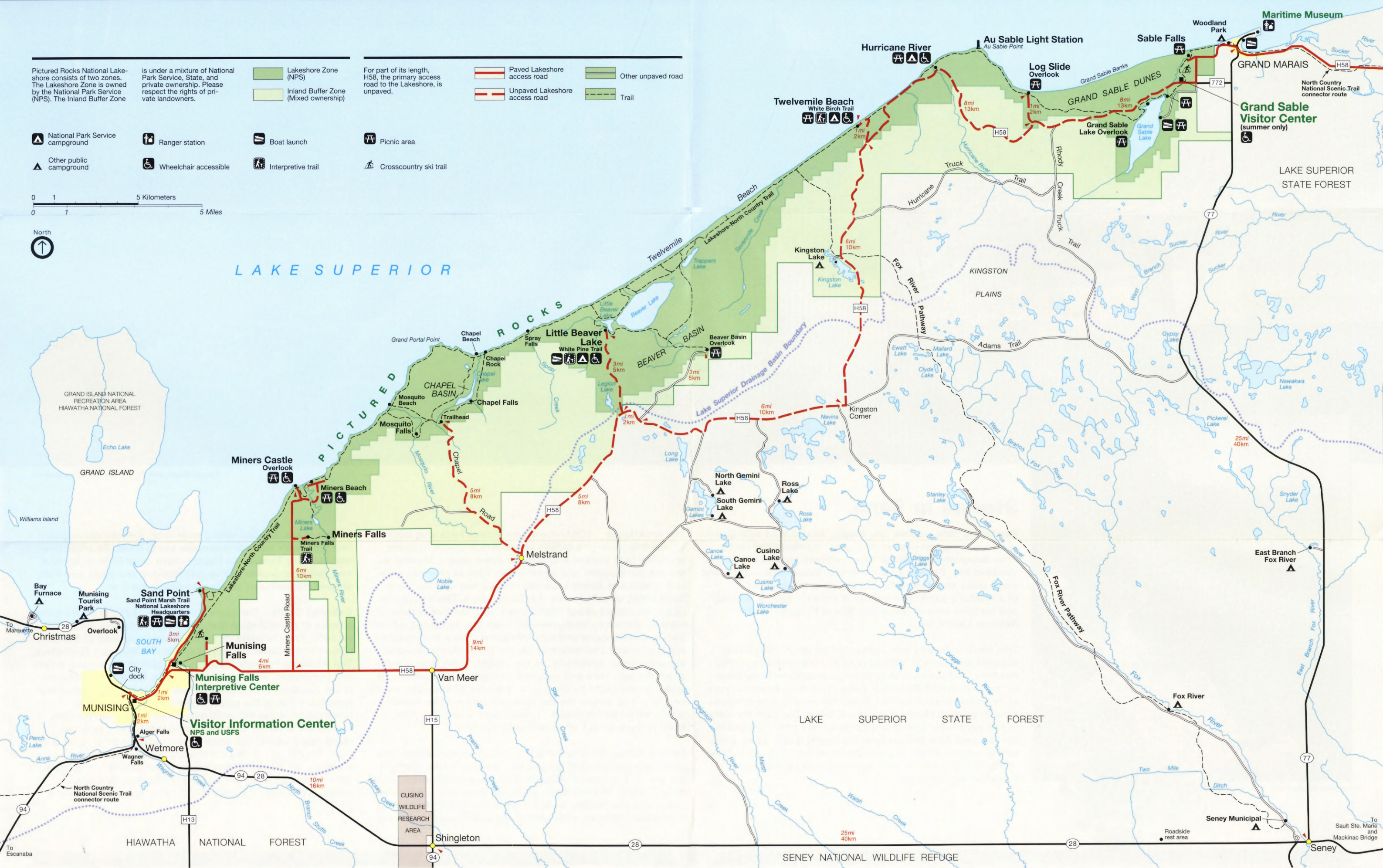


Ojibwa birchbark storage basket

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Visiting the National Lakeshore

Visitor Information At the Pictured Rocks-Hiawatha National Forest Visitor Information Center in Munising you can get information, backcountry permits, maps, and publications. Rangers can help you. The center is open daily, except January 1, Thanksgiving Day, and December 25. It is closed on Sundays in winter.

The Munising Falls Interpretive Center on Sand Point Road has brochures and exhibits. This self-serve facility is open seasonally and has exhibits on ironmaking, logging, wildlife, and how the cliffs were formed.

The Grand Sable Visitor Center, east of Grand Sable Lake near Grand Marais, has information, backcountry permits, exhibits, and publications. It is open summers and periodically during the rest of the year. The Maritime Museum and Ranger Station in Grand Marais has information, permits, exhibits, and publications. It is open intermittently, as staffing permits. Check with a ranger or call to ensure it is open before you go.

Hiking and Walking Here at Pictured Rocks, you will find some of the best hiking around. You can choose short trails or long, easy or vigorous. The Lakeshore Trail, a part of the North Country National Scenic Trail, and other trails provide spectacular vistas of the lake, cliffs, dunes, and waterfalls. Old logging roads take you deep into the forest. Always plan your hiking trip beforehand. Let someone know your destination, carry water and food, and be prepared for rain and sudden weather changes. Wear layered clothing and sturdy footwear. Trail maps are available at visitor centers.

Camping Three campgrounds—Little Beaver Lake, Twelvemile Beach, and Hurricane River—may be reached by car. All have water, tables, grills, and toilets. There are NO showers. Campsites are available on a first-come, first-served basis; there is a fee. You must register upon arrival at the campground, and stays are limited. Outside the park, camping is available in state forests and parks, private campgrounds, and in the Hiawatha National Forest.

Backcountry Camping There are 13 hike-in campgrounds and 7 group sites spaced every 2 to 5 miles along the Lakeshore Trail. Only 2 sites, Mosquito River and Chapel Beach, have toilets. Fires are prohibited at Chapel Beach and Mosquito campgrounds—use stoves. At other sites, fires are allowed only in metal fire rings. Ground fires are prohibited. There is no potable water. Permits are required. Camping is allowed in designated sites only.

Fishing Favorite catches include smallmouth bass, Northern pike, walleye, brook and lake trout, whitefish, steelhead, and coho salmon. Ice fishing is popular on Munising Bay and most inland lakes. A Michigan fishing license is required.

Hunting Hunting is a time-honored tradition in the park. The habitat supports many game animals, such as bear, whitetail deer, snowshoe hare, grouse, ducks, and geese. Firearms in vehicles must be unloaded and cased or in the trunk. Trapping and target practice are

prohibited. Some areas of the park are closed to hunting for safety reasons. A Michigan hunting license is required; state and federal regulations apply.

Boating, Canoeing, and Sea Kayaking Beaver Lake, Little Beaver Lake, and Grand Sable Lake are favorites for small boats and canoes. Most rivers are too shallow for canoeing. Lake Superior can be rough and small craft are easily swamped. Munising and Grand Marais have launch ramps for motor boats. Backcountry permits are required for overnight sea kayakers and boaters. Boat motors on the Beaver lakes are limited to a maximum of 10 hp.

Private Tours Many private tour cruises are available. Private boats leave Munising Bay every day from June to mid-October. Air tours are available and guides can lead you on a variety of recreational opportunities. Obtain information at the Chamber of Commerce.

Winter Activities You can crosscountry ski on the many miles of groomed trails; or, if your fancy is snowmobiling, try one of the park roads that are left unplowed. Also popular are ice fishing on inland lakes and Munising Bay, snowshoeing, and winter camping. Ask a ranger for trail routes.

Special Considerations Weather and bugs—you can't ignore either. Your visit will be more enjoyable if you prepare for extremes. The proximity of Lake Superior helps moderate the park's climate; but sudden storms can develop year-round, and hypothermia is always a threat. Bring rain gear and layers of warm clothing. Black flies and mosquitoes can be aggravating from mid-May to mid-July. Stable flies are common during warm, humid weather. Wear light-colored, long pants and long-sleeved shirts. Bring insect repellent.

For a Safe Visit Don't let your guard down when it comes to safety. Please be alert and observe these regulations. ● Do not climb or slide on cliffs, and stay

back from the top edge; many are not supported by bedrock—they can suddenly give way. ● Stay on the trails and boardwalks and use the overlooks. Do not climb on rocks near waterfalls. ● Bicycles are prohibited on all lakeshore trails. ● Sudden storms and Lake Superior's ice-cold water make water sports treacherous. Use extreme caution when wading, swimming, fishing, scuba diving, or boating. ● Motorized or wheeled vehicles and domestic pack animals are prohibited in the backcountry. ● Pets are not allowed in the backcountry and must be leashed at all times. ● Natural and historic features are protected by federal and state law. Do not disturb shipwreck remains on the shore or in the water. **In an emergency, call 911.**

More Information Write: Pictured Rocks National Lakeshore, P.O. Box 40, Munising, MI 49862-0040; or call 906-387-3700. You can find Pictured Rocks at <http://www.nps.gov.piro> on the Internet.

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