

# Apostle Islands

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Official National Park Handbook

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# Handbook 141

# **Apostle Islands**

**A Guide to  
Apostle Islands National Lakeshore  
Wisconsin**

**Produced by the  
Division of Publications  
National Park Service**

**U.S. Department of the Interior  
Washington, D.C. 1988**

### *Using This Handbook*

Apostle Islands National Lakeshore tells a fascinating story of the interaction of mighty Lake Superior and the land. The park offers physical evidence of the powerful natural forces that shaped the Earth and tells the history of the people who came to these Apostle Islands to make a living.

This handbook is designed as a guide to the many facets of the Apostle Islands. Part 1 is an introduction to the natural treasures and the human history of the area. Part 2 looks at the inland sea, the islands themselves, and the wildlife of the area. Part 3 discusses what to see and do at the park.

National Park Handbooks, compact introductions to the natural and historical places administered by the National Park Service, are designed to promote public understanding and enjoyment of the parks. Each handbook is intended to be informative reading and a useful guide to park features. More than 100 titles are in print. They are sold at parks and can be purchased by mail from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20042.

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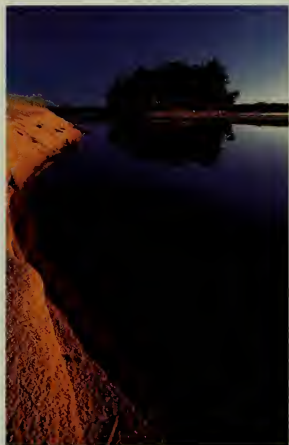
# Part 1



# Welcome to the Apostles



# Lake Superior's Jewels



*Above, and preceding pages: Like emeralds and jades set in lapis lazuli, forested treasures of the Apostle Islands archipelago bask in the warm light of sunrays low to the horizon.*

The northernmost point in Wisconsin is the archipelago known as the Apostle Islands. Located just off the northeastern tip of the Bayfield Peninsula, the Apostles reach into the waters of western Lake Superior and are the final defenders of the land against the largest of the Great Lakes. There are 22 islands in the Apostles chain, all carved from the same primeval landscape, each with its own special beauty and secrets waiting to be discovered by present-day explorers.

In 1970, 20 of these islands and 2,500 acres on the northern tip of the Bayfield Peninsula were designated by Congress as Apostle Islands National Lakeshore, managed by the National Park Service. In 1986, Long Island, which is now a peninsula, was also included. The largest of the Apostle Islands, Madeline, is not part of the National Lakeshore. It supports a year-round community and, like the National Lakeshore, is a popular summertime retreat and boating area.

The Apostles dot a 720-square-mile area of Lake Superior. To the sailor or power boater navigating the channels between the islands, there is a sense of wandering through vast watery valleys surrounded by verdant plateaus. The islands within the park range in size from 3-acre Gull Island to 10,000-acre Stockton Island.

In general the islands' vegetation and wildlife are similar, but each island has some special features. Devils Island supports a fine boreal forest, the mixed coniferous forest that spreads northward from here to the tree limit of the Arctic. Gull and Eagle attract countless numbers of birds and are designated as bird sanctuaries. The larger islands are home to beaver, bear, and deer.

The Apostle Islands archipelago was formed nearly 12,000 years ago during the last great Ice Age. Today's islands are the visible tops of tall, rounded hills formed by the virtual oceans of ice that were



then gouging their way southward. Surrounded by mighty Lake Superior, the Apostles have been touched and changed by both natural forces and those of human trade and industry.

Nomadic woodland Indians began to make their homes here soon after the glaciers retreated. With the fur trade's advent, the Apostles became a cross-roads for bands of Iroquois, Fox, Huron, Sioux, and other Indians. By 1700, Ojibway made Madeline Island their tribal home.

While the Pilgrims still clung to the rocky Atlantic Coast, French explorers and missionaries had penetrated to the heart of North America. The French, traveling the waterways of the Great Lakes, arrived in the mid-1600s. Teeming with fish, rich with fur-bearing animals, and sheltered from lake storms, the Apostle Islands area served as a center for commercial activity on Lake Superior for the next 200 years.

Extensive shipping on the lake, symbolized today by the Apostles' six working light stations, first developed around the fur trade. The lake provided an ideal trans-shipment location for furs bound, first, to Montreal, and, later, down the Mississippi River. During the height of the fur trade era the French and the North West Company—just two of the major fur trade operations—took 184,000 furs, including 106,000 beaver, in a single year. When demand for furs fell off, commercial fishing developed, beginning about 1830 and continuing, although much diminished, to the present. Sandstone quarrying began in 1869 and fed the upper Midwest construction industry for 30 years. Logging boomed in the early 20th century and then collapsed by the time of the Great Depression. Poor forestry practices resulted in devastating fires on those lands not already overcut.

Agricultural activity began in earnest on the islands in the 1860s, when settlers began staking claims under the Homestead Act. Farmers first



*Hemlock trees provide a pleasantly open forest floor and an inspiring high canopy for a backpacker's campsite. Camper shuttle and water taxi services ferry backpackers to the islands that are open to camping.*

cultivated Basswood and Michigan Islands, planting orchards and produce gardens. By 1868, they were sending peaches, apples, corn, beans, potatoes, cabbage, and oats to the mainland. Despite these early successes, farming on the islands was doomed.

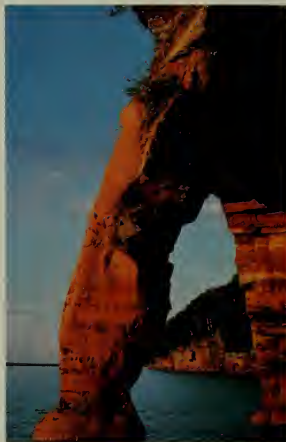
The first problem farmers faced was the forests. The dense, deep roots of the trees had to be pulled out or dynamited to clear the land. The task was arduous, but some farmers persevered. Next they had to confront the short growing season, which made it difficult for them to realize the yields that the rich land promised. Finally, the islands themselves presented problems. Farm families were isolated not only by land, but also by acres of water. Even a minor medical problem could become a major emergency, because getting medical attention was so difficult. The farmers eventually moved to the mainland, and trees gradually began to reclaim the terrain.

“We cannot imagine a more delightful and healthier retreat than these isles would afford for summer residences,” a *Cincinnati Gazette* travel writer advised readers concerning the Apostle Islands in 1856. By steamboat, eastern tourists sought summer refuge here from the heat and humidity. Later, by rail, the denizens of Detroit, Cincinnati, Chicago, and other midwestern communities—joined by some well-to-do southerners—also escaped to the Great Lakes region in summer.

Chief among the Apostles’ attractions ranked the pure and exhilarating atmosphere. Superb fishing and boating shared top billing, and for many vacationing urbanites the scenery itself sufficed.

Railroad travel democratized tourism to the Bayfield Peninsula as it did vacationing in general. More and more people of modest means began to seek out America’s natural wonders and sublime scenery, an experience that the Nation was avidly adopting in an attempt to rival Europe’s heritage of cultural antiquity. This development began a new thrust—eagerly promoted by the railroads—in 1872 with the creation of Yellowstone as our first national park.

Hotel Chequamegon in nearby Ashland, opened by the Wisconsin Central Railroad in 1877, lured tourists to this area. The Omaha line built Bayfield’s first tourist hotel, the Island View, in 1883. This grandiose wood structure boasted a grand ballroom, parqued floors, multiple porticoes, and a five-story



*This grand wave-cut arch in the sandstone cliffs of Squaw Bay attests to the stupendous sculpting power of Lake Superior waters. Massive red sandstones (opposite) line the shores of many park islands. Apostle Islands brownstone was used in buildings throughout the Midwest in the 19th century.*









*Sailboats anchor in a small bay off Raspberry Island. The clay banks in the foreground almost appear to glow in the warm light.*

observation tower. In the 1900s the Soo Line tried, without success, to promote a resort hotel on Madeline Island. Major resort hotels were never built on the islands although Madeline's 1834 Protestant mission house was later renovated as a tourist hotel. Still later, part of the building served as the post office for La Pointe, which is Wisconsin's oldest permanent settlement.

Madeline Island, not part of the National Lakeshore, boasts many summer residences. These date back to 1894, when Ashland's Reverend Thomas Gordon Grassie of Northland College moved into two small shacks with his family and planned a real cottage. First to build a cottage, however, in 1895, was Dillon O'Brien, who taught at Bishop Baraga's school in La Pointe. Historic photographs and surviving structures of this period show that the working definition of cottage has changed considerably since then. Ornate multi-story structures with several fireplaces and with observation towers boasting more square feet of living space than many modern cottages—these were nevertheless modestly known as cottages, or camps. Vacation property development began anew on Madeline in the 1970s. Today's summer population handily outnumbers year-round residents by a factor of more than 10.

The Great Depression of the 1930s, combined with the desecration of the land, brought tourism to a temporary halt. It appeared that yet another attempt to develop a viable industry in the region had failed. It had merely faltered, however. With diminished human activity throughout large portions of the peninsula and archipelago, nature set about its uncanny process of ecological recovery. New forests arose, fueling a great increase in the population of browse-loving deer. Blemished landscapes recovered their forested scenic character. Abandoned structures—fish and logging camps, lighthouses, and quarries—began to fade into their surroundings.

Today's islands are nearly as wild as those that early Indians visited in their birchbark canoes. And while these landscapes recovered, increasingly urbanized Americans began more and more to make forays into wild nature. Tourism again burgeoned. With this new tourism came the desire to protect this fortuitously islanded lakeshore area within our National Park System.

## Part 2

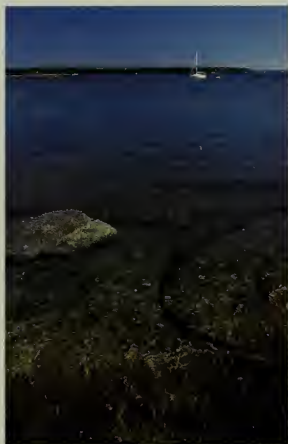


# Islands of an Inland Sea





# The Lake



*Crystal clear cold waters characterize Lake Superior and underscore its scenic charm. Preceding pages: Starkly beautiful shoreline cliffs mark the windward meetings of the lake and its Apostle Islands. Wave-lapped rock formations and sandy beaches stranded above today's water surface testify to vastly greater lake depths that followed the retreat of great Ice Age glaciers.*

The story of the Apostle Islands is a story of the interaction between the lake and the land. Much of the topography of the islands has been shaped by the sometimes serene, sometimes pounding and turbulent freshwater sea—Lake Superior. And much of the reason that man has been drawn to the Apostle Islands is the lake that provided transportation, food, livelihood, and recreation. Superior deserves its name; it is the greatest of the Great Lakes. This northernmost of the Great Lakes is the most expansive single body of freshwater in the world. It covers 31,800 square miles, measuring 360 miles at its longest part and 160 miles at its widest. The surface is 602 feet above sea level, and its deepest point is 1,402 feet below the surface.

Lake Superior is estimated to hold one-eighth of the world's supply of freshwater, and that water is some of the purest and clearest in the world. This clarity comes from its origin. The bottoms of the other Great Lakes, and most freshwater lakes, are composed of silt, clay, and sand. This allows for the transfer of minerals to the water, giving the lakes a murky look and providing the nutrients for plants and aquatic species to survive.

The bottom of Lake Superior was carved thousands of years ago by glaciers moving across the Canadian Shield, which consists primarily of granite and granite-like rock. There is very little mineral or nutrient transfer between water and granite, so Superior lacks the nutrients to support abundant aquatic life. This, combined with its size, depth, and temperature, means the lake has fewer kinds of aquatic species and smaller populations of those species than its sister lakes.

Man, however, has fed himself from the lake since he first came to its shores. Archeologists have uncovered evidence of aboriginal fishing camps on the islands. Fishing also has long been a means of making a living in the Apostle Islands. Beginning in the



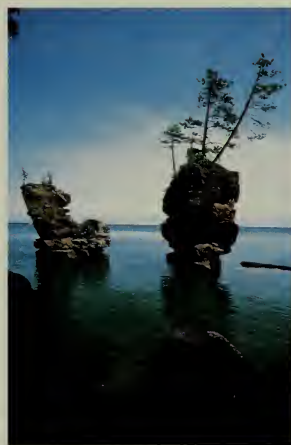
1800s, the lake trout, whitefish, and lake herring of western Lake Superior were harvested and exported to other parts of the United States.

Commercial fishing came from necessity. The American Fur Company opened a trading post on Madeline Island shortly after the War of 1812. By the 1830s, demand for furs was abating, and the American Fur Co. began to catch and sell fish to people living around Lake Michigan and Lake Erie. There was no way to transport the fish inland, so demand did not grow, and American Fur closed its fishing operation in 1841.

By the 1880s, two large commercial fisheries had located in Bayfield, the N & F Boutin Co. and the Booth Co. The opening of the railroads created a means for transportation inland, and the fledgling industry grew. Whitefish were the first “money catch.” But by the 1890s, their numbers were diminishing in the lake, and lake trout became the species in demand. By the turn of the century, the lake herring harvest surpassed both. Fish hatcheries were in full swing, attempting to replenish the quickly diminishing populations. For the next 40 years, yields of all three species grew.

In the 1950s, an intruder from the Atlantic entered Lake Superior and created havoc. The Great Lakes are connected to the Atlantic Ocean via the Erie Canal and St. Lawrence Seaway. The belief at the time the Seaway was created was that saltwater species would not survive in freshwater, so there was no danger. But one saltwater species that managed to adapt, survive, and multiply was the sea lamprey. This eel-like, parasitic creature attached itself to fish and fed off their vital body fluids. It proceeded to devastate fish populations in Lake Michigan and Lake Huron. Fishermen then watched helplessly as the sea lamprey advanced to Lake Superior.

The lake trout catch in Lake Superior dropped from 3.1 million pounds in 1950 to 360,000 pounds in



*Eroded columns, called sea stacks, slowly but surely succumb to Lake Superior's relentless landscape artistry. Destroying here, the lake rebuilds elsewhere, as it has at Long Island, a barrier island built in the past 50 years.*

1960. Something had to be done. Researchers developed a chemical that killed sea lamprey larvae without harming other fish. Careful treatment of their spawning rivers and recent building of barrier dams has drastically reduced this predator.

### Lighting the Lanes

The safest lanes for ships on Lake Superior are near shore, yet even these are dangerous, for the Apostles' reefs and shoals can wreck vessels. Six light stations have been built on the Apostle Islands to help sailors navigate the dangerous waters. At first the purpose was to lead local traffic into harbor. In 1857, Michigan Island light was constructed to guide traffic approaching from the east. A year later, the La Pointe light further defined the eastern entrance to Chequamegon Bay. By 1863, the Raspberry light guided traffic bound to and from the lake's west end. In the late 1800s, as shipping increased across the lake, sailors began demanding that the lights shine onto the lake itself.

Sand Island Light Station was erected in 1881 to aid in growing eastbound traffic. Outer and Devils lights, built in 1874 and 1891, respectively, could be seen as far as 30 miles. They became major landmarks along the trans-Superior shipping lanes.

Each light had a beehive-shaped Fresnel lens, which magnified a small flame into a beam of light. Before electricity, a lightkeeper made sure that the light was clear and bright and cleaned the lens often. Fuel was fed into the flame, and the wick was trimmed to avoid a smoky burn. This chore earned the keepers the nickname "wickies."

Originally, each light station was the home of a keeper, his family, and one or two assistants. These people lived on the island during the months that the lake was navigable. Because fog could sometimes block the lights, steam-powered foghorns were added. The keepers worked hard to maintain the horns so they would give off loud, intermittent blasts. Later, radio beacons were added, so sailors could use technology besides their senses of sight and hearing to protect themselves. People no longer live year-round in the light stations. But electric lights still shine from the stations, providing a comforting message to passing sailors.

*Moderate waves make these kayakers appear to be standing waist deep in the lake offshore of Sand Island Light Station. Kayaking around islands is relatively safe, but kayaking between islands can be hazardous. Storm waves come up quickly and the cold lake waters make routine spills potentially life-threatening.*



## Of Ships and Wrecks

In 1884, a silver spoon engraved with "Manistee" was reported found in the stomach of a lake trout. This packet steamer (below) carrying passengers and cargo had wrecked in a storm in 1883. The captain sought refuge in Bayfield and, having waited five days, thought he had weathered the storm and departed. Four months later pieces of the vessel and cargo appeared. Others would be found for several years. No bodies were ever found. Lake Superior can be dangerous, its waters quickly turning to rolling waves up to 30 feet high, and the *Manistee*

is only one of 25 major shipwrecks in this region, as recounted in James Keller's book, *The Unholy Apostles: Tales of Chequamegon Shipwrecks*. All together, about 100 vessels have been wrecked in the Apostles area alone. Two major wrecks occurred in one storm in early September of 1905: the *Pretoria* wrecked off Outer Island and the *Sevona* went down within sight of the Sand Island lighthouse. Six light stations were built on the Apostles to mark lanes through the islands—and to help prevent wrecks.

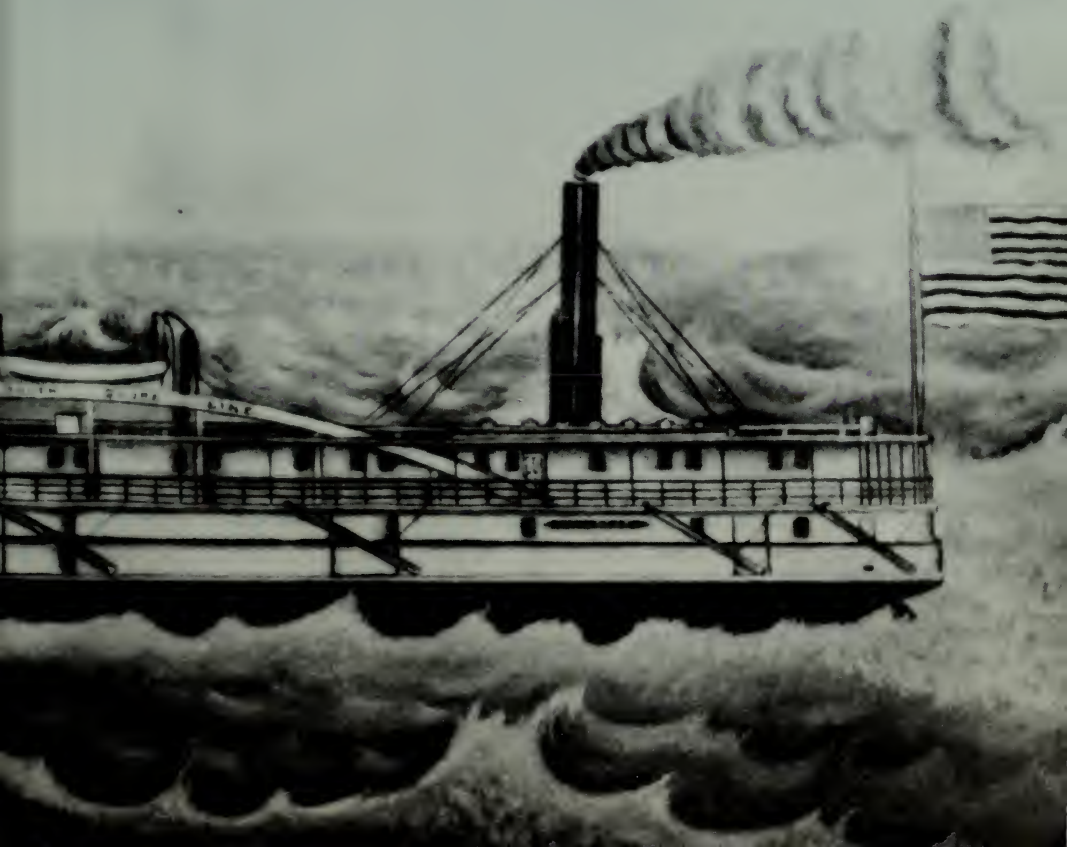






## Great Lakes Shipping

*Bayfield and the Apostles have fed furs, lumber, brownstone, produce, fish, and other goods into the Great Lakes shipping trade for 300 years. Great Lakes routes, including the Voyageurs Highway of the fur trade, have served the Atlantic via the St. Lawrence River, and the Gulf of Mexico via the Mississippi River. Today these lanes traffic in iron ore, wheat, and other commodities produced throughout the region.*



## The Lighthouse and Keeping the Light

*The lens was the only thing that moved; it went around. We used to wind them up by hand with weights. . . . We had to make sure those lenses didn't stop. The weights moved the light, and this was timed. Every light was timed. On a ship, [they could tell by the timing] what island it was, and if we were out of time, we heard about it quick. . . .*

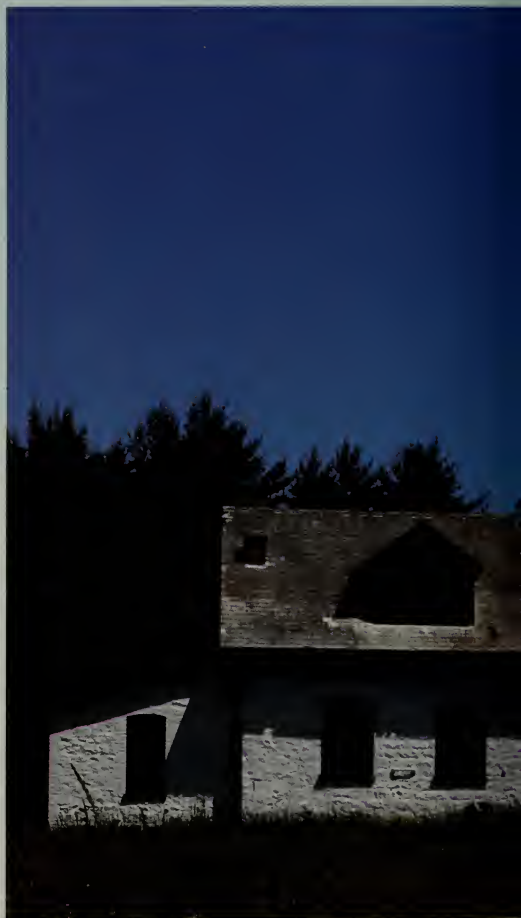
*We cleaned the lens quite a bit, twice a week. Polished the lens. Cleaned the prism and kept that going. . . . Life was cool and nice and quiet if you could get along with your families. That's one thing I made sure of: all four families*

*got along together (on Outer Island). . . . They wouldn't go into town half the time. I would say, "You fellows got a couple days coming, why don't you go to town." "Better out here," [they would answer].*

Vern Barningham  
Light Station keeper  
at various islands  
1924-1944



Raspberry Island Light Station



Michigan Island Light Station



*Designed in Paris in 1822 by Augustin Fresnel, the Fresnel (franel) lens revolutionized light stations. The lens creates an intense beam of light that can be seen up to 30 miles away.*

*The lens is like a large glass barrel. The surface is molded and carved into a number of bull-eyes surrounded by prisms. As the lens revolves, the combination concentrates the light from a central lamp in the center of the barrel into powerful, individual beams.*

*Originally the light source was a flame. Fuel was fed into a wick, which was then lit like a giant candle. The light-keepers and their assistants trimmed the wick regularly to prevent a smoky or uneven flame and thereby became known as "wickies."*

*Light alone was not enough to provide warnings to passing ships. A foghorn was added to the equipment at most of the islands. Later, radio beacons communicated with ships' radios.*



*Devils Island Light Station*



## Life at the Light Stations

*We never had another family living on the island with us. We had a couple of assistants who were married and just had their wives. But the island couldn't accommodate two families, because they had to use a shack!*

*There was a place for cooking and eating, and [my parents] had one big bedroom upstairs and we had the other one. . . . My sister and I would sleep at the head of the bed one night, my brother would have to sleep at the foot, and we'd reverse. . . . Mother always gave the [U.S. Lighthouse Service] inspectors a bouquet, or if we had fresh berries, she'd give them a gift of that to take back. But they always admired her flowers!*

*Oh, for the 4th of July, we very seldom ever got into town. We'd gather logs that we could handle down the beach, and we'd build a fort. Build it as high as we could and filled it with driftwood. In the evening, when it was getting dark, we'd go down, Dad would light it and Mother would have her guitar and we'd sing. We'd have that bonfire going and they must have seen it all over the Apostle Islands, because we'd make a big one.*

*We never lacked for something to do. We were always happy and busy.*

Edna Lane Sauer  
Daughter of Michigan  
Island Light Keeper







*The head and assistant keepers of some of the Apostle Islands' lights get together around the turn of the century.*



*Life at a light station was more than just hard work; there was usually time for some fun and laughter. The photo above, taken in 1915, shows Mrs. Anna Benton pushing her friend Mabel Eddy in a wheelbarrow in front of the Raspberry Island Light Station.*



*The entire family lived at a light station during the summer. The group in the photo at far left was staying at the Michigan Island Light Station in the early 1920s.*

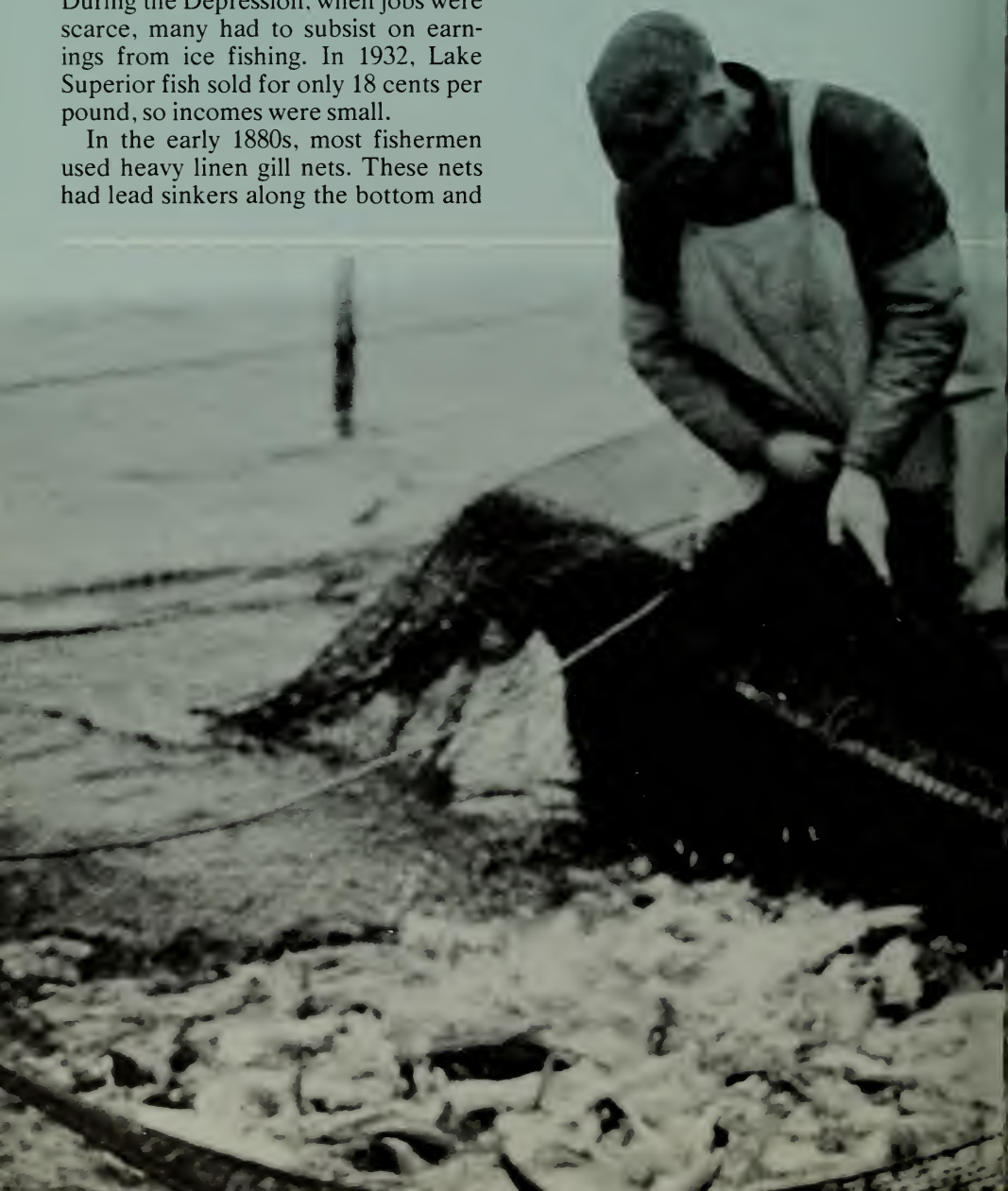
*The Marshalls and the Bentons raise the flag over Devils Island.*

## Harvesting Fish

It is hard to imagine a more grueling task than commercial fishing in winter, when fishermen sometimes had to walk or crawl across the ice to get to an area deep enough to set their nets. Until the Depression, most of the fishermen had other jobs to supplement their income. During the Depression, when jobs were scarce, many had to subsist on earnings from ice fishing. In 1932, Lake Superior fish sold for only 18 cents per pound, so incomes were small.

In the early 1880s, most fishermen used heavy linen gill nets. These nets had lead sinkers along the bottom and

floats along the top. Fish attempting to swim through the nets became entangled. Large numbers could be caught this way. But because the fish died soon after they were trapped in





*Fishing camps once dotted the islands.*

the net, they had to be gathered and salted, iced, or smoked almost immediately to prevent spoilage.

Another kind of fishing net, the pound net, was in use around the Apostle Islands by 1885. Pound nets set up an underwater barrier. The fish follow the barrier, or lead, into a heart-shaped enclosure, which in turn directs them into a smaller trap called the pot. The trapped fish cannot become entangled in the net, so they do not die. Pound nets set in these waters can be identified by the long poles that form a rectangle above the pot.





# The Land



*Shifting sands betray the constant interactions between land and lake. A tree may gain a hard-won foothold only to find itself later knee-deep in sands. Sandspits may grow into full-fledged islands. And elsewhere, ever so slowly, pounding waves chip away at rocky shores, taking here and building there.*

During the Precambrian period about 1.2 billion years ago, the Earth was in a period of violent volcanic activity, and what resulted was lava-based igneous rock covered by a 22,000-foot-thick layer of sandstone. There are two groups of sandstone: Oronto, which is found south of the Ashland area, and Bayfield, which is found throughout the Apostle Islands. Shallow seas with sandy bottoms covered the areas that became the Apostles and most of northern Wisconsin.

Glaciers began forming about 2.5 million years ago. These massive fields of ice formed, advanced, and retreated in cycles lasting thousands of years, carving the face of the Earth with their weight and power. The glacier that created the Apostles moved south and east from the general direction of Hudson Bay and retreated some 12,000 years ago. Because of the massive weight of the ice, the glacier plowed like a bulldozer. Softer soils and sediments were scraped away to solid bedrock. The eroded sediments were transported by the glacier—in some cases, hundreds of miles.

Periodically the climate warmed and the glacier melted, depositing sediments, which are known as glacial till. In other instances, meltwaters formed streams under the ice and in front of the glacier. The meltwaters forced the deposit of sediment into discrete layers. These deposits are called glacial outwash. Collectively, till and outwash are known as glacial drift. The reddish cliffs common on the western sides of islands, particularly Michigan, Oak, Bear, and Rocky Islands, are composed of glacial drift, mostly till. South Twin Island is almost completely covered by glacial drift.

As the glaciers retreated for the final time and the Earth's surface warmed, meltwaters formed lakes. As the lake levels dropped, land began to appear as islands. Oak and Bear Islands are the highest of the Apostles, so they would have been the first to break



the surface. Slowly the others emerged. Each of the islands has a definite slope from north to south because of a natural north-south tilt of the land as a whole, and because, scientists believe, the weight of the glacier pushed the land down. The land is now beginning to rebound.

### **Beaches, Sandspits, and Tombolos**

Depending on your perspective, the land begins or ends at the shore. And it is here in this area of rock and sand that we begin to study the Apostles.

There are three types of sandy areas on the Apostle Islands: beaches, sandspits, and tombolos. Beaches are in protected bays. Sandspits are low fingers of sand that reach out into the waves of the lake on the lee shores of some islands. They begin as sandbars that grow together as waves move the glacial till and eroded sandstone of the islands from the stony north faces to the flat, protected surfaces of the sandspits on the southern shores. Tombolo means “mound” in Italian. It is a sandbar that forms between and connects two islands. About 5,500 years ago, Stockton Island and Presque Isle were two separate islands. Today, they are joined by a tombolo. The apex of Stockton is a sandstone triangle called Presque Isle (French for “almost an island”).

Sandspits and tombolos are dynamic pieces of real estate—breaking up and reconnecting, depending on the wind, waves, and storms. The very fine muds of clay and silt-sized materials in the soil of the Apostles are carried offshore in suspension, leaving the coarser beach fractions. These coarser fractions may also be carried by waves, particularly during storms. They are moved slowly toward the more sheltered southerly sides of the islands.

The beaches, sandspits, and tombolos are literally rivers of sand. The sands, cobbles, and gravels are moved along by currents of wind and water and eventually end up in the deep waters of Lake Supe-



*Shattered trunks bleaching in the sunlight on Stockton Island are all that Lake Superior's fury has left of a former stand of trees.*



rior, from which they do not return. They are continually replenished and maintained by the ongoing erosion of the sandstone bluffs of glacial drift.

The grasses and small plants that you see in these areas serve a vital purpose. They work to offset this ongoing erosion and rearrangement of glacial drift. They spread their networks of tiny roots into the ground, capturing some of the sandy soil, preventing excessive erosion. Be careful as you walk along the sandy areas not to damage or pull up the grasses that are taking root in the sand; they help prevent wind-caused erosion.

## The Wetlands

Beyond the beaches are oftentimes wetlands: lagoons and bogs, each with its own character. In the lagoons of the islands, ducks, geese, bitterns, herons, sandhill cranes, and other waterfowl live with fish, turtles, beaver, frogs, and salamanders.

Lagoons are relatively stagnant, and sometimes their still waters become covered by layer upon layer of moss, algae, and plants. This leads, over generations, to the development of a bog—a fascinating community of plants. Bogs are covered predominantly by a spongy plant known as sphagnum moss. Other plants include two that survive by capturing and digesting insects: the pitcher plant and the sundew. Not many animals live in a bog, although many come there to feed. The acidity of the soil, the climate, and the availability of light and water are the major factors that determine which plant community will become dominant in this evolving, dynamic process.

As the years pass and the bog fills in, other plants, such as cranberry and bog rosemary, may take hold and become dominant. The sphagnum moss and other bog plants die and become peat, providing a growing medium for other types of plants that have adapted to the acidic bog soil. The plants, such as leatherleaf and Labrador tea, root in the peat and grow. And the competition for light for photosynthesis causes a cycle to occur: the shrubs and trees block the light, causing more of the bog plants to die, creating more peat for rooting, and eventually a more favorable atmosphere in which the next community may become dominant. Blueberry or huckleberry bushes appear and then eventually yield to



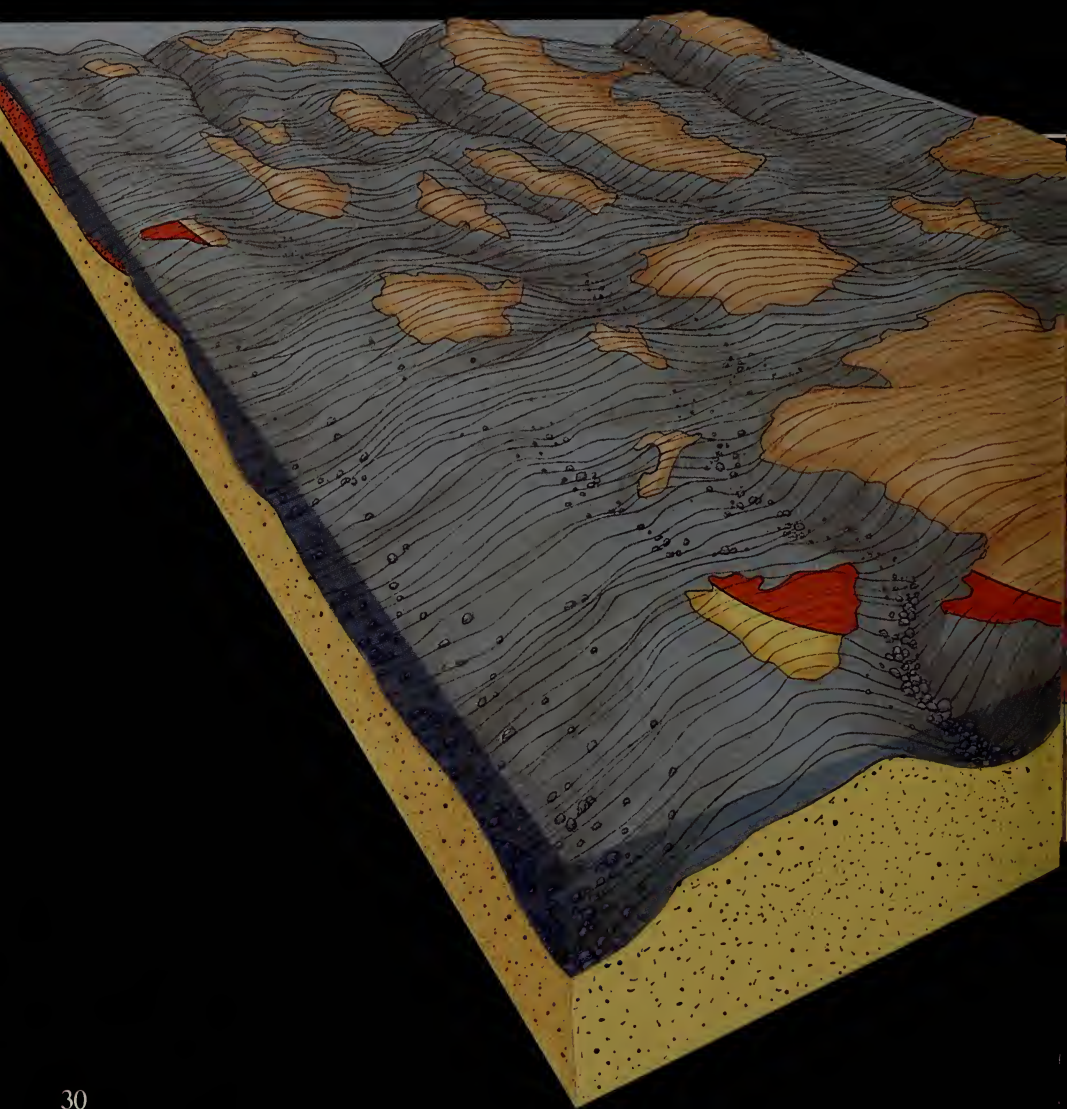
*Wintergreen and reindeer moss snug the ground on Stockton Island, which boasts samples of most of the National Lakeshore's habitat types. Pitcher plants (opposite) are carnivorous. They satisfy their metabolic need for the element nitrogen, which their bog habitat soils lack, by trapping and digesting insects.*



## Relicts of the Ice Age

Apostle Islands display products of three main episodes of Earth history: 1) 1 billion-year-old sandstone bedrock, 2) drift left from the last glacial advance some 12,000 years ago, and 3) shoreline features being produced today. Orienta, Devils Island, and Chequamegon sandstones were deposited in shallow rivers and lakes. Their sands were lithified by the covering weight

of thousands of feet of younger sediments now eroded away. Glaciers advanced and retreated here over the past 2.5 million years. Ice sheets carried soil and rock debris deposited as glacial drift when they melted back (see inset). Drift now covers the sandstones on both the lake bottom and the islands. Colorful island bluffs are glacial drift from the last advance.

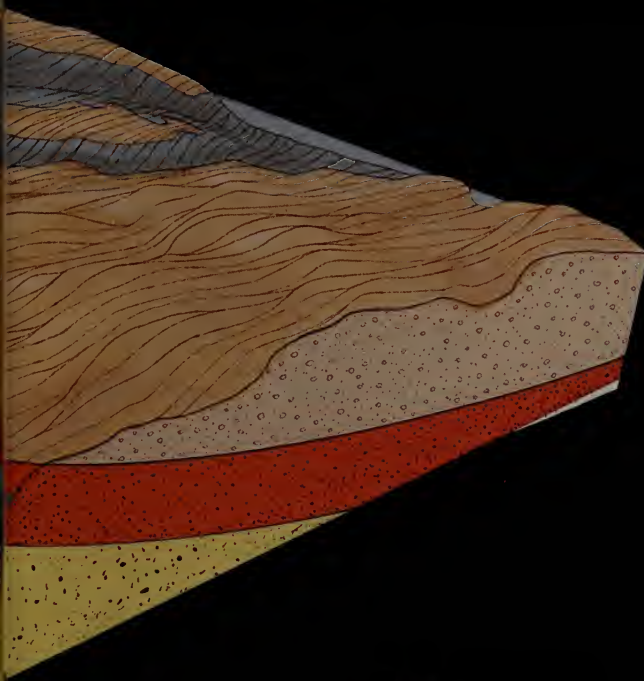




9,000 Years Ago

Retreating glacier

Present-day  
shoreline



Glacial drift



Chequamegon  
Sandstone



Devils Island  
Sandstone



Orienta Sandstone

trees. When the black spruce and tamarack become dominant, the bog is becoming another plant community—a wetland forest. As the remains of dead plants build up, soil becomes less acidic in character. This permits trees such as the white cedar and balsam fir to colonize the area. The result of succession is this—a forest.

### Forests on the Islands

The boreal forest—which includes the balsam fir, white spruce, and paper birch—was the first forest to colonize the Apostle's region after the glacier retreated. As temperatures rose, the northern hardwood forest advanced. Today these two forests meet in the Apostle Islands. Besides boreal forest trees, you also will see the sugar maple, oak, and yellow birch, all northern hardwoods.

As in all plant communities, there is ecological succession occurring in a forest. The trees create shade that inhibits the growth of new plants. A mature boreal or hardwood forest depends on natural disturbances to prevent degeneration. Heavy snows and wind uproot trees, insects damage or kill trees. Unfortunately, man, too, has had an effect on the forests of the islands.

The most common kind of natural disturbance is fire. Over the centuries, fires have scoured the islands at various times. Historically, fires were more frequent on tombolos than on higher ground. Studies show that at least nine fires burned through the tombolo bog on Stockton Island over the last 250 years. The upland areas show evidence of only one or two fires, if any.

Interestingly, the trees that grow in fire-affected areas tend to be more fire-resistant. Hemlock and yellow birch are very sensitive to fire and are apt to be found in the upland areas of Stockton. However, for about 6,000 years, the dominant trees on the Stockton tombolo have been red and white pine and paper birch. Pine has a thick bark, which resists fire. Aspen and birch sprout quickly after a fire.

Besides fire, man also has reset nature's clock in the forests. When loggers came, trees were felled without worry of what would be left or how the loss would affect other plants and animals. In the late 1800s many people thought wrongly that our natural resources were inexhaustible.

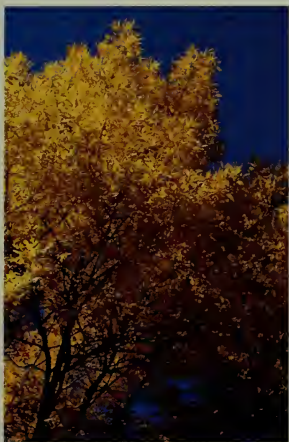
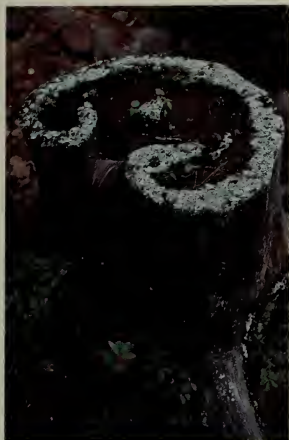
*Black bear sightings occur only rarely on the islands, but they do occur. Strong swimmers, these bears can move about between the mainland and some islands. This watchful bear exhibits typical tree-climbing posture. Bear cubs scale trees much faster than squirrels can.*











*Fall colors turn Apostle Islands landscape scenes into simulations of kaleidoscopic views. Lichens (top) describe a heart shape on a tree stump left by a logger. Peninsula and island forests, such as this white birch stand (opposite), lie in the transition zone between the northern hardwood forests, to the south, and the boreal forests that spread from here to tree limit in the Arctic.*

But the trees are returning to these islands. The second-growth woodlands are about 30 to 60 years old. Second-generation pioneer woodlands commonly include the aspen and birch. Their sparse leaves allow for light to reach the forest floor, creating opportunities for other plants to root and prosper. You may note ferns and shrubs poking up through the leaf litter. Like many pioneer plants, they grow quickly and alter the composition of the nutrients in the soil. However, they are susceptible to many factors, and when they die they are replaced by the next generation of plants, which enjoy the benefits of the altered soil.

White pines frequently follow aspen forests, although they may have trouble competing with the many shrubs that grow under the aspen. You can make a reasonable guess as to the next generation of forest by studying the seedlings on the floor of an aspen forest. A next-generation boreal forest will have balsam fir and white spruce seedlings. A hardwood forest will be more likely to have sugar maple. In a boggy area, you may note black ash or white cedar seedlings poking up through the leaf litter. It may take centuries for the second generation to become dominant. The roots of the aspen contain suckers that send up new trees quickly. The second generation has to beat these quick-growers to the light and nutrients to survive.

Ecological succession is allowing the Apostles to return to their grandeur following the devastating natural effects of fire and insects, and of those brought about by human activities.

Succession occurs on the beaches and in the lagoons, bogs, wetland forests, and boreal and hardwood forests. Perhaps the latter two prove the most dramatic differences between the second-growth and the virgin stands of trees. You do not have to look far to see what might have been. There are virgin stands of tall, stately hemlocks estimated to be 300 to 500 years old. You can see dramatic examples of these on Manitou and Outer Islands. Their height, grace, and beauty are inspiring. No wonder the areas are frequently called hemlock cathedrals.

## Logging the Islands

The 1800s were a period of much building in America, and the trees of the Apostles were in great demand because of their diversity and accessibility. America wanted pine for building, hemlock bark for the tanning industry, and hardwoods for fuel. But transportation of cut logs was difficult and expensive, unless you could float the logs on water to mills.

In the Apostles the trees were never far from the water, and softwoods float. The Apostles could be logged year-round; in winter the logs were piled near the shore, awaiting a thaw for



*Two men topple mighty hemlock near Squaw Bay.*





transport. The topography of the islands, which slants toward the water, made it relatively easy to move the logs from the forests to the water.

Large and small logging camps appeared on the islands as homes for the loggers. Trout Point on Stockton Island, one of the larger camps, was operated from the 1890s until 1920. Sawyers cut the trees, swambers cleared the underbrush, road monkeys iced and cleared the roads, and top loaders placed the logs onto sleighs and slid them to the water's edge. For their efforts, the men received \$20 to \$70 a

month, depending on the job. At one time, there were about 100 men living in two bunkhouses in Trout Point.

Logging as a major industry ended in the Apostles in the 1930s. However, when the last trees were felled, gas-powered saws were used to cut the trees, trucks and tractors moved felled logs, and, on Michigan and Outer Islands, railroads transported the logs to landings.





## Apostle Islands Brownstone

The beautiful outcroppings of sandstone you see as you tour the islands took millions of years to develop. For about 30 years at the turn of the century they were the source of one of the most popular building materials in the Midwest—brownstone. Hard, resistant to crushing, and present in large quantities on the islands, this stone was in great demand.

In 1868, Milwaukee decided to build its new courthouse out of midwestern stone. The architects searched for a quarry that could provide quality sandstone. They found it on Basswood

Island. Strong, French, & Co. was organized to begin quarrying.

The Great Chicago Fire of 1871 left that city in ruins. Stone buildings would have withstood the devastation better, and Basswood quarry stone was much used in rebuilding Chicago. The success of the Basswood quarry led to quarries on Hermit and Stockton Islands. Throughout the late 1800s, brownstone was making its way to many Great Lakes ports and down the river systems of the central United States. Brownstone buildings graced Milwaukee, Detroit, Toledo, Cincin-





*Basswood Island Quarry, 1893*

nati, St. Paul, Kansas City, Omaha, and other cities.

By the turn of the century, changes in the economic climate and in architecture had brought brownstone quarrying to a standstill. The new skyscrapers were built with tall, steel skeletons and required lighter-weight material, and concrete replaced brownstone. Today, an abandoned stack of cut brownstone blocks sits on Hermit Island waiting for a schooner that will never come.



## The Resort Era

*The atmosphere is pure and exhilarating, and game and fish are to be found in great abundance in the immediate vicinity.*

*Cincinnati Gazette, 1856*

For more than 150 years, people have been coming to the Apostle Islands to rest, to relax, and to explore. Touring the Great Lakes was a popular summer activity in the 1800s. People were looking for ways to escape the hot, humid city summers. They stayed in Bayfield or in resorts like Madeline



*Island View Hotel, Bayfield*





House on Madeline Island. Some "roughed it," camping out at Camp Stella on Sand Island. Celebrities who came to escape the "heated term," as summer was called, included Mary Todd Lincoln and Calvin Coolidge.

With the coming of the railroad in 1883, tourism boomed. The Chicago, St. Paul, Milwaukee, & Omaha Railroad built its own resort, the Island View Hotel. It featured a grand ballroom, parquet floors, elegant furnishings, a magnificent view, and a "table supplied with everything money and energy can secure."

Tourism declined around the turn of the century because of economic and other changes. The Great Depression proved a natural reprieve for the Apostles because the intervening years allowed the natural scene to recover.

In 1963, President John F. Kennedy visited northern Wisconsin and flew over the Apostles. His praise focused national attention on the area's natural wonders and beauty.





# The Wildlife



*Bald eagles, symbols of our Nation, nest throughout this area and are carefully protected. Mature bald eagles (opposite) sport the characteristic white head and white tail that unmistakably identify them. Young eagles (above), wearing dusky plumage on their heads and tails until about age four, are often mistaken for golden eagles.*

Porcupines eat trees but are not found on the heavily forested Apostle Islands. Beaver also eat trees, but they have colonies on only five islands: Stockton, Outer, Cat, Sand, and Michigan. Island environments, naturally isolated, are noted for apparent wildlife puzzlements. Porcupines are poor swimmers and have been unable to cross from the mainland since the islands emerged from Lake Superior. Skunks and other winter sleepers are asleep when lake ice forms. In the beavers' case, most of the Apostles lack significant drainageways that beavers could dam.

This chisel-toothed rodent, then locally non-existent, was nevertheless responsible for putting Madeline Island on maps in 1659. French explorers, pursuing the lucrative fur trade in beaver pelts, paddled here in birchbark canoes that Indians had built using knives made from beaver teeth. Wildlife still lures many people to the Apostle Islands, but the motivation tends now toward simple appreciation.

Capable of flight, birds easily reinhabited these islands after the Ice Age. Birdwatchers flock to the National Lakeshore, which provides breeding grounds for more than 100 bird species, including the magnificent bald eagle. Its numbers once greatly reduced by persistent pesticides whose uses are now prohibited in the United States, the bald eagle is recovering, but at nowhere near its former numbers. It is listed as a threatened species by the Federal Government. Before the mid-1940s, pairs of bald eagles inhabited every 5 or 10 miles of Great Lakes shoreline. By the 1970s no more than 24 breeding pairs inhabited all that great territory. The Outer Island Light Station house is now used as an observation post for monitoring the activities at a bald eagle nest.

Besides eagles, other raptors, or predatory birds, here include the osprey, peregrine falcon, merlin, and several hawks, including Cooper's, sharp-shinned, redtail, broad-winged, harrier, goshawk, and kestrel, or sparrow hawk. Peregrine falcons kill their prey—





birds in flight—in astounding dives achieving speeds of more than 200 miles per hour. Also hard-hit by pesticides, peregrine falcons are an endangered species slow to recover. Unfortunately, they prey on migratory birds that still collect those debilitating pesticides in Central and South American countries where they have not been outlawed.

Loons, wonderful diving birds named for their lunatic, maniacal calls, feed primarily on fish. Synonymous with North Woods wilderness because they tolerate neither persistent disturbance nor pollutants, loons are almost incapable of walking and usually nest close to water. Few nesting sites exist in the Apostles, but loons are often seen around the islands and Chequamegon Bay in summer. Here birdwatchers also can add to their life lists the grebe, cormorant, great blue heron, American bittern, sandhill crane, sora and Virginia rails, coot, piping plover, and Canada goose. Ducks known to nest here are the mallard, black duck, green-winged teal, and red-breasted and common mergansers. Others you may see are the wood duck, common goldeneye, and hooded merganser.

All but 31 of 1,010 nesting pairs of herring gulls recorded in a 1974 survey for nesting gulls and terns on Wisconsin's coast were in the Apostle Islands. Indeed, Gull and Eagle Islands are bird sanctuaries closed to human disturbance for the protection of nesting activities. Ring-billed gulls have usurped many nesting sites formerly used by the common tern, which was placed on the State of Wisconsin's endangered species list in 1979.

Will you see bears? It's possible. What about wolves? No. Black bears are strong swimmers and sightings of these opportunistic creatures are sometimes reported on the islands. An adult bear and two cubs were once seen swimming from the direction of Ironwood Island to Manitou Island, where they landed. Studies in the 1970s found bear signs on several of the Apostles, but not on Bear Island!

As you scan the lake and landscapes against the chance of sighting a loon or a bald eagle, keep your mind's eye fixed on earlier times. Imagine watching wolves chase down a moose or an elk, or a black bear feeding on trout along a mainland stream. Watching and imagining, you may discover the wildlife heritage preserved in these lakeshore wildlands.



*Beaver teeth and specialized musculature make this large rodent a mighty logger, leaving signs of its work throughout the Apostles area. They have established colonies on Stockton and Outer Islands. Whitetail deer (opposite) browse small trees and shrubs for food and do not thrive in mature forests. Their numbers may soar after fires or logging clear the land.*



**Double-crested cormorant**



**Common loon**



**Common redpoll**



**Great-horned owl**



**Killdeer**



**Yellow-bellied sapsucker**



## Mammals



Black bear and cub



River otter



Snowshoe hare



Least chipmunk



Red fox



Coyote and pup



Pink lady's slipper



Slender blue flag iris



Indian pipes



Dragon's mouth



Wood lily



Water lily



Sundew



Bunchberry



Marshmarigold



Violet



Shooting star



Bloodroot



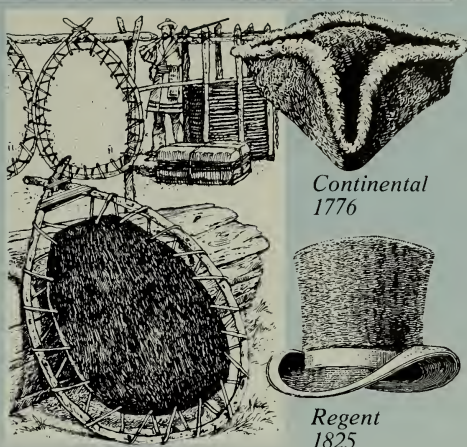
## The Fur Trade

Historian David Lavender characterized the fur trade as a lucrative international commercial empire held together by birchbark. He was referring to the birchbark canoe, that marvel of environmentally adapted transportation. With these wilderness craft fully worthy of the Great Lakes, two entangled European passions—furs and Christian missionary work—were readily consummated. Seeking a protected base of operations on Lake Superior, French traders found the Apostle Islands in 1659. From about 1660 to 1840 the area served as a major fur trade cen-

ter. At first, traders exchanged European knives, needles, cook pots, and other manufactured goods for furs, mainly beaver, trapped by Indians. Later, fur companies hired trappers. Voyageurs hauled the goods in 25- and



36-foot birchbark canoes over the 4,000-mile Voyageurs Highway to Montreal. Beaver pelts fed the European high-fashion market for felt hats for nearly 200 years until silk hats became fashionable. Trapping was hard work done in winter when pelts were thickest. Steel leg traps caught the beaver and were staked so the animal would drown. Beaver were usually skinned where caught. Back in camp the pelt was scraped of its flesh and stretched to dry, as shown at right. Furs were appraised and paid for at the forts and then shipped to European markets.



# Part 3





# Guide and Adviser



## Approaching the Apostles

Folklore holds that early explorers of Lake Superior, thinking that there were only 12 islands, named this archipelago the Apostle Islands. Of its 22 islands, all but Madeline are now, with a portion of the Bayfield Peninsula mainland, in the Apostle Islands National Lakeshore created by Congress in 1970. Historic Bayfield, the primary launching point for your island adventures, is reached by U.S. 2 and Wisconsin Route 13 from Duluth, Minnesota, and Superior to the west, and from Ashland to the south.

The drive on Route 13 from Superior takes you along the peninsula's western shores and across its tip, approaching Bayfield via the Red Cliff Indian Reservation.

**Visitor Centers and Services** A good place to begin your National Lakeshore visit, whether by car, afoot, or by private or pleasure cruising boat, is at the *Apostle Islands National Lakeshore Visitor Center* in Bayfield. Located in the old Bayfield County Courthouse building, the visitor center itself resonates with the peninsula's history. Apostle Islands brownstone was used to construct this stately building, as well as many other elegant public buildings and residences throughout the Upper Midwest. At the visitor center you can view audiovisual programs and study exhibits about the park's history, natural history, and recreation opportunities.

At the information desk, operated by the National Park Service, you can get information and advice about making the best use of your time at the National Lakeshore and surroundings. The staff also can direct you to sources of information about commercial and recreation facilities. Books, maps, nautical charts, and other publications are

offered for sale by Eastern National Park and Monument Association, a nonprofit group that supports the park's visitor services and research programs.

If you are traveling via Route 13 from the west, you may want to exit north to the *Little Sand Bay Visitor Center* (see map on pages 56-57). It lies opposite Sand Island on the northernmost extension of the Bayfield Peninsula. *Current boating and weather information is available there.* Visitor centers on Stockton and South Twin Islands are open in summer.

**Boat Trips** Excursion boat trips (fee) leave from Bayfield daily in the summer season of June through mid-August. Apostle Islands Cruise Service (fee) offers a variety of excursion trips and a camper and hiker shuttle to several islands. Late afternoon cruises afford the possibility of superb sunset vistas and glimpses of dramatic sandstone cliffs. Excursions may also leave from Little Sand Bay for tours past the historic lighthouse on Sand Island and the mainland's shore of rock cliffs near Squaw Bay. Obtain schedules and rates information from the visitor center in Bayfield. *Note:* All trips are weather-permitting.

**Water Taxi Service** A water taxi service (fee) operates between Bayfield and any island cruising or landing points for up to six passengers per trip. Obtain rates and information at the visitor center in Bayfield.

**Car Ferry to Madeline Island** Attractions on Madeline Island include Big Bay State Park, with its lakeside campground, and the Madeline Island Historical Museum, with its exhibits about the fur trade era. The island, which is not part of the National Lakeshore,



*Bayfield's old county courthouse serves as the park visitor center. An excursion boat tours the islands. Preceding pages: Bogs add immeasurably to the scenery and are excellent places for quiet wildlife watching.*

also offers full tourist services. Scheduled car ferries from Bayfield run from spring breakup to winter freezeup.

**Boat Rentals and Charters** Area marinas offer rental powerboats and sailboats and will arrange full- and half-day trolling trips for trout and salmon.

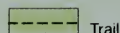
**Information** For information about the park, write to: Superintendent, Apostle Islands National Lakeshore, Route 1, Box 4, Bayfield, WI 54814; or telephone (715) 779-3397 and request the information desk.

For Wisconsin travel information write to: Department of Development, P.O. Box 7606, Madison, WI 53707, or telephone (608) 266-2161.

**Accommodations and Services** Island campsites provided by the National Park Service are the only overnight facilities within the National Lakeshore. Nearby communities offer motels, cabins, restaurants, stores, and full travel services for motorists and boaters. Throughout the peninsula, campgrounds offering a range of facilities are provided by private and tribal groups and city, county, and state parks, and national forests.

**Ranger-led Activities** Programs exploring the National Lakeshore's nature and history are conducted by rangers on the mainland and on the islands. Schedules for these programs and activities are available at visitor centers. Events include fish camp and lighthouse tours, children's hours, island tours, bog and beach walks, and campfire programs on many topics.





Trail



Picnic area



Lighthouse



Marina



Boat launch ramp



Ranger station



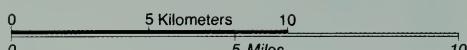
Campground



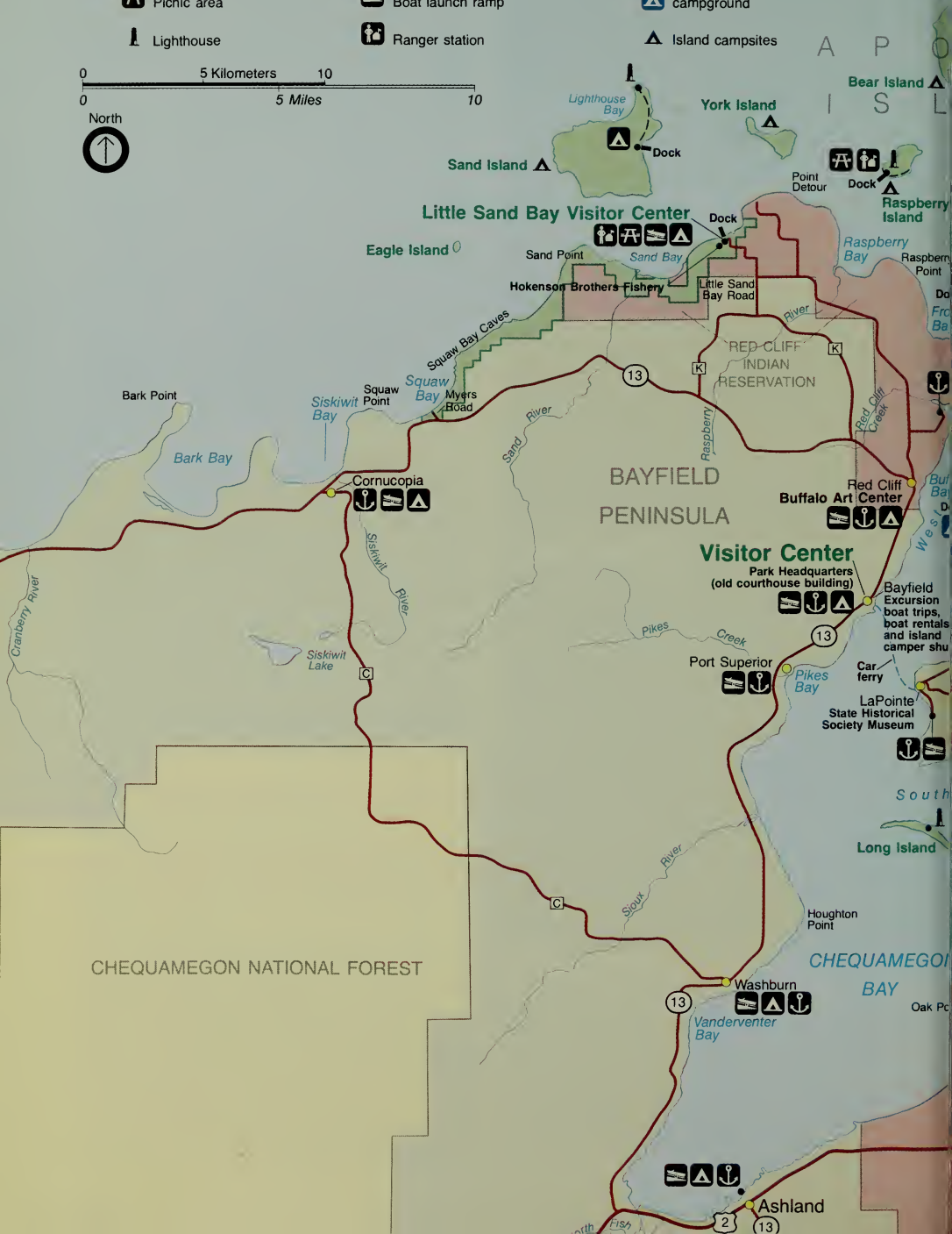
Group campground



Island campsites



North





L A K E

S U P E R I O R



## Recreation for Four Seasons

Summer is the most popular season for visiting the Apostle Islands, but other seasons offer experiences and a charm all their own. Birdwatchers flock to the area in the spring and fall. Spring is heralded by vibrant, colorful wildflowers. In the fall, trees take on hues of russets and golds. Fall boating, camping, and hiking can be very rewarding.

Winter brings snow, ice, and silence to the area, but some activity continues. Crosscountry skiing and snowshoeing are popular pursuits on the mainland. These are fine ways to explore the beauties of the snow and ice formations that cling to the cliffs. Ice fishing is popular out on the lake. For hardy souls seeking peace and solitude, Oak, Basswood, and Hermit Islands offer winter camping opportunities. Please note that **winter campers should register at park headquarters in Bayfield** (see map). Winter's incomparable beauty masks harsh conditions that pose extreme dangers to the unwary and unprepared. Temperatures of  $-30^{\circ}\text{F}$  and wind chill factors of  $-60^{\circ}\text{F}$  are not uncommon. Up to 100 inches of snow fall each year here.

**Exploring Nature on Your Own** Lake Superior's many meetings with mainland and islands provide diverse terrains and environmental niches you can explore readily afoot or by boat. Most of the National Lakeshore's habitats can be seen on a visit to Stockton Island. You also will find beaches and sandspits on Raspberry and Outer Islands; bogs on Rocky, Outer, and Raspberry Islands; lagoons on Michigan and Outer Islands; and hemlock stands on Manitou and Outer Islands.

**Please see and heed Dangerous Waters warning on page 62. Swimming is not recommended in Lake Superior.**

**Boating** Crystal-clear waters and sandy beaches make the Apostles a boater's paradise. Forget schedules, let the wind be your guide and the sun your time-piece as you navigate the islands. Boaters can use the many island docks maintained by the National Park Service for security and as stepping stones for explorations. Boat launch facilities are available at Little Sand Bay and at locations outside the National Lakeshore boundary. Area marinas offer equipment and gear sales and rentals, and fuel, mooring, and storage for boats up to 60 feet long. (See map for locations of public docks.) Many island bays and coves offer pleasant anchorages near beaches and sandspits. The summer months generally feature clear skies and pleasant temperatures, but be alert for changes in the weather. Storms come up quickly, and the lake is a cold and dangerous place for a dunking. **Rangers on park patrol boats and the U.S. Coast Guard monitor marine radio Channel 16.** Obey posted regulations and information signs. For National Lakeshore information and activities, and events schedules, boaters can tune in to radio 1610 AM near Basswood, Stockton, and Devils islands.

**Pumping of holding tanks and bilges into the lake violates strictly enforced state and federal regulations.**

**Canoeing and Kayaking** Canoeists and kayakers may take their crafts out to the islands aboard excursion boats (see pages 54 and 55). Paddling along the islands' shorelines offers a good look into the clear depths of Lake Superior. You will also discover delicately carved sea caves and rocky ledges. Exploring the quiet leeward island bays by small craft contrasts pleasantly with the unpredictable and





*Hikers and campers reap the Apostles' bounty of relaxed solitude. By hanging their food bag (bottom photo), campers can discourage animal foragers.*

often dangerous open waters of the channels between the islands.

**Scuba Diving** Scuba diving in the clear waters around the islands is increasingly popular. Diving permits are required and can be obtained at the visitor center in Bayfield. Disturbing or removing artifacts is prohibited.

**Camping** Public and private campgrounds abound throughout the peninsula and islands—see the map on pages 56 and 57. In the National Lakeshore camping is permitted only at the designated island campsites, including the group and family campsites on Stockton Island, or in the backcountry. The brochure “Camping in the Apostle Islands” indicates areas closed to camping. It is available from the park at the address on page 55. **Camping permits, available at visitor centers and ranger stations, are required;** that includes group/family campsites on Stockton Island. Build fires only in grills, pits, or rings at campsites. Pack out all trash and **do not bury refuse.**

**Lake water should be boiled at least 5 minutes before drinking to destroy waterborne organisms. Do not pollute the lake with soap, fish entrails, human waste, or other contaminants.**

**Hiking** Trails for hiking are available on many of the islands. They range in length from a ¼-mile trail on South Twin Island to Stockton’s 14½ miles. Islands with developed hiking trails include Oak, Stockton, Rocky, Basswood, Otter, Manitou, Raspberry and Sand. On some islands you can also follow old logging roads. Day hikers enjoy the short, self-guiding trail on Stockton. Oak Island’s interesting topography, scenic overlook, and back-

## Exhibits and Historic Sites

country camping make its 11½ miles of trails popular for hikers seeking seclusion. Hiking is permitted on all islands except Gull and Eagle, bird sanctuaries closed to human use. Hiking the Apostles can be fun, educational, and inspiring. Keep an eye peeled for sites of former logging and fishing camps, quarries, and farmsteads.

All hikers must be prepared with warm clothing, even in July and August. Long pants and long-sleeved shirts are the best protection against mosquitoes, but apply insect repellent to exposed skin. If you get lost, stay near the water's edge and signal for help.

**Hiking near cliffs can be dangerous** because of slippery and loose rock.

**Backcountry hikers**—please tell your plans to a ranger and report back when your trip is completed.

**Fishing** Lake Superior provides good sportfishing for lake, brown, and rainbow trout and other species of the salmon family. Charter fishing trips can be arranged with local marinas. Islands offer no inland fishing, but peninsula streams harbor brook, rainbow, and brown trout and spawning salmon in season. A State of Wisconsin fishing license and a trout stamp are required and state regulations apply. Licenses and stamps are sold throughout the area. Refuge areas are closed to fishing. If you have questions, check at a visitor center or with a ranger. Please do not dispose of fish entrails in the lake or streams.

Be sure to see the exhibits at the visitor centers at Little Sand Bay and in Bayfield (see page 54). On South Twin Island a geology exhibit gives you insight into the Earth forces that created and shaped the Apostle Islands and their Lake Superior environs. Exhibits on Stockton Island delve into the area's natural history.

Insights into the fur trade and other local history themes await you at the Madeline Island Historical Museum of the Wisconsin State Historical Society. Chippewa (Ojibway) Indian arts, crafts, and culture are portrayed at the Buffalo Arts Center on the Red Cliff Indian Reservation near Bayfield.

### Logging Camps and Quarry Sites

Clearings containing the remains of logging camps can be found on most islands, one of which was logged as recently as 1970. At one time, Oak Island boasted five lumber camps. At some of these campsites you may see spikes, saws, shoes, harnesses, and even cans of baked beans. Please leave things as you find them for the next person to discover and enjoy. All artifacts are protected by federal law.

Quarry pits on Stockton, Hermit, and Basswood islands recall the boom years of the Apostle Islands brownstone industry in the late 19th century.

**Light Stations** To see a lighthouse as it was when keepers and their families lived there, visit the Raspberry Island Light Station. The grounds and building are open for touring in summer. Recreations of its flower and vegetable gardens and a croquet court on the lawn bring back the lifestyle that accompanied this important era of Great Lakes shipping. A lightkeeper and his family spent large amounts of time in relative isolation at these stations. How-



ever, if he had an assistant, and that assistant had a family, loneliness was not as big a problem—provided they all got along! Six light stations were built on the Apostles. All of these are still in use, although no one tends them full time. All now operate automatically.

**Manitou Fishing Camp** Manitou Island's fishing camp, restored by the National Park Service, is a rare surviving example of the island-based camps that once served the lively commercial fisheries here. Built about 1900, it was first used by loggers. Then, itinerant fishermen drifted in and out. About 1938 the camp was occupied permanently as a commercial fishing base. Today it contains two cabins, two net and storage sheds, a smokehouse, and other buildings and a dock open for touring in summer.



**Hokenson Brothers Fishery** At Little Sand Bay on the mainland portion of the National Lakeshore stands an enclave of buildings near an L-shaped dock. This was the site of the Hokenson Brothers Fishery, a commercial fishing operation in which Hokenson family members performed every step of the process. They caught, picked, cleaned, processed, packed, and shipped their bounty—relying on no middlemen. In 1937, Leo, Roy, and Eskel Hokenson even built their own fishing tug, the *Twilite*. Today the buildings contain a museum with displays of the many implements necessary to run this business. The area is a combination fishery, carpenter's workshop, and blacksmith shop. The *Twilite*, restored by the National Park Service, sits on the beach nearby, an aged reminder of its glory days.

*Apostle Islands brownstone became elegant city buildings throughout the Midwest. Pits and blocks may be seen on three islands. Hokenson Brothers Fishery buildings (bottom) portray Great Lakes fisheries.*



## Management and Safety Considerations

**Safety concerns and management regulations** are listed under specific activities in this handbook. Read these sections before you get underway. Other considerations are listed, or reiterated, here. Questions about any activity can be answered at visitor centers or ranger stations or by a park ranger.

**Respect Property Rights** Many cabins and docks within National Lakeshore boundaries are still privately occupied. Please respect these rights; do not trespass.

**Pets** Pets must be leashed and under physical control at all times. Maximum leash length is 6 feet.

**Drinking Water Warning** Lake water should be boiled for at least 5 minutes before drinking.

**Camping Permits** Camping permits, available at visitor centers or ranger stations, are required for all island camping.

**Fires and Trash** Build fires only in grills, pits, or rings at designated campsites. Grilling aboard boats tied to public docks is prohibited. Pack out all trash and **do not bury refuse**. Dispose of human waste properly.

**Swimming in Lake Superior is not recommended.** Lake Superior waters seldom are warm enough for comfortable swimming except in shallow, protected bays. **No lifeguards are on duty within the National Lakeshore.**

**Warning: Dangerous Waters** Lake Superior waters are dangerously cold and sudden storms arise. The lake's history recounts numerous shipwrecks and violent storms. Small boats, canoes, and

kayaks should be used with extreme caution on the lake. Just offshore, 50°F waters can cause even strong swimmers to suffer hypothermia—critical loss of body warmth—in 15 minutes. Keep an eye on the weather even on calm days. Before you go boating, get the current weather forecast from the U.S. Coast Guard Station at Bayfield or at an island ranger station. **The marine weather frequency on your marine radio is 162.55 MHz (Duluth).** For safe navigation refer to Lake Nautical Chart #14973 or #14966.

**Holding Tanks and Bilges** Pumping of holding tanks and bilges into the lake violates state and federal regulations, which are strictly enforced.

### Nearby Attractions

**Madeline Island** is a major resort center offering full tourist services, Big Bay State Park, and Madeline Island Historical Museum. Reach it by car ferry from Bayfield. **Bayfield**, center of peninsula tourism, offers the Cooperage Museum and an architecture walking tour. Fairs and festivals take place in August, October, and February. **Red Cliff Indian Reservation** offers the Buffalo Art Center, a museum shop, and camping and boat launch facilities. Festivals are held in August and September. **Chequamegon National Forest** lands offer camping and other recreational facilities on the Bayfield Peninsula.



# National Park Service

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# U.S. Department of the Interior

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

# Apostle Islands

Official National Park Handbook

