

Isle Royale



View from Lookout Louise

ALL PHOTOS NPS UNLESS OTHERWISE CREDITED



Rocky shoreline



Canoe portage



Wood lily



Boats at campground dock

In Lake Superior's northwest corner sits a wilderness archipelago—a roadless land of wild creatures, unspoiled forests, refreshing lakes, and rugged, scenic shores—accessible only by boat or seaplane. Travel on and around the island is by seaplane, boat, or foot. There are 165 miles of foot trails, and the island boasts many inland lakes. For more seaworthy craft there is Lake Superior itself. Isle Royale exists as an island in many ways. It is an island of wilderness and home to wolves in a modern world. It is an island in time, a natural space where you live on natural cycles and experience the rhythms of light and dark. Days are measured by footsteps. Walking the island you are struck by its striated layout and its elongated patterns of forested rock and lakes that parallel its backbone, Greenstone Ridge.

The island, it seems, must have been forcibly combed from northeast to southwest. The island surface is the product of 10,000 years of natural sculpting, soil-building, and plant succession. Back then—not long ago by nature's time scale—the island appeared beneath glacial ice, rising as the lake level dropped. The island developed soil and was colonized by plants and animals. Its many inland lakes first formed in basins gouged out by glaciers and then began to shrink, as most lakes and ponds do. But beneath the ponds, for-

ests, and thin soil covering rests a story told not in increments of centuries but in millions of years. The rocks' ridge-and-trough pattern predates even the formation of Lake Superior and its islands. This story begins some 1.2 billion years ago with a great rift in Earth's crust that may have extended from here southward to the Gulf of Mexico. As this series of cracks poured forth molten lava covering thousands of square miles, the land along the rift zone sank to form the Superior Basin, which has shaped all subsequent geological events in the region. The rock record of this cataclysm—the volcanics, sandstones, and conglomerates—forms Isle Royale's bedrock. Clues to the island's past abound. Smoothed, rounded, and grooved rock bears testimony to the crushing power of the last major glaciation. It ended here only a few thousand years ago. Small linear hills formed from glacial deposits are still visible in the southwestern portion of Isle Royale, where the last great glacier paused in its northeastern retreat.

On the Stoll Trail out toward Scoville Point you pass three small pits in the rock. These form another clue, a clue to the aboriginal peoples who mined copper on the island as much as 4,500 years ago. Isle Royale and Lake Superior-area copper was traded as far as New York, Illinois, and Indiana. The island's other abundant

resources—fish, caribou, beaver, and other wildlife and plants and berries—attracted Native Americans for centuries. Typically, they came to the island from spring to fall and left before winter set in. Indian groups still used the island in the 1840s when treaties opened it for other miners and entrepreneurs.

Aquatic environments abound on and around the island. Some 80 percent of the park is underwater—shallow, warm-water ponds, streams, and rivers, and deep, cold, foreboding Lake Superior waters. Commercial fishing was a mainstay of island economic activity throughout historic times. It began before 1800, to feed the fur traders; since 1880 fishing has been a largely individual enterprise. The major economic species were lake trout, whitefish, and herring lurking in the wide range of water depths and bottom surfaces that characterize the Isle Royale archipelago. Most commercial fishing enterprises had closed by the mid-1900s. The historic Edisen Fishery and programs run by the National Park Service now preserve that world. Primarily because of the park's isolation, its waters continue to sustain healthy populations of native fish. Many visitors enjoy catching lake trout and northern pike in this wilderness setting. Anglers are encouraged to practice catch-and-release methods that help sustain the experience.

People at Isle Royale

Long before Europeans saw Isle Royale, American Indians mined copper here. Using hand-held beach cobbles they hammered out chunks of pure copper from the hard bedrock. Archaeologists have excavated shallow mining pits, some dating back 4,500 years.



Artist's representation of aboriginal copper mining.

The French claimed the island in 1671. In 1783 it became a U.S. possession; it was identified as Chippewa Territory until 1843.

Modern copper mining took place off and on from the mid-1800s until 1899. During that era large areas were



Edisen Fishery



Fog envelops the shoreline

burned, the forest was logged, and settlements developed.

The late 1700s saw the advent of commercial fishing. The American Fur company used the ancient method of gill netting to take whitefish, lake trout, and siskiwit. This tradition has



Fishermen in mackinaw boat pulling nets, about 1890.

been handed down through the fishermen's families. Early in the 1900s Isle Royale became popular for summer homes, excursions, and as a wilderness retreat. Detroit journalist Albert Stoll sparked the fight for the national park, which was established in 1940.

Isle Royale's Wilderness World

Had you visited the island in 1900 you would not have seen wolves or moose (*below*). Instead you might have seen a lynx or a caribou—no longer seen today. The forest undergrowth would be thick with Canadian yew rather than thimbleberry. Since then coyotes have been exterminated by wolves; white-tailed deer were introduced but later disappeared. Sometime early in the 1900s moose immigrated to the island. They probably swam from the Canadian mainland. With abundant food and no predators, their population grew unhindered. By the early 1930s the moose had destroyed their own food supply and began to die in great numbers. A fire in 1936 burned browse over 25 percent of the island, and by 1937 the moose population had crashed. Because the fire stimulated growth of new browse, the moose population, still unchecked, began to grow, but it only crashed when food ran out again.

In the exceptionally cold winter of 1948–49 an ice bridge formed between Canada and the island, and a small pack of Eastern timber wolves

crossed it to Isle Royale. Since then more packs, offshoots of the original pack, have established themselves on the island. The wolves are important to maintaining a healthy moose population on Isle Royale. Very young, very old, and sick or injured moose are the wolves' most likely prey. By culling the weak and the old, wolves contribute to the moose population's overall health. When the number of predators decreases, the number of prey increases—the dynamic cycle begins again.

Wolves are highly intelligent and social animals that form well-organized packs. Every individual from the dominant pair to the weakest pup has a place in the pack hierarchy. Few wild animals can match the wolf's devotion to its young. In late spring the pregnant female digs a den and prepares it for the pups. Both before and after the pups are born, the pack remains close to the den, supplying food to the female. When the pups are able to leave the den they are cared for by all pack members. In lean years rates of

wolf pack reproduction and survival may fall off dramatically, but they usually increase when the moose population begins to age, and these animals become easier prey for wolves.

For the past few decades the island's wolf and moose populations have fluctuated dramatically. The wolf population has ranged from 12 to 50 animals, with prolonged low populations in the late 1980s and early 1990s. We believe disease played a major role in the initial wolf population decline in the early 1980s, and have recently traced the mainland source that carried the disease to Isle Royale. Since this discovery, the park has taken the necessary regulatory measures to prevent further introduction of diseases to wildlife.

Negative impacts from inbreeding in the isolated wolf population have not yet been shown, but this remains an ongoing research interest. Techno-

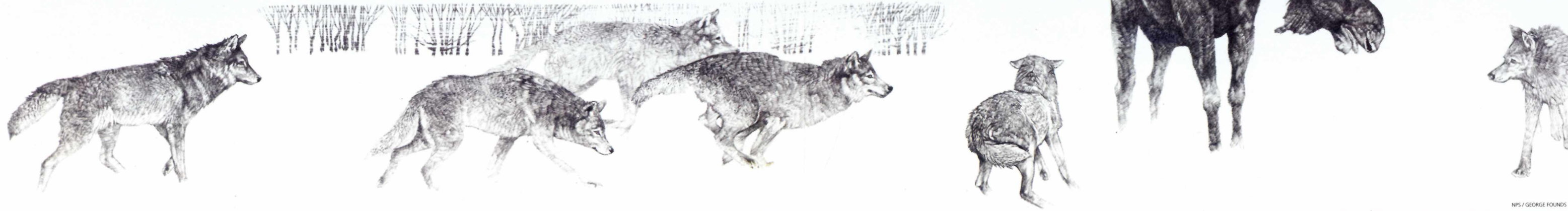
logical advances now allow scientists to obtain genetic information from wolf scat, reducing the need to live-trap and handle an individual to acquire the same information. Genetic information from wolves on the island is important for assessing genetic diversity and deterioration, population size, extinction risk, and the impact of isolation on fragmented populations. This research helps to better understand and conserve wolf populations outside the park's boundary as well.

After rebounding from a population crash in the mid-1990s, the moose population today continues to decline. Winter conditions, winter ticks, hot summers, available browse, and wolf numbers are some of the variables affecting this population and, correspondingly, the wolf population. Continued long-term research offers insight into the predator/prey dynamics playing out on Isle Royale and the influence this relationship has on the island's ecosystem.

As a wilderness area, Isle Royale is far more than just a sanctuary for wolves and moose. As a national park it is also more than a pleasuring ground for people. The life of the island clearly suggests the dynamic interactions of its natural processes: moose are dependent upon wolves and beaver—wolves to control their numbers and beaver to provide dams and in turn the aquatic vegetation upon which moose feed. The beaver also serve as summer food for wolves, and beaver ponds eventually become meadows supporting a variety of smaller animals. The red fox eats

hares that, left unchecked, would destroy the vegetation that supports the moose that support the wolves.

In such a dynamic system each of these species plays an important role. What is our part? We must work to assure that the natural processes are allowed to function naturally. We must observe but not manipulate them. In addition to being a national park, Isle Royale also has been designated a U.S. Biosphere Reserve. Ninety-nine percent of the park's land area is designated as wilderness, protected as part of the National Wilderness Preservation System. This recognition and protection reaffirms the wisdom and importance of preserving Isle Royale National Park.



Exploring Isle Royale



Ranger leads hike to Minong Mine.

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Kayaker



Bunchberry



Cow moose



Gray wolf



Luna moth

The park newspaper and brochures on recreational activities are available to help you plan your trip.

Fees For current fee information, contact the park staff or visit the park's website at www.nps.gov/isro.

Visitor Centers National Park Service visitor centers are at Houghton (mainland), Rock Harbor, and Windigo. Publications and maps are sold by the Isle Royale Natural History Association, www.irnha.org.

Weather For National Weather Service forecasts for Isle Royale, tune to WXK-73, broadcast on 162.400 MHz from Houghton or 162.475 MHz from Canada.

Getting to the Park The park is open April 16 through October. Public transportation from the mainland is by boat

or seaplane only. Reservations are required. Weather and rough waters may delay departures to and from the island for a day or more at a time. Allow extra time and be flexible.

Houghton to Rock Harbor, June to mid-September, via the National Park Service ship *Ranger III*. For rates and schedules contact the park.

Houghton to Windigo or Rock Harbor, mid-May through mid-September, via seaplane. Contact Royale Air Service, Inc., P.O. Box 15184, Duluth, MN 55815; 877-359-4753; email: RoyaleAirService@aol.com. **Copper Harbor to Rock Harbor**, mid-May to late September. Contact: Isle Royale Queen, Box 24, Copper Harbor, MI 49918; 906-289-4437; www.isleroyale.com.

Grand Portage to Windigo, mid-June to mid-September,

and Grand Portage to Rock Harbor via Windigo, early May through October. Contact: GPIR Transportation Line, Inc., P.O. Box 10529, White Bear Lake, MN 55110; early season 651-653-5872; late season 218-475-0024; www.isleroyaleboats.com. One boat circles Isle Royale with various pickup and drop-off points.

Customs Regulations U.S. citizens returning from Canada and Canadian visitors to the island must clear U.S. Customs. U.S. Customs and Immigration officers usually are available during normal work hours at Windigo and Rock Harbor ranger stations.

Accommodations Lodge and housekeeping facilities are available at Rock Harbor. For reservations, rates, and information in summer, contact: Rock Harbor Lodge, P.O. Box 605, Houghton, MI 49931-0605,

906-337-4993. Off season contact: Isle Royale Resorts, P.O. Box 27, Mammoth Cave, KY 42259-0027, 866-644-2003.

For a Safe Visit The park has no medical services except basic first aid. Public telephones are available at Rock Harbor. • Pets are prohibited inside the park boundary, including those kept on boats. Park boundaries extend 4.5 miles into Lake Superior. Special conditions apply to guide dogs. Please contact the park for further information. • Mosquitoes, black flies, and gnats can be plentiful; be prepared. Carry protective clothing, a head net, and insect repellent. • Although there have been no reported cases of Hantavirus on Isle Royale, risk of contracting this disease can be minimized by following precautions discussed in the park's newspaper, *The Greenstone*. • Do not feed any wild

animals. • Do not leave personal items, packs, or food unattended; foraging animals may carry off items. • Surface water is potentially contaminated with parasites and bacteria that chemical purification will not kill. Boil water for at least one minute or filter and purify; follow with chemical treatment.

Hiking Isle Royale has over 165 miles of trails and 244 campsites dispersed among 36 campgrounds. Cross-country off-trail hiking is rugged, through dense vegetation, bogs, and swamps. Hiking from one end of the island to the other can be arranged through commercial boat and plane operators.

Swimming and Scuba Diving Swim with caution! Lake Superior waters are extremely cold. Scuba divers must pre-register at a ranger station.

Contact the park for information on dive charters.

Boating The marina at Rock Harbor Lodge is open late-May through early-September. Diesel fuel, gasoline, and oil can be bought at Rock Harbor; Windigo offers only gasoline and oil. Most park docks accommodate cruisers of moderate draft. Boat rentals and holding tank pumpout stations are located at both Rock Harbor and Windigo.

Boaters Notes The discharge of human waste or gray water into Lake Superior violates state and federal laws. Don't pollute! • Boaters should carry Lake chart 17976 "Isle Royale;" it can be purchased at the park. • Boaters crossing from the mainland to Isle Royale need an FM radio with sufficient power to reach shore. Channel 16 FM is monitored by Mott Island and Windigo

ranger stations by day and by the U.S. Coast Guard 24 hours. • Boats less than 20 feet long should not cross Lake Superior from the Keweenaw Peninsula. Boats up to 20 feet long may be transported on the *Ranger III*. • Boaters must make every effort to avoid introducing exotic aquatic organisms like zebra mussels into Isle Royale waters; the ecological effects could be devastating.

Quiet/no-wake zones reduce noise and wake impacts from power boats. Operation of electronic and motorized devices such as stereos, televisions, radios tuned to commercial stations, and portable generators is not permitted except in developed and open-water motorized zones. Onboard generators may be used at docks in developed zones and at selected campgrounds, except during quiet hours.

Fishing In all Lake Superior waters a Michigan fishing license is required. No fishing license is required in inland lakes and streams. Only artificial lures are allowed. Special regulations apply for brook trout. Refer to the park newspaper for fishing regulations.

Camping: Leave No Trace Isle Royale is an unspoiled wilderness—because of its isolation and the thoughtfulness of its campers. Leave No Trace camping depends more on attitude and awareness than on rules and regulations. When camping or hiking on Isle Royale, please follow the principles below. For information on Leave No Trace camping, check the Leave No Trace website at www.lnt.org and the Isle Royale website at www.nps.gov/isro.

Permits are required for all overnight stays in the park.

• Parties of over six persons must obtain advance reservations and are subject to special Group Regulations. No group camping or traveling together may consist of over 10 persons. • Campground quiet hours are from 10 p.m. to 6 a.m. EDT. • Know your limitations; hikes of over six to eight miles a day are uncommon due to rough terrain. • Your gear should include waterproof hiking boots, warm clothing, foul-weather gear, first-aid kit, maps, a compass, tent, water filter, flashlight, campstove, fuel, waterproof matches, and extra food.

Stay on established trails and use designated campsites. Confine your activities to these durable locations to preserve the natural conditions in surrounding areas. • Use pit-toilets or bury feces at least 200 feet away from water, trails, and camps. • Pack out your

litter and try to pick up litter that others leave. • Soaps, even if they're biodegradable, must not enter streams or lakes. • Leave rocks (including rocks and minerals found in Lake Superior), antlers, plants, cultural artifacts, and other objects of interest just as you find them. • Metal fire grates or fire rings are provided where campfires are allowed. Build small fires only, using only dead and down wood. Extinguish your campfire completely—and never leave a fire unattended.

More Information Isle Royale National Park 800 E. Lakeshore Dr. Houghton, MI 49931 906-482-0984 www.nps.gov/isro

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