Hiking the Biggest Island in the Biggest Lake in the World

An informal, personal, perspective
Seth Stein, Woods & Wetlands Group, Illinois Sierra Club
Island formed 1.1 billion years ago

Native American copper mining ~ 4500 BC

Part of US after Treaty of Paris 1783

Fishing starts 1837

US mining starts 1843

Tourism starts ~ 1870

National park 1931
Isle Royale & area around Lake Superior are part of the Midcontinent Rift (MCR), one of the major geological features of central North America.

- 2000 miles of buried dense & highly magnetized igneous rocks prominent on gravity & magnetic maps.
- Rocks record when North America nearly split 1.1 billion years ago.
- Volcanic rocks visible at surface near Lake Superior, make up Isle Royale.
- Major source of copper deposits that drove European settlement of Keewenaw.
- Rift controls location of Lake Superior.
Geologic structure of the Midcontinent Rift shown by seismic reflection surveying

Huge deep rift filled with volcanic rocks & sediment
Figure 3: Schematic cross section of Isle Royale, showing tilted lava and conglomerate layers.

Hiker’s geology:
South facing slopes are gentle
North facing slopes are steep

Huber, 1975
Pre-hike reading or listening

Chicago-Houghton
~400 miles
Copper Harbor, MI
August 2014
Entering Rock Harbor
Rock Harbor Lodge
Rock Harbor Marina
Rock Harbor Lodge room balcony

Great for gear drying
Scoville Point
Historic mine

Mining on Isle Royale began in earnest in 1843 after the Chippewa Indians relinquished claim to the island. Soon more than 20 companies had staked claims on Isle Royale. In July 1843, James Smithwick located a mine here.

For two years, from mid-1845 to mid-1849, agent Cornelius G. Shaw and a small crew of miners worked Smithwick’s mine. They dug four shafts and built a blacksmith shop, root cellar, and several dwellings. The main shaft (the timber-lined pit to your left) reached 96 feet deep. The upper 30 feet produced some copper, but lower down the vein “pinched out,” prompting Shaw to abandon mining here.

Though prehistoric Indians had mined Isle Royale copper for centuries, historic mining occurred in three short phases: 1843–1855, 1872–1881, and 1899–1903. Dozens of mines were located, several extensively worked. Hope and effort ultimately prove and folded with changing mining laws, the price of copper, and fickle copper veins.
Rainy day departure
Comfy voyage to mainland
Houghton, MI
September 2018

de Havilland
Canada Beaver
short takeoff and landing aircraft
manufactured
1947-1967
Baggage handling and fueling
Boarding is easy – No TSA!
Passengers welcome on flight deck
Leaving the Keewenaw
Isle Royale

Rock Harbor below
Tobin Harbor landing
A water landing!
Gear comes out of pontoon – no frame packs allowed
Pick ‘em up & pack ‘em out
Rock Harbor visitor center for trail permits & store for last snack
Is every ounce necessary?
Time to stop stalling & just do it
Mount Franklin Trail
Heading up
Mount Franklin

Canada in the distance
Slog on swampy Lane Cove Trail
Lane Cove Campground
Tent pole repair
Perfect island evening
Mount Franklin again – great lunch spot.
Siesta – “bear break”
Greenstone Ridge Trail
Mount Ojibway lookout tower
View to south
Daisy Farm campground
Rock Harbor trail
Beavers’ work
Siskowit mine

1847-1855

200,000 tons of copper
Rock Harbor again
CLOSED FOR THE 2018 SEASON
SEE YOU IN 2019!
Waiting for the seaplane

Isle Royale version of United Club
The gate area
Goodbye, Isle Royale
Google maps works!
Houghton again
Park Service visitor center dock with Ranger Ferry
Landed!
For more info

"Lake Superior and the Midcontinent Rift: the billion year story"
YouTube video

https://sites.northwestern.edu/sethstein/the-midcontinent-rift/
Interpretive Primer

Abstract
Few areas give interpreters and educators the opportunity to illustrate geoheritage—the role of geology in shaping an area’s culture and growth—as well as the Lake Superior region. Lake Superior itself, and the spectacular scenery around it in national, state, and provincial parks, result from a huge geologic structure. Known as the Midcontinent Rift System (MCRS), this structure is a 1.1 billion-year-old, about 1,800-mile (3,000 km) long scar along which the North American continent started to tear apart, but for some reason failed to form a new ocean. The rift gave rise to Lake Superior, which is the basis of the area’s water-based history and economy, the copper and building stone deposits that shaped the region’s settlement and growth, and today’s tourist industry.

Key words
Lake Superior parks, Midcontinent Rift System, mineral deposits, Plateau

Using Lake Superior parks to explain the Midcontinent Rift
By Seth Stein, Carol A. Stein, Eunice Blavascunas, and Jonas Kley

Some of the Midwest’s most spectacular scenery occurs near Lake Superior, in places like Pictured Rocks and Apostle Islands National Lakeshore. Geologists are trying to establish the age of these rocks, which would give insight into how and when the Midcontinent Rift System died.

Kayakers paddle past sandstone rocks in Apostle Islands National Lakeshore.