



Thunder Bay National Marine Sanctuary Accomplishments

Fiscal Year 2022

Located in northwestern Lake Huron, Thunder Bay National Marine Sanctuary protects one of the world's best-preserved and historically significant collections of shipwrecks. Within its 4,300 square miles lie 100 known sites, and research indicates as many as 100 await discovery. This diverse collection represents over one hundred years of commerce in the heart of North America and includes wooden schooners that date to the early nineteenth century and modern, massive steel freighters. Through research, education, and community involvement, the sanctuary works to ensure future generations can enjoy these underwater treasures.

Visit thunderbay.noaa.gov for more information.

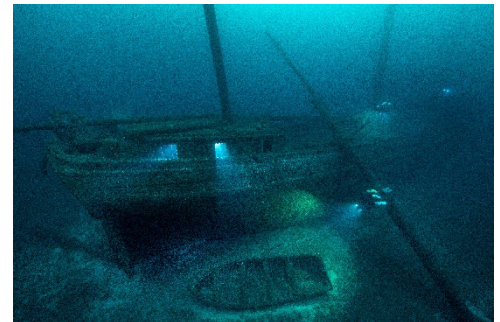
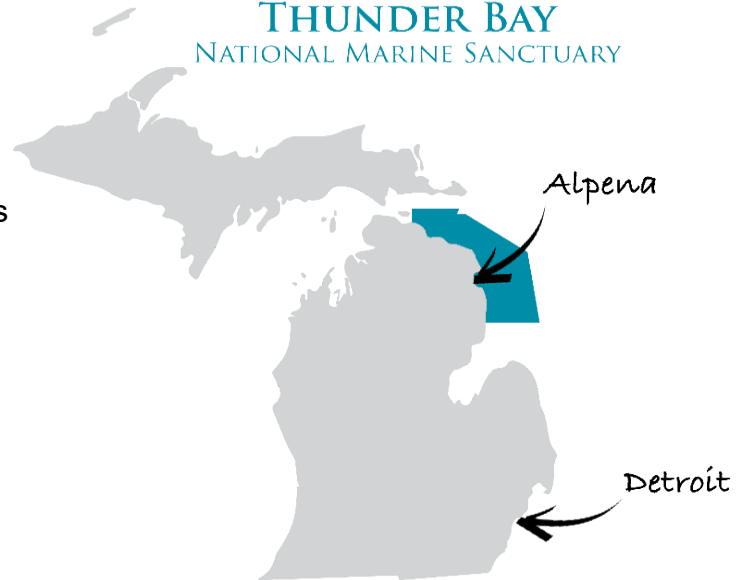
Mooring Buoy Program Expands into Deeper Waters

Building upon one of the sanctuary's most effective cultural resource protection programs, sanctuary staff and partners, including the U.S. Coast Guard, installed twelve new mooring buoy systems at the deepest and most vulnerable shipwreck sites ranging from 130-310 feet. Providing a safe and regularly maintained means of access for divers, these buoys facilitate responsible and sustainable on-water recreation while protecting fragile archaeological sites from anchoring damage. The new deep-water mooring buoys are added to a collection of 52 buoyed sites and are utilized by dive charter operators and other recreational sanctuary users.

Sanctuary Partners with Viking Expeditions

For the first time, the sanctuary teamed up with Viking Expeditions to provide citizen engagement to nearly 4,000 cruise ship passengers from around the US. The ship *Octantis* stopped in Alpena nine times, and tendered passengers directly to the Thunder Bay River and in the doors of the Great Lakes Maritime Heritage Center. A sanctuary interpretive and outreach team led tours four times daily through exhibits and often aboard the glass bottom boat *Lady Michigan*.

THUNDER BAY NATIONAL MARINE SANCTUARY



The *Cornelia B. Windiate* is a popular technical dive site in the sanctuary and is protected with a new sanctuary mooring buoy. Photo: Becky Kagan-Schott



The Viking ship *Octantis* enjoyed stopping in Alpena for its passengers to learn about the sanctuary. Photo: NOAA

Great Lakes Maritime Heritage Center Reopens

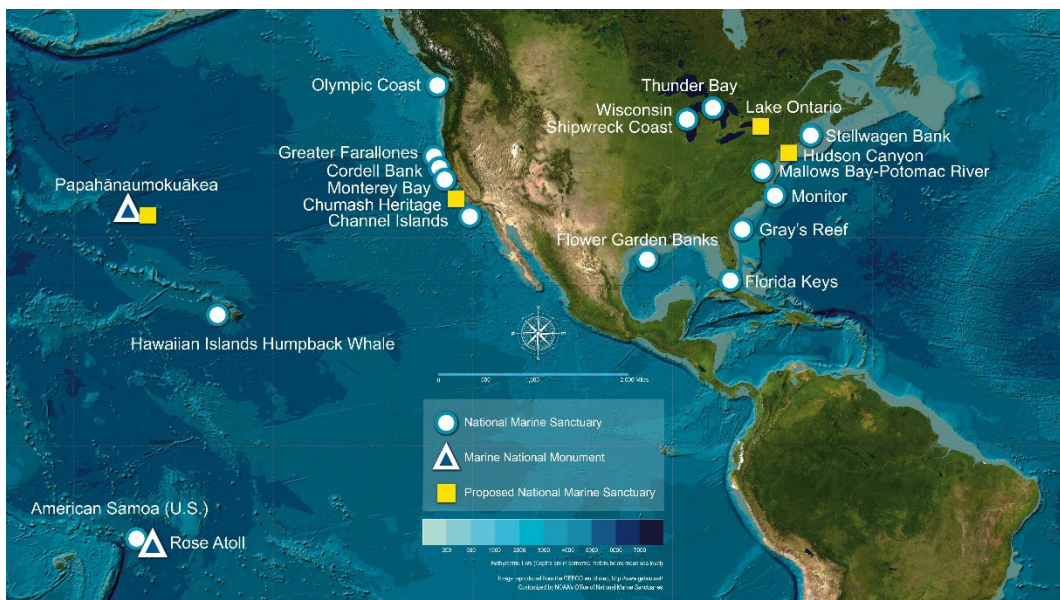
On April 25, the Great Lakes Maritime Heritage Center opened its doors for the first time since March 2020. As the visitor center for NOAA's Thunder Bay National Marine Sanctuary, the center greets youth groups, scientists, residents, and tourists throughout the year, and within the first six months of reopening, welcomed 50,000 visitors. Based in downtown Alpena, Michigan, the center serves as an epicenter of interactive and educational experiences for visitors, such as the 130 elementary school students on the first field trip since the pandemic began.



Visitors to the Great Lakes Maritime Heritage Center enjoy learning about freshwater acidification. Photo: NOAA

Looking Ahead

- With support from NOAA's Ocean Acidification Program, the sanctuary will embark upon year two of its freshwater acidification monitoring program, focused on assessing conditions at shipwreck sites. In addition to providing relevant climate change baseline data, the project fosters environmental stewardship with a robust education and outreach strategy.
- In partnership with University of Michigan scientists, sanctuary staff will facilitate research to develop methods of machine learning and autonomous detection of cultural sites from robotic surveys. The project presents potential for improved, systematic monitoring of cultural resources and showcases sanctuary waters as a sentinel site for marine technology.
- With students back in classrooms, sanctuary education staff is partnering with Alpena Public Schools curriculum developers to create interactive, enriching experiences in alignment with State of Michigan education standards.



The National Marine Sanctuary System is a network of underwater parks encompassing more than 620,000 square miles of marine and Great Lakes waters. The network includes a system of 15 national marine sanctuaries and Papahānaumokuākea and Rose Atoll marine national monuments.