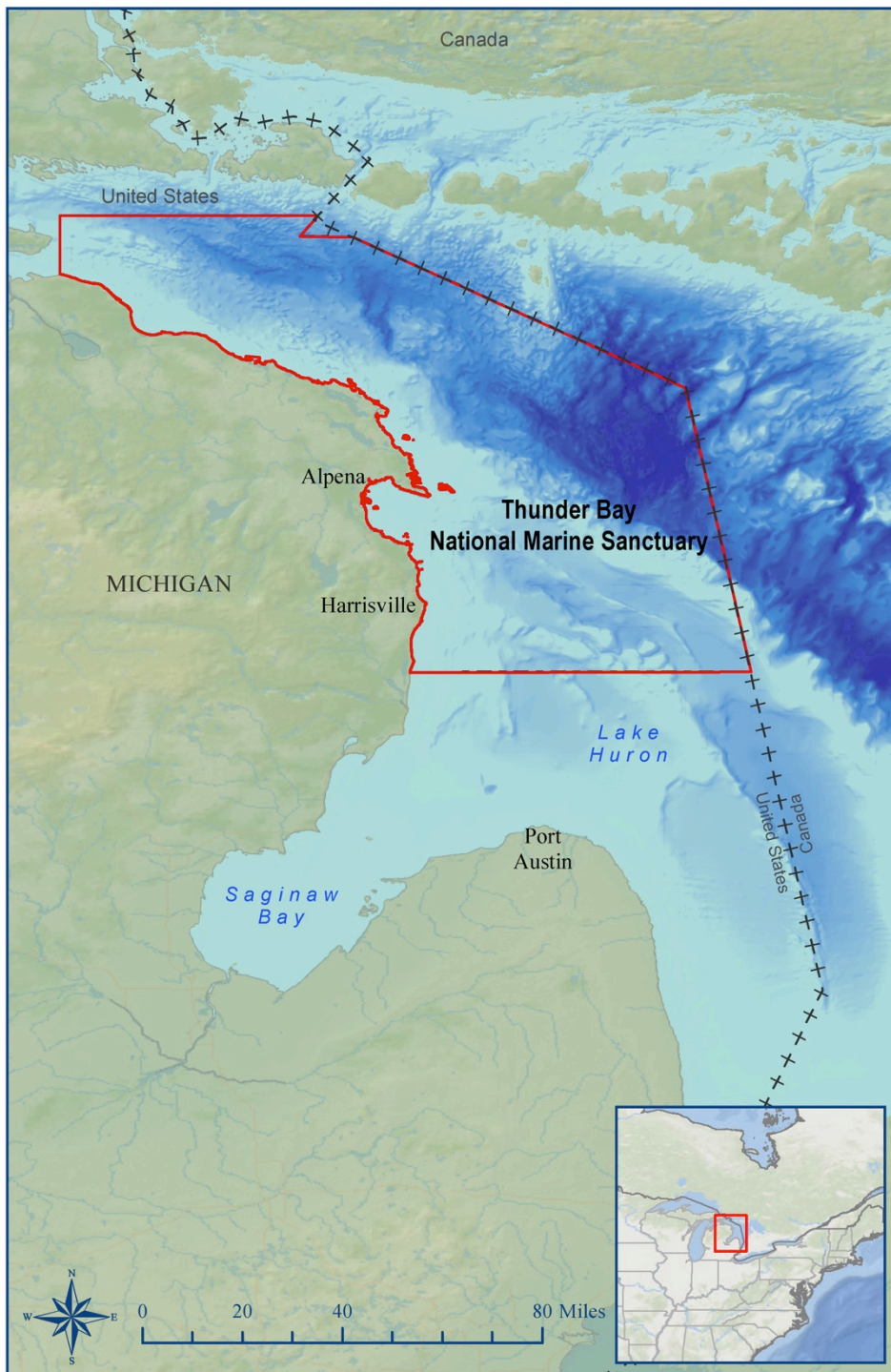


## THUNDER BAY NATIONAL MARINE SANCTUARY

### FY16 Accomplishments



### BACKGROUND

Thunder Bay National Marine Sanctuary was established in 2000 to protect one of America's best-preserved and nationally significant collections of shipwrecks. Unpredictable weather, murky fog banks, sudden gales and rocky shoals earned the area the name "Shipwreck Alley." Fire, ice, collisions and storms have claimed over 200 vessels in and around Thunder Bay.

Thunder Bay National Marine Sanctuary is part of the National Marine Sanctuary System, which is a network of underwater parks encompassing more than 600,000 square miles of marine and Great Lakes waters from Washington state to the Florida Keys, and from Lake Huron to American Samoa. National marine sanctuaries are managed for the conservation of their natural and cultural resources, while supporting sustainable recreation, tourism and compatible commercial activities. The network includes a system of 13 national marine sanctuaries and Papahānaumokuākea and Rose Atoll marine national monuments.

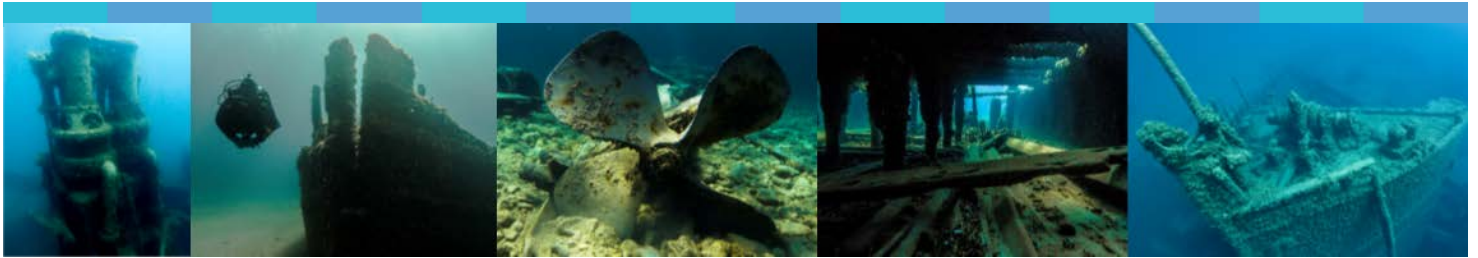


Photo: NOAA

A glass-bottom boat takes a group of 4th grade Michigan students to visit the shipwrecks of the sanctuary as part of the "Every Kid in a Park" program.



Photo: NOAA

Sanctuary divers operate the HyperDiver, a specialized hyper-spectral imaging system to map coral reefs.



Photo: NOAA

Students from Alpena Community College Marine Technology Program learn about science in the Great Lakes.

### Every Kid in a Park, and in a sanctuary!

Thunder Bay National Marine Sanctuary is getting the next generation inspired about stewardship of the Great Lakes - all while enhancing local pride in Michigan's natural and cultural resources. This past year hundreds of northeast Michigan fourth graders, through the "Every Kid in a Park" initiative, were able to experience the sanctuary on a glass bottom boat cruise and through hands-on activities at the Great Lakes Maritime Heritage Center. While visiting the Center, students were also able to learn about applied technology and environmental science by building remotely-operated vehicles and conducting water quality monitoring. Through this grant-sponsored program, students from around the region learned and gained a greater appreciation for the rich natural and maritime history of the Great Lakes.

### Sanctuary supports sinkhole research collaboration

Thunder Bay National Marine Sanctuary provided vessel and dive support for an international research effort studying microorganisms in the sanctuary's Middle Island Sinkhole. The microbes provide a glimpse of what early life on Earth might have been like and exist in just a few places on the planet. Using research vessels, remotely operated vehicles, scuba divers, underwater sensors, as well as laboratory-based studies, scientists are revealing a fascinating picture of this unique ecosystem. The sanctuary's contributions help support regional higher education institutions, and offer opportunities for faculty and students to access an otherwise remote and unique area for study.

### Marine technology and the economy

Students from Alpena Community College Marine Technology Program worked alongside sanctuary researchers to learn about the significance of science in the Great Lakes. Students developed valuable waterman skills and learned remote sensing methods, which can be applied as they enter marine industry fields. This educational experience increased local students' knowledge of career opportunities and provided skills that strengthen their marketability for careers related to our nation's economy.

### Thunder Bay National Marine Sanctuary Looking Ahead to FY17

- With support from a National Marine Sanctuary Foundation Hollings Grant, the sanctuary will develop a year-round outreach campaign to increase sustainable tourism and strengthen public engagement, appreciation, and stewardship.
- The sanctuary will conduct a four-phase field project funded by NOAA Ocean Exploration and Research. This study endeavors to test new methodologies in archaeological exploration of very shallow water and very deep water where conventional remote survey systems are not effective.
- The sanctuary will complete a multi-partner outdoor interpretive sign initiative. Over 100 signs will be installed along an expanded "Great Lakes Maritime Heritage Trail" in public access areas along coastal parks and harbors paralleling the sanctuary's expanded boundaries.