

Thunder Bay National Marine Sanctuary

Maritime Heritage Preservation Above and Below the Waves

2013 Resource Protection Highlights

TBNMS released its first [Condition Report](#), which describes the state of the sanctuary's resources and identifies pressures that affect their scientific integrity and recreational value.

The sanctuary research team operated 53 days at sea in the sanctuary, performed 255 scientific and working dives in Thunder Bay and other national marine sanctuary sites, and maintained moorings at 27 shipwreck sites.

The sanctuary debuted the Coastal Survey Initiative, a volunteer-driven effort to locate and document cultural material along the sanctuary's shoreline. The project was in response to historically low water levels in Lake Huron.

TBNMS hosted a three-week field school for 20 graduate students and faculty from East Carolina University's [Program in Maritime Studies](#). The sanctuary provided staff time, housing, and vessel and diving support.

Using closed circuit rebreathers, a first for the TBNMS research team, TBNMS and Monitor NMS archaeologists began documenting the steamer [Montana](#), one of the sanctuary's more popular wrecks. Built in 1872, the wooden freighter had a remarkable 42-year career.

TBNMS continued its remote sensing efforts, producing new or updated sonar images of the steamers *Monrovia*, *Viator*, *Pewabic* and *Henry Johnson*, as well as the schooners *Newell Eddy*, *Syracuse* (tentative ID), *Persian* and *Bentley*. Several of the wrecks are in an area being considered for sanctuary expansion.

Through diving, sample collection and vessel operations, the sanctuary research team continued to support several multidisciplinary projects: the NOAA Great Lake Environmental Research Lab's [long-term ecological research program](#) in Thunder Bay, the Michigan Department of Environmental Quality, and University of Vermont experimental [reef restoration project](#), and the Grand Valley State University and University of Michigan [microbial research](#) at the Middle Island sinkhole.



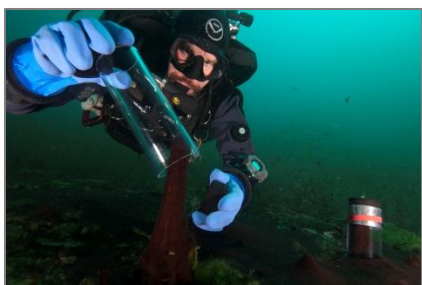
Above, the package freighter *Montana* (1872-1914). Below, in 2013, ONMS archaeologists documented the 240-foot long historic site resting in 60 feet of water.



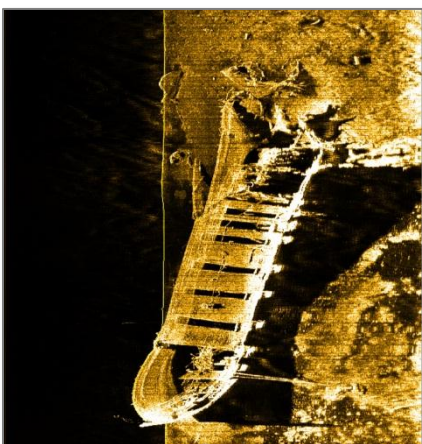
Above, graduate students from East Carolina University document an anchor at the wreck of the schooner *Ogarita* during a maritime archaeology field school in Thunder Bay.

Connecting Science and Education at Thunder Bay National Marine Sanctuary

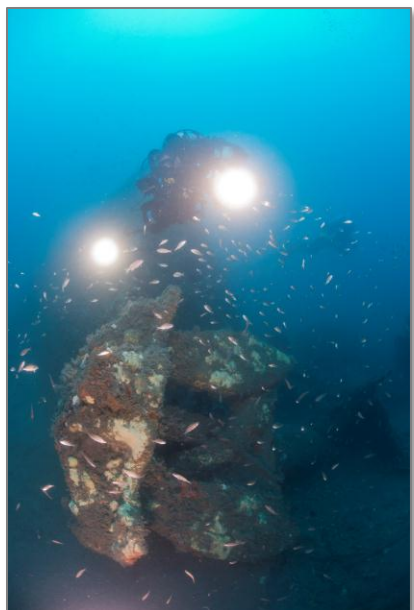
The TBNMS research team was involved in 30 "media impressions" in 2013, including nearly a dozen Great Storm of 1913 100-year anniversary interviews and a piece on National Public Radio's Morning Edition. The team also gave 19 public presentations and lectures including support of Alpena High School's innovative Shipwreck Alley curriculum and Alpena Community College Marine Technology Program. The team also co-produced a "live connect" workshop for teachers hosted by Chicago's Museum of Science and Industry, and chaired sessions for the sanctuary-hosted North American Society For Oceanic History annual conference.



Above, a sanctuary archeologist samples microbial mats at the Middle Island sinkhole, which hosts a range of microbes of interest to researchers- from biologists to biochemists.



Above, a 2013 sonar image of the steamer *Henry Johnson*, located in a potential sanctuary expansion area. Below, a TBNMS archaeologist films the WWII-era steamer *Liberator* off the coast of North Carolina during the Monitor NMS Battle of the Atlantic project.



TBNMS assisted with on-site logistics and interviews for a documentary on wreck of the *Cornelia B. Windiate*. British film maker Tigress Productions filmed the program, which will air in 2014 on [Channel 5](#) in the United Kingdom.

Along with other ONMS maritime archaeologists, NOAA's Office of Coast Survey and local historians, TBNMS maritime archaeologists participated in fieldwork to identify the wreck of the U. S. Coast Survey vessel [Robert Walker](#) off the coast of New Jersey.

TBNMS maritime archaeologists participated in the [2013 Battle of the Atlantic Expedition](#) off the coast of North Carolina. Lead by the Monitor NMS, the multi-year project is aimed at identifying and assessing shipwrecks associated with WWII.

The sanctuary hosted for two weeks an ECU student and volunteer who worked with the sanctuary's GIS to create several outreach maps while gaining experience in GIS. TBNMS also hosted for three weeks an independent study student and scientific diver from University of Rhode Island who assisted with a range of field operations while gaining valuable professional experience.

2014 Outlook

The sanctuary will install an additional five moorings in 2014, bringing the total number of shipwreck moorings to 32.

TBNMS will finish documenting the steamer *Montana* and begin mapping and characterizing the North Point and Thunder Bay Island areas - both notorious shoal areas with the scattered remains of several shipwrecks and related material culture.

In follow up to remote sensing done in 2013, the sanctuary will conduct archaeological assessments at 6 shipwrecks sites using a combination of ROVs and diving. Five of the 6 sites are in an area being considered for sanctuary boundary expansion.

TBNMS will partner with the U. S. Fish and Wildlife Service to acoustically map Six Fathom Bank, a productive spawning ground for lake trout nearly 40 miles offshore. The project will characterize the area's substrate and produce bathymetry maps that will help fine-tune USFWS monitoring.

TBNMS will partner with Michigan Tech University to create an Android-based shipwreck app to highlight Thunder Bay NMS and the State of Michigan's Underwater Preserve System. The app will be created by MTU's students and have a graphic and text based search system navigating Michigan's historic maritime past.

The sanctuary will submit a grant proposal to NOAA's Preserve America Initiative to create an exhibit for the Great Lakes Maritime Heritage Center focusing on marine technology. The centerpiece will be an ROV simulator promoting sanctuary stewardship, STEM education, and Alpena Community College's Marine Technology degree.