

A Look Ahead

As we celebrate our tenth year, the sanctuary and our community reflect on the first decade of our partnership to protect the Great Lakes and their rich history. While we are proud of our many accomplishments, we are not yet satisfied, and we look forward to the next decade. Moving ahead, the sanctuary will expand and enhance our research and education the programs that have defined Thunder Bay. Our successful Great Lakes Maritime Heritage Trail will stretch along the waterfronts of Presque Isle, Alpena and Alcona counties and provide a comprehensive interpretive experience for our visitors and residents alike. Our research will delve into new depths with an expanded portfolio of scientists, vessels, mapping and observation tools, and diving capabilities, positioning Thunder Bay as a sentinel site for ecosystem and archaeological research in the Great Lakes. Finally, the sanctuary will evaluate the sanctuary advisory council's recommendation to expand the sanctuary's boundaries. To accomplish these aggressive goals, the sanctuary will continue to foster strong support from our community, volunteers, and many partners in our ongoing efforts to protect and understand the maritime heritage of these waters

Jobs, Communities and Culture

The Northeast Michigan region is rich in history and natural resources and is home to the Thunder Bay National Marine Sanctuary. Approximately 53,000 people live Alpena, Presque Isle and Alcona Counties adjacent to the sanctuary. As a popular destination for outdoor recreation, people travel to the region for fishing, scuba diving and snorkeling on ship wrecks, visiting beaches, touring lighthouses, camping and hunting. A 2005 study estimated annual visitor spending in the three counties to be approximately \$110 million supporting around 1,700 jobs. The Great Lakes Maritime Heritage Center (the visitor center for the Thunder Bay National Marine Sanctuary and Underwater Preserve) is a major tourist destination for the region, hosting approximately 60,000 visitors annually

NOAA's Office of National Marine Sanctuaries is committed to supporting lives and livelihoods across the nation and in sanctuary communities through socioeconomic research and monitoring to understand the economic and social drivers of sanctuary resources and improve management practices.

Thunder Bay National Marine Sanctuary Advisory Council Members

Officers

Chair: Olin Joynton

Vice Chair: Carol Shafto

Non-Governmental Members

Recreation: Don Beem
Alternate: Mark Upham

Higher Education: Olin Joynton
Alternate: Charles Wiesen

Business/Economic Development: Carl Bourdelais
Alternate: Don Newport

Citizen At-Large: Vera Kavanaugh
Alternate: Jim Dessenberg

Maritime History/Interpretation: Kathleen Hubbard
Alternate: vacant

Citizen At-Large: Jerome Meek
Alternate: John McVeety

Tourism: Deb Pardikie
Alternate: Dennis Bodem

Education (K-12): vacant
Alternate: Shari Davis

Fishing: Ed Retherford
Alternate: Charles Lefebvre

Diving: Steve Kroll
Alternate: John McConnell

Governmental Members

Local Government

Alpena County Board of Commissioners: Bill Estlack
Alternate: vacant

City of Alpena: Carol Shafto
Alternate: Michael Nunneley

Sanborn Township Board of Trustees:
Lynda VanDusen
Alternate: Kenneth Gauthier

Alpena Township Board of Trustees: Marie Twite
Alternate: vacant

Thunder Bay Underwater Preserve Committee:
Joe Sobczak
Alternate: Mike Lakin

State Government
State of Michigan (non-voting): Sandra Clark

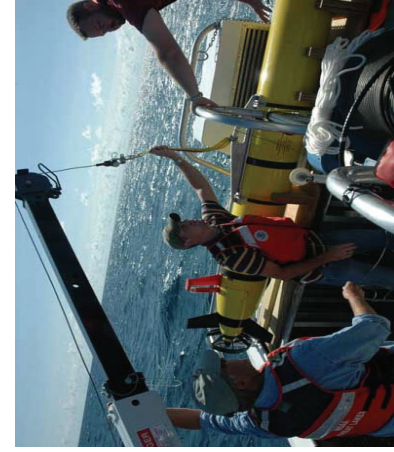
Tribal Government
Chippewa Ottawa Resource Authority (non-voting):
Director

Federal Government
NOAA Thunder Bay NMS (non-voting): Jeff Gray
Sanctuary Advisory Council Coordinator
Jean Prevot

2010 ACCOMPLISHMENTS



Thunder Bay National Marine Sanctuary boasts nearly 100 shipwrecks preserved by the cold, fresh waters of Lake Huron within its 448- square-mile boundary. Thunder Bay's unpredictable weather and treacherous shoals have earned it the nickname "Shipwreck Alley," and its collection of wrecks represents a cross-section of the diverse vessels that have traveled the Great Lakes since the 19th century. From wooden schooners to modern freighters, these cultural treasures provide a window into the region's rich maritime history. Established Oct. 7, 2000.



Cutting Edge Technology and the Search for Lake Huron's Lost Ships
Sponsored by the NOAA Office of Exploration and Research, the Thunder Bay 2010 Project brought cutting-edge shipwreck finding technology to Lake Huron's "shipwreck alley." From August 16-27 a team from Thunder Bay National Marine Sanctuary and the [Applied Research Laboratories at The University of Texas at Austin](#) (ARL:UT) set out to discover historic shipwrecks using a revolutionary sonar mounted on a free-swimming autonomous underwater vehicle (AUV). Using a REMUS 600 AUV equipped with ATLAS forward looking sonar developed by ARL:UT, the team surveyed over 100 square miles within and beyond the sanctuary's current boundaries. Notably, the project is an important first step in understanding how the sanctuary might more efficiently locate and interpret sites in a proposed expansion area that would increase the sanctuary from 448-square-miles to 4,085 square-miles via an expansion bill in the U.S. Senate. Along with dozens of interesting geological features and apparently man-made "targets," the team discovered a new shipwreck resting in deeper water.



Tane Casserley, NOAA

Mystery Beneath the Waves: Exploring Thunder Bay's Deep Shipwrecks
Technical divers and archaeologists from Thunder Bay National Marine Sanctuary, Monitor National Marine Sanctuary, the Cooperative Institute for Ocean Exploration, Research and Technology, and University of Connecticut conducted two weeks of mixed gas diving in an effort to document historic shipwrecks in 130-220 feet of water in Lake Huron. Shipwrecks in this depth range are often amazingly well preserved, possessing significant historical, archeological and recreational value. Producing photo-mosaics, intensive video and photo documentation, and scaled site plans, the team assessed the wrecks of the steamer *Messenger* (1866-1890), schooner *Defiance* (1848-1854), brig *Audubon* (1854-1854), and steamer *Norman* (1890-1895). This documentation informs the sanctuary's resource management decisions, provides the basis for public interpretation, and is the first step in creating a management framework encouraging safe and responsible diver visitation to these irreplaceable sites. Documenting the 300 foot-long bulk freighter *Norman* was a project highlight. Built in 1890, the steel behemoth represents a type of vessel that made possible the explosive industrial growth of the United States just before the turn of the twentieth century. Her east-bound cargoes of iron ore made possible the fortune of J.P. Morgan, and made his U.S. Steel Corp. America's first billion dollar company.



Sanctuary Hosts Three Live Broadcasts from the Shipwreck *Montana*
On July 14, Thunder Bay National Marine Sanctuary and the Maritime Heritage Program conducted a series of "Live Dive" broadcasts from the shipwreck *Montana* in Thunder Bay. Viewers from around the country participated in the broadcasts via the internet, while in several locations including the Great Lakes Maritime Heritage Center in Alpena, Mich.; Ann Arbor, Mich. Hands-on Museum, NOAA Headquarters in Silver Spring, Md., and Mokupapapa, Hawaii, Discovery Center, large groups interacted live with the sanctuary dive team. Audiences learned how marine archaeologists document shipwrecks and work to preserve them for future generations. The program also highlighted several significant partnerships with the sanctuary, including: the National Association of Black SCUBA Divers' Youth Division, the Great Lakes Environmental Research Lab, Immersion Presents, and the Great Lakes Naval Museum and Memorial.



Nautical Archaeology for Association of Black SCUBA Divers
Thunder Bay National Marine Sanctuary archaeologists taught a combined Nautical Archaeology Society Part I and II training course and a maritime archaeological field school to thirteen members of the National Association of Black SCUBA Divers from August 1-7, 2010. The weeklong archaeological field school in the sanctuary began with lectures on the theory and practice of maritime archaeology and culminated with the archaeological documentation and historical research of a near shore shipwreck, producing a site plan report on the wreck site. The sanctuary has the shipwreck site plan now available as downloadable PDF on its web site and has installed a mooring buoy at the site to facilitate public access. This is part of larger sanctuary efforts to raise awareness of and access to near-shore sites, as well as utilizing volunteers to help document them.



U.S. Naval Sea Cadets Partner with TBNMS for Training and Research

The long-term partnership between the Great Lakes Chapter of the U.S. Naval Sea Cadets via the Noble Odyssey Foundation and their training vessel, the *Pride of Michigan* continued in 2010 with a class of cadets obtaining their Nautical Archaeology Society Part I Certification. In addition to archaeological training they received from sanctuary staff, the Cadets advanced their dive training through extensive dive operations in the sanctuary. Among their experiences, as an AAUS institutional member, the representatives of the Noble Odyssey Foundation and Sea Cadets, ranging in age from 12-17, dove concurrently with sanctuary archaeologists on the wreck of the schooner *Ogarita* to identify key construction features and to complete a site plan of the shipwreck. Cadets from around the country attend these popular and unique programs, and plans are already underway for additional research and training opportunities with the Sea Cadets next year in Thunder Bay.



Great Lakes Shipwreck Stewardship – Shipboard Education

As part of our leadership role as the Great Lakes Stewardship Initiative (GLSI) Northeast Michigan Regional Hub, the sanctuary's education and research teams took Sanborn Elementary's 5th and 6th grade students from Ossineke, Mich. out on Lake Huron aboard the NOAA research vessel *Storm* to explore the shipwreck of the *Oscar T. Flint*. The students have participated in a year-long Place-Based Education program funded by a GLSI grant with the sanctuary serving as their community partner. Students took water samples at the wreck site and also watched sanctuary divers deploy a student-designed experiment to monitor the growth rates of zebra mussels on different substrates. Crew from NOAA Great Lakes Environmental Research Lab worked with the sanctuary team to give the students a tour of the biodiesel powered research vessel *Storm* and assist with deploying two remotely operated vehicles designed and built by the students.

Great Lakes Maritime Heritage Center Programs and Exhibits

2010 has been a banner year for the Exhibits, Programs and Events at Thunder Bay National Marine Sanctuary. Over 50,000 visitors explored the Great Lakes Maritime Heritage Center (GLMHC) exhibits, lectures and films. Special events drew large crowds including our annual Great Lakes Maritime Festival (6,000), Halloween Haunted Ship (500+), and the Great Lakes Lighthouse Festival (600+). Also notable was Northeast Michigan's first annual Earth Day Celebration at the GLMHC – over 450 students attended a day-long event at the Center featuring activities from our partners at the U.S. Fish and Wildlife Service, Michigan Department of Natural Resources, local Community Supported Agriculture farmers, Michigan Sea Grant, area recycling centers, traditional outdoor skills practitioners, and Michigan 4-H. Teachers continue to take advantage of expanded programming in the GLMHC exhibits, which reached over 2,000 students in 2010. From distance learning broadcasts about shipwreck exploration to pre school "Sea Story" time, the sanctuary is designing and implementing lessons about the Great Lakes that immerse students in maritime history, nautical archaeology, and NOAA science.