



Photo Credit: Karen Best MDEQ

MICHIGAN COASTAL NEWS

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Michigan Coastal News is issued quarterly by the Michigan Coastal Management Program, Environmental Science and Services Division, Department of Environmental Quality. To suggest an idea for an article or submit a volunteer opportunity, contact Annette Nealey at (517) 335-3168, or nealeya@michigan.gov.

New Coastal Projects Launching in 2007 Request for 2008 Project Proposals Released

Every year, the Michigan Coastal Management Program awards grants for projects aligned with our mission to protect, restore, and promote appropriate, sustainable use of Great Lakes coastal resources. Funding is provided by the National Oceanic and Atmospheric Administration, U. S. Department of Commerce. Local and tribal governments, nonprofit groups, universities, and state agencies use the competitive, cost-share grants to:

- Increase and improve public access to the waters and shores of Michigan's Great Lakes
- Help coastal communities plan future land use, identify hazards, and manage growth and development
- Revitalize urban waterfronts, brownfields, and ports
- Protect, restore, and foster stewardship of coastal habitats and water quality
- Preserve and interpret cultural and historic maritime resources

In 2007, Michigan's coastal communities and environment will benefit from more than 50 new projects addressing a broad range of objectives. A number of these collaborations represent new partnerships or novel approaches for the Coastal Management Program. For example, the Great Lakes Renewable Energy Association will work with Manistee County to develop Michigan's first county wind energy plan, as well as a guidance manual for other counties to use in developing their own wind energy plans. The Wildlife Habitat Council will reach out to large corporate landowners in the Lake Huron to Erie corridor, to pitch the business advantages of restoring and maintaining riparian buffers for water quality. In the Les Cheneaux Islands of the eastern Upper Peninsula, Clark Township will prepare its first land use master plan and zoning ordinance. A complete list of the 2007 projects is linked to our main webpage at www.michigan.gov/deqcoastal.

The Coastal Management Program is now accepting proposals for projects beginning January 1, 2008. Applications must be postmarked no later than May 1, 2007. The application form and supporting information is linked to our main webpage under "Coastal Management Program Grants & Application." Please contact us for information on any of the 2007 projects or the 2008 request for proposals.





Photo credit: Luke Clyburn
Diver Kathy Trax explores an ancient submerged shoreline in Thunder Bay

Project Profile

Noble Odyssey Foundation Underwater Surveys

What did Michigan's Lake Huron coast look like several thousand years ago? Researchers with the Oakland County-based Noble Odyssey Foundation (NOF) explain that water levels were nearly 400 feet lower than they are at present, and today's coastal lands were far inland. For some 4,000 years a limestone land bridge joined the area around Alpena to the base of Ontario's Bruce Peninsula, effectively dividing Lake Huron's predecessor into at least two separate basins. In some areas, conifer forests grew on lands now far beneath the surface of the lake. Their remains provide organic carbon useful for dating prehistoric lake levels.

Bringing greater definition to this prehistoric picture is the aim of an ongoing NOF project, "Great Lakes, Ancient Shores." This summer, foundation President, Master Diver, and Captain Luke Clyburn, and Science Advisor Dr. Elliott Smith will guide the research vessel, *R/V Pride of Michigan*, into the waters of the Thunder Bay National Marine Sanctuary for another season of underwater surveys. Researchers from Grand Valley State University, Wayne State University, Cranbrook Institute of Science, and the Marine Sanctuary will collaborate on the project. U.S. Naval Sea Cadets will assist with on-board operations and underwater research, and receive invaluable training and experience in return.

A major focus of the 2006 surveys was an investigation of underwater sinkholes, submarine springs, and the unusual life forms that inhabit them. These sinkholes formed when the limestone bedrock was exposed following the last Ice Age. Today some contain springs discharging groundwater with unusual chemistry, and associated with distinct microbial communities. In certain respects, these deep lake groundwater discharges are akin to deep sea vent communities, and may represent a unique ecosystem in the Great Lakes.

This year, the focus will shift to bathymetric surveys of ancient shorelines along the submerged Trans-Huron Land Bridge and a drowned river canyon in the Straits of Mackinac. Both areas will be explored for additional spring communities, forest remains, and for evidence of Paleo-Indian culture along ancient shores.

For further details on NOF research, visit the foundation's website, www.nobleodyssey.org. For published scientific research on Lake Huron sinkholes and drowned forests, we suggest the following journal articles:

Biddanda, B.A., D.F. Coleman, T.H. Johengen, S.A. Ruberg, G.A. Meadows, H.W. Van Sumeren, R.R. Rediske, and S.T. Kendall. 2006. Exploration of a Submerged Sinkhole Ecosystem in Lake Huron. *Ecosystems* **9**: 828-842.

Hunter, R.D., Panyushkina, R.P., S.W. Leavitt, A.C. Wiedenhoeff, and J. Zawiskie. 2006. A Multiproxy Environmental Investigation of Holocene Wood from a Submerged Conifer Forest in Lake Huron, USA. *Quaternary Research* **66**: 67-77.

New Coastal Information Resources Available On-Line

The Michigan Coastal Management Program's partners and grantees have recently released the following on-line products:

- **Land conservation options for landowners, financial planners, and local governments in the Lake Huron Basin.** The three-brochure set is posted at www.lakehuronalliance.org, and hardcopies are available from the Conservation Fund: (989) 892-9171
- **County Biodiversity Maps.** The Michigan Natural Features Inventory is providing GIS data and other tools for land use and conservation planners at <http://web4.msue.msu.edu/mnfi/data/rarityindex.cfm>
- **Tip of the Thumb Heritage Water Trail.** Maps of Huron County access sites and other on-line resources for paddlers at www.thumbtrails.com.
- **County wetland inventory maps.** Maps and associated information prepared by the MDEQ available through the "Wetland Inventory Maps" link at www.michigan.gov/deqwetlands.
- **Coastal Dunes and the Auto Industry: Investigating Alternatives to Mining.** Available through the Alliance for the Great Lakes website at www.greatlakes.org/news/pdf/coastal_dunes.pdf.

Southwest Michigan "Beachtowns" Inventory and Map Tourism Assets

Thirteen coastal communities are working with the Michigan Department of History, Arts, and Libraries to inventory and map natural, cultural, and historic resources from New Buffalo to Ludington. The two-year project is funded through a federal *Preserve America* grant, and builds on a campaign for promoting the 170-mile stretch of Lake Michigan shoreline to prospective visitors. The communities first pooled resources in 2004 to participate in a cost-share, tourism marketing partnership with Travel Michigan. The "Michigan's Beachtowns" brand was born of the marketing campaign, crafted to lure tourists from Chicago, Indianapolis, and other regional markets.

The inventory is an essential step towards composing and sharing the region's distinctive stories. As in other Michigan coastal areas, many of these stories tell of abundant natural resources, such as timber, that nurtured the growth of local communities. This project also looks at less well-known but fascinating aspects of west Michigan's history such as its contributions to agriculture and the rise of Michigan's Fruit Belt; the early water, railroad, and automobile transportation routes that established the area as an important tourist destination; the development of the resort and tourism industry from 1870 through the 1950s; the area's rich ethnic heritage; local arts and artists; and how the conservation movement helped shape the landscape since the turn of the century. Today, many historic buildings still line the streets, arts and culture flourish, and forests, orchards, beaches, and sand dunes beckon to outdoor enthusiasts.

The database under development will support the Beachtowns' efforts to advertise the region as a heritage tourism destination. Additional benefits are likely. For example, the inventory of natural, cultural, and historic assets may lay the groundwork for efforts to preserve, restore, and manage local resources. On a more personal level, it may help cultivate a richer, deeper sense of place among members of the community.

More information on the project is available from Amy Arnold, preservation planner with the State Historic Preservation Office at (517) 373-1630 or ArnoldA@michigan.gov.



Photo Credit: Michigan Maritime Museum



Photo Credit: Ken McKeown



Photo Credit: Charles Cook

The Nature Conservancy and Meijer Stores Promote Non-Invasive Landscape Plants

Gardening is a popular hobby and big business in the United States, with gardeners spending billions of dollars annually on ornamental trees, shrubs, grasses, and flowers. It is also a source of invasive plant species. Many ornamental plants sold through garden centers and catalogs are originally from Europe or Asia. Some, such as purple loosestrife and glossy buckthorn, have escaped the confines of home gardens and aggressively invaded and altered natural ecosystems in the Great Lakes region.

The Nature Conservancy and a prominent Midwestern home and garden chain are teaming up to address this ecological challenge. This spring, Meijer garden centers in Michigan, Indiana, Ohio, Illinois, and Kentucky will offer for sale 119 varieties of trees, shrubs, and perennials carrying a new "Recommended Non-Invasive" tag. Customers buying these plants will know they are not contributing to invasive species problems. Additionally, Meijer stores will no longer market two invasive tree species that colonize and degrade coastal dunes and forests - the Lombardy poplar and Norway maple.

The Nature Conservancy assisted Meijer with selecting varieties for the new, non-invasive line of landscape plants, and development of the in-store information campaign. The campaign will feature customer education on the benefits of native and non-invasive plants through signs, videos, brochures, and audio announcements. Conservancy scientists will also train garden center staff to answer customer questions.

State Wetland Regulations Now Uniform in all Counties

On January 1, 2007, the Michigan Department of Environmental Quality certified the completion of all county wetland inventories required under Part 303, Wetlands Protection, of Michigan's Natural Resources and Environmental Protection Act. The MDEQ prepared the inventory maps with financial support from the Great Lakes Protection Fund. Completion of the inventories means that the agency has the authority to regulate draining and filling in all non-contiguous wetlands that are larger than five acres. Non-contiguous wetlands are more than 500 feet from an inland lake, pond, river, or stream, and more than 1,000 feet from the ordinary high watermark of the Great Lakes. Developing these wetlands without a state permit is now illegal in every county.

Through the end of 2006, activities in many large, isolated wetlands were not regulated by the State. Under Michigan's wetland law, isolated wetlands greater than five acres may be legally drained or filled without a state permit unless they are located in a county with a population of at least 100,000, or the State has completed a wetland inventory for that county. Completion of the inventories means that state wetland regulatory requirements are now uniform in all 83 counties.

Generally, Michigan law excludes non-contiguous wetlands up to five acres in area from state regulatory protection. However, local governments may regulate draining and filling of any size or type of wetland, under an appropriately crafted ordinance. Information on developing a local wetland ordinance is provided in the publication *Filling the Gaps: Environmental Protection Option for Local Governments*, available through the link at www.michigan.gov/deqcoastal.

Volunteer for Michigan's Coast!



Photo Credit: Robert Clancy, MDNR

Many agencies and organizations would welcome volunteer help for coastal wildlife surveys, stewardship workdays, research, and other projects this spring and summer. A few volunteer opportunities are listed below. Please call or e-mail the contact persons for additional information.

State Park Stewardship Workdays. The DNR Parks and Recreation Division needs weekend volunteers to help remove garlic mustard in April and early May, and plant native wetland plant seedlings later in the spring at Algonac State Park, St. Clair County, and Sterling State Park, Monroe County. Workdays at Algonac are on April 15, May 6, June 3, and June 10, and at Sterling on May 26 and June 2. Contact: Laurel Malvitz, (248) 359-9057, malvitzl@michigan.gov

Piping Plover Surveys. Volunteers with birding skills can assist state and federal wildlife agencies in April and May with piping plover surveys at coastal parks and other sites on Lakes Huron, Michigan, and Superior. Sighting reports are also appreciated. Contacts: Todd Hogrefe, DNR Wildlife Division, (517) 373-3337, hogrefet@michigan.gov; Jack Dingledine, U.S. Fish and Wildlife Service, (517) 351-6320, jack_dingledine@fws.gov.

Piping Plover Nest Monitors. Volunteer birders are needed to monitor piping plover nesting beaches in the U.P. this spring and early summer. The sites are near Grand Marais, Whitefish Point, Manistique, and Nahma. Contacts for the first three sites are Bill Davis, (906) 228-4197, kdavismqt@aol.com, and Jackie Kosey, (906) 225-8067, with the Central Lake Superior Land Conservancy. The contact for the Nahma site is Janet Ekstrum with the Hiawatha National Forest, (906) 474-6442 ext. 140, jekstrum@fs.fed.us.

Underwater Surveys in Northern Lake Huron and the Straits Area. The Noble Odyssey Foundation welcomes volunteers with SCUBA diving, boat operation, and/or computer skills to assist in their 2007 research (see related article on page 2). Opportunities available on many weekends this summer. Contact: Luke Clyburn, (248) 666-9359, lcllyburn@comcast.net.

Surveys for Aquatic Invertebrates. Three watershed organizations in southeast Michigan are holding biological monitoring ("bug hunt") days on certain weekends in April. Contacts: Rouge River – Sally Petrella, (313) 792-9621, picoordinator@therouge.org; Huron River – Joan Martin, (734) 769-5123, jmartin@hrwc.org; River Raisin – Jill Kelley, (517) 265-5599, jill.kelley@comcast.net.