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MICHIGAN COASTAL NEWS

A Publication of the Michigan Coastal Management Program Volume 3, Issue 1: Spring 2009

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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 Matt Smar at (517) 335-3459 or smarm@michigan.gov.

New 2009 Coastal Projects Launch, 2010 Project Proposals Requested

Every year, the Michigan Coastal Management Program awards Coastal Zone Management (CZM) 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. Local and tribal governments, nonprofit groups, universities, and state agencies are eligible recipients.

In 2009, Michigan's coastal communities and environment will benefit from 44 new projects addressing a broad range of priorities. Preparing for the growth of the coastal wind energy industry continues to be a prominent theme. The West Michigan Regional Planning Commission will identify agricultural areas in Allegan and Ottawa Counties where coastal wind energy facilities would be compatible with farming. In Alpena County, the Great Lakes Renewable Energy Association will prepare a wind energy land use plan identifying land areas appropriate for wind farm development, and areas less suitable due to wildlife, aviation, transmission infrastructure, and other considerations. On Lake Erie, the Port of Monroe will investigate the feasibility of using on-site wind or solar power generation to supply a portion of its energy needs.

Several new coastal habitat restoration and management projects align with the broad objectives of the recently-released MI Great Lakes Plan. For example, the Grand Traverse Regional Land Conservancy will work with several partners to develop a strategy for improving the quality of Arcadia Marsh, Manistee County. Though degraded by reed canary grass and other invasive plants, the marsh provides regionally-important wildlife habitat. In the northwest Lower Peninsula, a partnership of conservation agencies and organizations will develop a plan of attack for garlic mustard, an invasive weed in coastal forests. Building on an award-winning 2007 project that underscored how high-quality natural ecosystems can support local economies through tourism, the Department of Natural Resources will craft 10-year management plans for three coastal state parks in the northeast Lower Peninsula. A new Muskegon County coastal blueway trail, a Saginaw Bay coastal atlas, community land use plans and zoning ordinances, public access improvements, historic restoration, research, and public education programs round out the list of 2009 CZM grant projects.

The Coastal Management Program is now accepting proposals for projects beginning January 1, 2010. Applications must be postmarked no later than May 1, 2009. The application form and supporting information are linked to our main webpage at www.michigan.gov/deqcoastal under "Coastal Management Program Grants and Application." Please contact us for information on any of the 2009 projects or the 2010 request for proposals.



Project Spotlight: Marquette Form-Based Codes

Winston Churchill once stated "First, we shape the buildings . . . afterward, the buildings shape us." Sir Winston's insightful words strike a chord in city planners and other officials responsible for managing the growth of Michigan's old coastal port and resort communities. These cities and villages have banked a considerable wealth of authentic character over their long histories, and their distinctive charms please residents and delight tourists. The challenge facing these coastal towns lies in encouraging new development and infill while avoiding the piecemeal transformation into a bland Anytown,

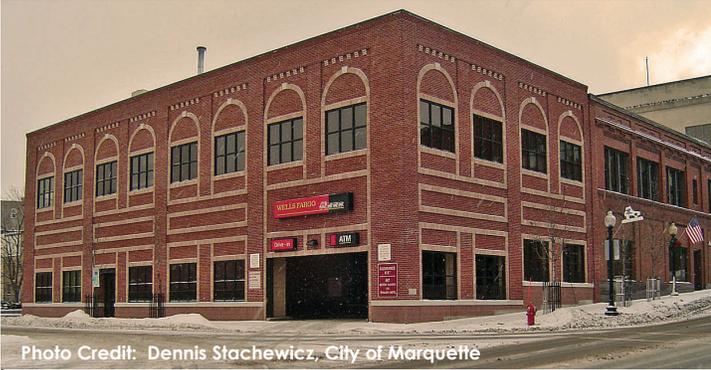


Photo Credit: Dennis Stachewicz, City of Marquette

A bank drive-through in Marquette's downtown waterfront area

U.S.A. However, the traditional planning and zoning focus on land use may be too narrow to help these communities address a quality as complex as neighborhood character. Equipped with a Coastal Zone Management grant, the City of Marquette recently explored an alternative option for managing growth by crafting its first form-based codes.

The form-based code is a relatively new zoning approach that allows community officials to prescribe specific building forms and densities first, and then dovetail in appropriate land uses. The approach promotes the creation of great public spaces supporting mixed-use, walkable developments that reduce auto-dependent sprawl and realize many other environmental benefits. It is also a powerful tool for ensuring that new development is in keeping with community character. These advantages appealed to the people of Marquette. With a downtown overlooking Lake Superior, the City's economy, history, and culture have always been closely tied to the lake. The shoreline has undergone extensive change over time - from heavy industrial use to a now largely recreational base. Marquette's leaders are determined to maintain their sense of place on the Lake Superior shore and retain their strong maritime heritage, while working toward the vision of becoming the premier livable, walkable, winter city in North America.

City officials chose the downtown waterfront and South Marquette waterfront areas for the form-based code project. The process included a heavy dose of public involvement, beginning with a weekend-long community design charrette for the downtown waterfront and a guided bus and walking tour for the South Marquette waterfront. With the help of professional consulting firms, the City Planning Department drafted form-based codes that incorporated stakeholder input and reflected the public's vision for the neighborhoods. Ultimately, these efforts culminated in the adoption of both the Downtown Waterfront and South Marquette Waterfront Form-Based Codes into the City's Zoning Ordinance. City officials made some valuable observations along the way. For example, the approach allows for maintaining community access to the water and keeping a working waterfront. Also, encouraging citizens to decide on urban form in advance helps allay fears about increased density. Copies of the codes are linked to the City's website at www.mqtcty.org/plan.html. Contact Dennis Stachewicz, Marquette City Planner, for additional information on the project at (906) 228-0425 or dstachewicz@mqtcty.org.

Michigan Low Impact Development Manual Released

Thanks to an effort led by the Southeast Michigan Council of Governments (SEMCOG), Michigan communities, developers, and property owners now have an on-line information resource to help put Low Impact Development (LID) techniques into practice. Funded by a U.S. Environmental Protection Agency pass-through grant from the Department of Environmental Quality (DEQ), SEMCOG and DEQ staff worked with landscape architects, engineers, planners, local government officials, and other experts to produce the *Low Impact Development Manual for Michigan: A Design Guide for Implementers and Reviewers*. The manual contains state-specific technical and policy guidance for implementing LID, and is available to view or download at www.semco.org/LowImpactDevelopment.aspx.

LID is the latest response to changing perspectives on storm water runoff management. In past decades many communities addressed runoff as a type of waste and resorted to big, costly, engineering-intensive solutions to quickly remove it from developed areas and discharge it to lakes, streams, or large detention basins. The decentralized, cost-effective LID approach uses the natural capacity of soil to absorb and infiltrate runoff, especially soil that supports thriving, deep-rooted native plants. When rain gardens, bioswales, porous pavements, and other LID techniques are strategically dispersed throughout a developed area, much of the rainfall and snowmelt seeps into the ground and replenishes the water table on site. Vegetation draws the infiltrated runoff in through the roots and releases it to the air as water vapor. This way, precipitation plays its original role in the water cycle as a natural asset, rather than a man-made problem. As a more sustainable, site-scale approach to managing storm water, LID complements the large-scale Green Infrastructure approach to conserving regional networks of natural wetlands, riparian buffers, and habitats for water quality, wildlife, and recreation.

Photo Credit: Charles Krueger



MSU Researchers Close In On New Lamprey Control

A team of Michigan State University scientists is bringing a potential sea lamprey control approach closer to reality. Earlier this year, the team published their research on the use of a chemical attractant to trap sea lampreys; specifically, a pheromone released by male lampreys to help females locate them in spawning streams. A pheromone is a chemical produced by an organism and released into the environment that conveys information to other members of its species. For example, many winged insects rely on air-borne pheromones to bring the sexes together for mating, in some cases over distances measured in miles. The phenomenon has long been used as a basis for controlling forest and agricultural pests by disrupting mating or luring one sex into traps.

Female sea lampreys may soon ask, Is it Mr. Right or a trap?

Generally, pheromones have not been extensively studied in vertebrates. However, in 2002 MSU researcher Dr. Weiming Li and colleagues isolated and identified a chemical released by male sea lampreys at their spawning sites. The chemical, called 3kPZS, guides females upstream to the waiting males. In the recently published study, Dr. Li and his associates followed up on this earlier discovery by field testing the effect of synthetic 3kPZS on female sea lampreys radio-tagged and released at a test site in the Ocqueoc River, Presque Isle County. Wild sea lampreys were absent from the test stream segment. The team found that female lampreys responded to even exceedingly dilute concentrations of the synthetic pheromone and followed plumes of the chemical upstream to the source, where they were caught in traps. Though female sea lampreys are extremely sensitive to 3kPZS, it is odorless to humans.

The potential for a new sea lamprey control method is of keen interest to Great Lakes fisheries management agencies. Sea lampreys reached the Great Lakes from the Atlantic Ocean via man-made shipping channels, and appeared in the upper Great Lakes after the Welland Canal provided a route around Niagara Falls. This aquatic invasive species is parasitic on Great Lakes commercial and sport fish, and has dealt a blow to stocks of lake trout, whitefish, and other fish species. Millions of dollars are spent annually in the United States and Canada to monitor and control sea lampreys in their Great Lakes spawning tributaries, commonly by treating the streams with the chemical TFM. The pesticide is effective against sea lampreys but is toxic to certain non-target organisms including native lampreys, mudpuppies, and young lake sturgeon. Though sea lampreys will never be eliminated from the Great Lakes, pheromone-based control methods hold the promise of enhanced control, lesser impacts on non-target species, and lower costs. The research is presented in the January 27, 2009 issue of the *Proceedings of the National Academy of Sciences*.

Rare Species Reports Help State Safeguard Biodiversity

This spring, outdoors enthusiasts are asked to report their observations of Michigan's threatened and endangered species to the Michigan Natural Features Inventory (MNFI), Michigan State University Extension. Rare species reports submitted to MNFI and validated by staff help build the Michigan Natural Heritage database used in conservation planning, natural resources management, and a variety of other applications. For example, the data allow regulatory agencies to determine whether proposed development projects are likely to impact species protected under state and federal law, and make informed permitting decisions in response. Lists of Michigan's endangered, threatened, and special concern species and a wealth of related information are available for viewing at the MNFI Data Resources webpage: <http://web4.msue.msu.edu/mnfi/data/index.cfm>.

MNFI belongs to the NatureServe network of more than 80 independent natural heritage programs and data centers in the United States, Canada, and Latin America. Members use the same data standards and methodologies, meaning that data in the Michigan Natural Heritage database are comparable to data managed by other members of NatureServe. This standardization allows for the aggregation of data from multiple programs to provide "big picture" perspectives on various aspects of biodiversity. Currently, the Michigan Natural Heritage database contains more than 15,000 records of rare plants, animals, and high-quality natural communities.

A number of MNFI rare species and natural community reporting forms are available for downloading and printing at <http://web4.msue.msu.edu/mnfi/contact/surveyforms.cfm>. Survey forms are intended for use by professional biologists and consultants to report the results of formal surveys, and require highly detailed information. On the other hand, incidental observations of rare plants and animals may be reported on the Special Species Form, which requires basic information. Because of natural heritage data standards, not all reported observations go directly into the database; some serve as site leads for further investigation. E-mail questions about reporting rare species observations to mnfi@msu.edu.

Council Appointed to Develop Offshore Wind Energy Siting Recommendations

On February 6, Governor Jennifer Granholm issued the first Executive Order of 2009, establishing the Michigan Great Lakes Wind Council within the Department of Energy, Labor and Economic Growth. One of the primary tasks is to recommend criteria for use in the State's review of offshore wind energy development proposals. The other is to develop criteria for identifying and mapping areas of Michigan's Great Lakes that should be off limits to offshore wind power projects, as well as areas appropriate for wind farms. In setting the context for the Council's work, the Executive Order cites the need to prepare for the arrival of offshore wind energy projects in the Great Lakes "by ensuring that wind energy systems are not constructed in locations that would unduly impact Michigan's tourism, recreation, shipping, or fishing industries, its wildlife populations, its property values, or its citizens' quality of life."

Carving out room for wind energy among these competing uses requires the insight and expertise of a diverse range of stakeholders. Consequently, the 21-member Council includes the heads of the Departments of Environmental Quality, Natural Resources, Transportation, and other key state agencies, and members representing environmental groups, tribal and local governments, tourism, shipping, charter fishing, and the public. Five appointees are tapped from the electric power, transmission, and wind energy industries. Among the specific issues listed in the Council's charge are legislative and administrative rule changes needed to permit wind energy projects on Great Lakes bottomlands, compensation for leasing state-owned bottomlands to wind energy companies, and ensuring public engagement in the State's offshore wind energy decision-making process. The Council must submit its report to the Governor by September 1, 2009. A copy of Executive Order 2009-1, list of Council members, meeting dates, and other items of information are linked to the Council's website at www.michiganlowcouncil.org.

Photo Credit: Mark Evans



Grand Trunk Restoration Day, Muskegon, May 2008

Volunteer for Michigan's Coast!

Wayne County - Detroit River Clean-Up. The Friends of the Detroit River are calling for boaters and landlubbers alike to help remove trash from the shores of the river and its islands on April 18. Orientation begins at 9:00 AM at Trenton Rotary Park at the foot of Harrison Avenue, two blocks east of West Jefferson in Trenton. Those planning to bring boats or needing more information should call **(734) 676-4626** after 4:00 PM.

Huron County - Sand Point Nature Preserve Workday. The Saginaw Basin Land Conservancy is hosting a workday on April 26 to mark boundaries, install signs and benches, and clean up the newly-acquired Sand Point Nature Preserve on Wildfowl Bay. The 140-acre preserve contains coastal wetlands and other wetland types. Wildfowl Bay is a magnet for tundra

swans during migration. Contact Valerie Roof at **(989) 891-9986** or valerier@sbic-mi.org to volunteer.

Muskegon County - Muskegon Lake Shoreline Restoration. The City of Muskegon and other sponsors invite volunteers to the 19th Annual Grand Trunk Restoration Day on May 1. Tons of illegally-dumped trash have been hauled from the site of the former Grand Trunk railroad docks, and the restoration focus has shifted to revegetating the shoreline and improving wildlife habitat. The event will also include a *Phragmites* control training session for property owners. Contact Mark Evans at **(231) 343-4462** or mevans1899@yahoo.com for information.

Delta County - Martin Bay Sanctuary Natural History Assessment. Birders, botany buffs, and other nature enthusiasts are invited to help the Michigan Nature Association catalog the plant and animal life of the 34-acre Martin Bay Sanctuary on a small embayment of Big Bay de Noc. The May 20 event will run from dawn to dusk. Contact Natalie Kent to volunteer your expertise at **(517) 655-5655** or nkent@michigannature.org.

Northeast Lower Peninsula Coastal Counties - Phragmites Detection and Response. Huron Pines is recruiting an army of volunteers to check the northward march of *Phragmites* from its stronghold in Saginaw Bay. Early detection and elimination of new, small infestations are key to preventing *Phragmites* from gaining the upper hand in an area. Volunteers can help with inventorying and mapping infestations and contacting landowners in preparation for *Phragmites* treatment and removal workdays this summer. Contact Tim Engelhardt to sign up at **(989) 344-0753** or tim@huronpines.org.

Upper Peninsula Coast - Piping Plover Nest Monitors. Beach-loving birders are needed to locate and monitor piping plover nests at several sites on the Upper Peninsula coast this spring and summer. Some sites are on Hiawatha National Forest land. The Nature Conservancy is coordinating nest monitoring efforts in the U.P. Contact Lisa Niemi for more information at **(906) 225-0399 extension 4014** or lniemi@tnc.org.