Connecting People and Nature
An upwelling occurs in a lake or ocean when strong, steady winds push warm in-shore surface water away from shore causing colder, nutrient-rich water to rise.

Integrated Assessment Research Projects Receive Federal Funding

Michigan Sea Grant has selected three Great Lakes research projects to receive $274,209 in federal funding from the National Oceanic and Atmospheric Administration’s National Sea Grant Program. The projects leverage an additional $156,071 in non-federal match over a two-year period.

The three Integrated Assessment (IA) projects will address the issues of fish contamination in the Detroit River, alternative storm water management practices in Spring Lake, Michigan, and a decision support system for coastal brownfield redevelopment in Michigan.

“We are pleased that these three topics rose to the top during our review process,” notes Michigan Sea Grant Director Don Scavia. “Each one represents a different challenge for managers and a different way that IA can help.”

IA is a formal approach to synthesizing and delivering relevant, independent scientific input to decision making. IA researchers conduct a comprehensive analysis of existing natural and social scientific information in the context of a policy or management question.

Michigan Sea Grant currently supports an integrated assessment that addresses coastal access and regional economic development issues in Northeast Michigan. Since it began in 2005, the project has brought together 32 local and regional stakeholder organizations.
“The involvement of our project working group, which is comprised of local, state and federal stakeholders, has been fundamental to the assessment’s success,” says Jennifer Read, Sea Grant Research Coordinator. “They really shaped the process – refining our guiding assessment question, working with the technical teams to ensure the assessments were correct and helping the integration team identify the most important and implementable policy options.”

District Sea Grant Extension Educator, Brandon Schroeder, was key in coordinating working group input to the northeast Michigan integrated assessment. In September, Sea Grant will bring Schroeder’s and the technical teams’ experience together in a “lessons learned workshop” for the new IA teams to kick off the new integrated assessment projects.

New research projects include the following:

- What are the Causes, Consequences and Correctives of Fish Contamination in the Detroit River AOC that Cause Health Consumption Advisories?
  —Donna Kashian, University of Michigan

- Alternative Stormwater Management Practices that Address the Environmental, Social, and Economic Aspects of Water Resources in Spring Lake Township and Village
  —Alan Steinman, Annis Water Resources Institute, Grand Valley State University

  —William Welsh, Eastern Michigan University

An additional four ongoing research projects funded by Michigan Sea Grant continue through 2007. Projects investigate contaminants in beach sand, the effects of boating on critical fish habitat, population dynamics of yellow perch, and a seasonal Lake Michigan “doughnut effect.”

To read descriptions of current research projects, see: www.miseagrant.umich.edu/research/current_projects.html

Dan O’Keefe, PhD., has accepted the position of District Sea Grant Extension Educator for southwestern Michigan. He will serve the Lake Michigan shoreline counties of Cass, VanBuren, Allegan, Ottawa, Muskegon, Oceana and Mason. A native of Southfield, Michigan, O’Keefe received his B.S. degree in Fisheries and Wildlife from Michigan State University, his master’s degree in Biology from Central Michigan University, and his PhD. in Wildlife and Fisheries from Mississippi State University.

O’Keefe’s recent post doctoral position at Mississippi State University involved assessing the impact of Hurricane Katrina on coastal river fisheries and developing management plans that maximize human benefits. He also worked with management agencies and land owners to reintroduce paddlefish to portions of the Tennessee-Tombigbee Waterway in Mississippi.

In Michigan, he worked with threatened river redhorse suckers on the Grand River and gobies in Lake St. Clair. He also worked for the Michigan Department of Natural Resources’ Information and Education division, where he developed and staffed a traveling aquarium display that educated the public about fishery opportunities and management issues.

“Growing up in Michigan, I spent countless hours fishing for muskies and bass in Lake St. Clair, salmon in Lake Huron, and steelhead in Lake Michigan tributaries,” says O’Keefe. “Returning here to work for Michigan Sea Grant with issues facing Great Lakes fisheries will allow me to help anglers and others who depend on the lakes to adapt to rapidly changing conditions caused by invasive species and other factors. I’m also looking forward to sharing my knowledge of Lake Michigan with people who have not had the opportunity to interact with this fascinating and beautiful ecosystem.”

O’Keefe may be contacted at the Ottawa County MSU Extension office, (616) 846-8250.
Humbug Marsh Projects Connect People and Nature

Equipped with cameras and binoculars, nearly 200 people gathered at Humbug Marsh May 12 to help celebrate the completion of several conservation projects.

A ribbon cutting ceremony on the wooded shoreline of the Detroit River marked the official dedication of a new wildlife observation deck, educational kiosk and interpretive panel, and release of the Byways to Flyways bird driving tour map.

“I can’t think of a better way to celebrate,” said John Hartig of the Detroit River International Wildlife Refuge, noting that May 12 was also International Migratory Bird Day. The Detroit River and western Lake Erie region encompass a diversity of unique habitats located at the intersection of the Atlantic and Mississippi flyways.

Other speakers echoed Hartig’s enthusiasm.

“How cool is this?” commented John Schaust of Wild Birds Unlimited, addressing the crowd. “I’m here with all of you… in this beautiful spot, watching scarlet tanagers and warblers in the trees above us. This is an outstanding location.”

The projects were made possible through a grant from Wild Birds Unlimited, Inc.

“Sea Grant Extension Educator Mary Bohling and partners admire the new Byways to Flyways birding map. At left, a Black-throated Green Warbler.”

Pathways to Nature Conservation Fund, in partnership with the National Fish & Wildlife Foundation and by many contributing partners.

Speakers also included Extension Educator Mary Bohling of Michigan Sea Grant, who coordinated production of the bird driving tour map, Director Dale Hall of the U.S. Fish & Wildlife Service, and Congressman John Dingell (D-MI). All noted the important role of local, regional and bi-national partnerships in completing the projects.

“This wildlife observation deck and bird driving tour map are excellent examples of what we’re doing through public-private partnerships to provide an exceptional outdoor recreation and conservation experience to improve the quality of life of people in metro Detroit,” said Dingell.

He added that the project demonstrates a commitment to reconnecting children and families to nature and to helping develop the next generation of conservationists.
Byways to Flyways: A Driving Tour of Featured Birding Locations

Thousands of songbirds, waterfowl, shorebirds and raptors pass through the Detroit River, western Lake Erie region each year.

The Byways to Flyways map highlights 27 exceptional birding sites in Southeast Michigan and Southwest Ontario, Canada. The map provides a brief description of each site, amenities, and directions, as well as a sampling of the species documented at each site.

“The advisory team selected sites that would give the reader a feeling for the habitat diversity and species richness that abounds in the region,” notes Sea Grant extension educator Mary Bohling. Bohling also serves as secretary of the International Wildlife Refuge Alliance.

To view the map online and to obtain a copy of Byways to Flyways, see: www.mac-web.org/DiscoverOurWildSide

Contributing Partners

- Michigan Sea Grant
- AT&T Foundation
- Praxair
- Lincoln Park High School Agriscience Program, whose students constructed the observation deck
- DTE Energy’s Trenton Channel Power Plant and Green Team
- Michigan Regional Council of Carpenters—Local 687
- Laborers’ International Union of North America—Local 499
- International Brotherhood of Electrical Workers—Local 17
- U.W.U.A., Local 223, AFL-CIO
- Metropolitan Affairs Coalition
- Mid-American Group
- Stoneco of Michigan
- Hoppert Farms
- Snow’s Nursery
- Davey Tree Service
- Gibraltar Dept. of Public Works
- Monroe Fence
- Mans Lumber and Millwork
- Brand Scaffolding Services
- U.S. Fish and Wildlife Service
- Byways to Flyways Advisory Team
Fifteen educators from around the Great Lakes basin will gather in northern Michigan in August for the first Lake Huron Exploration Workshop, a seven-day science workshop sponsored by the Center for Ocean Sciences Education Excellence (COSEE) Great Lakes, in partnership with the Great Lakes Sea Grant Network.

The workshop, set for Aug. 11-17, is designed to promote Great Lakes and ocean sciences in the context of formal and informal education and forge lasting relationships between science researchers and educators.

Educators will participate in classroom and field programs, work with scientists, examine curricula and resources, and explore classroom activities relating to the Great Lakes and ocean resources.

Each day of the workshop, educators will interact with scientists involved in cutting-edge Lake Huron research. Workshop topics include: Geology of the Lake Huron Basin; the Lake Huron Biosphere; Great Lakes and Ocean Remote Sensing; Marine Archaeology; Maritime Cultural Resources (shipwrecks); Saginaw Bay; Aquatic Invasive Species; and more.

The topics include a blend of Great Lakes and ocean science designed to provide educators the background needed to infuse marine science elements into Great Lakes curricula.

The Lake Huron Exploration Workshop will be based at the NOAA Thunder Bay National Marine Sanctuary and its Great Lakes Maritime Heritage Center in Alpena, Michigan.

For more information, see: www.coseegreatlakes.net/events/lhew

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Saginaw Bay Workshop Addresses Harmful Algal Blooms

Public health officials, beach managers, and Saginaw Bay residents were among the participants who attended a May 8 workshop in Bay City to assess the problem of harmful algal blooms or HABs.

The stakeholder workshop dealt specifically with blue-green algae, a type of cyanobacteria that produces toxins. One of those toxins is *Micocystis*.

The information obtained from the workshop will assist CEGLHH in providing focused and valuable research, tools, and technology to predict and reduce HABs in the Great Lakes Basin.

“The concern is that *Micocystis* is not a regulated toxin,” says Sonia Joseph of Michigan Sea Grant and the NOAA Center of Excellence for Great Lakes and Human Health (CEGLHH), which hosted the workshop. “There are currently no EPA guidelines saying that when you have a bloom, this is what you do.”

The purpose of the May 8 workshop was to bring together Michigan’s public health and natural resource managers and decision makers to determine the extent of the harmful algal bloom issue in the Lake Huron’s Saginaw Bay and western Lake Erie.

A second goal is to create a venue to understand and assess existing knowledge of HABs, and identify how HABs are monitored and reported to the public. Currently, responses to harmful algal blooms tend to vary by county, says Joseph, and may include beach closings, public signage, and distribution of fact sheets to alert the public.

Following presentations by nationally recognized HAB experts, Michigan Sea Grant facilitated focus group discussions to identify stakeholder needs.

The information obtained from the workshop will assist CEGLHH in providing focused and valuable research, tools, and technology to predict and reduce HABs in the Great Lakes Basin.

The Michigan HAB Workshop is the third in a series of stakeholder workshops organized and hosted by CEGLHH and the Great Lakes Sea Grant Network in specific areas encountering harmful algal blooms. Workshops were also held in Wisconsin and Ohio.

See: http://www.glerl.noaa.gov/res/Centers/HumanHealth/hab/EventResponse/

Many people mistake harmful algal blooms with *Cladophora*, a green algae.

*Cladophora*, a green algae, grows in response to nutrients. Peak growth often occurs in early summer. Mats of cladophora can wash up on shore and create a “muck zone,” which can be a nuisance but is not known to produce toxins.

Harmful algal blooms are technically not an algae but a cyanobacteria. The bacteria produces the toxin *Microcystis*. Blooms of *Microcystis* are suspended in surface water and can give water a green appearance. These harmful algal blooms tend to stay in the water column, and the toxins can affect the liver, skin, or nervous system of humans who come into contact with them.

While pirates plundered the world’s oceans in the 17th and 18th centuries, the Great Lakes had its own brand of swashbuckling sailors aboard war ships and sailing vessels. These Pirates of the Sweetwater Seas will be the focus of one of several Summer Discovery Cruises sponsored this year by Michigan Sea Grant Extension and the Huron-Clinton Metroparks.

Participants aboard the pirate-themed cruise will embark on a historic journey, while they learn a smattering of pirate lingo, how a ship was prepared for war, navigation skills, marlinespike, and the real value of pieces of eight, as they hunt for “treasure.”

“They’ll get a feel for what life was like aboard a war ship on the Great Lakes,” says Gerry Wykes of Lake Erie Metropark, adding, “You don’t have to go to the Caribbean to meet people like Jack Sparrow.”

The cruise is one of several Summer Discovery Cruises planned in July and August on the lower Detroit River and Lake St. Clair.

Another highlight will be the Bob-Lo Island History Cruise, which will explore the shoreline sights and history of this well known island, which was once an amusement park. Author Patrick Livingston will read excerpts from his forthcoming book.

The Big River Meander is a four-hour journey to explore the natural and cultural history of the lower Detroit River and its islands. An extended cruise – Wildlife and Wetlands of Lake St. Clair – is also being offered on Lake St. Clair.

“Anyone who likes to get on the water and learn about the Great Lakes is encouraged to participate.”

— Steve Stewart, Summer Discovery Cruise program director

Other cruises include the popular Fish Tales, River of Time Island Cruises, Flowing Ideas Art Cruises, Photography Cruises, and Eagle’s Eye Nature Cruises.

And those aboard for one of the Lake St. Clair Fisheries Cruises will meet the amazing sturgeon, a giant fish with a prehistoric look and an amazing story, along with a variety of other Great Lakes species.

New this year on Lake St. Clair will be a Lighthouse Exploration Cruise led by a representative from the Save Our South Channel Lights organization.

“We’re looking forward to this year’s cruises featuring Great Lakes nature, history, fisheries, art and photography, lighthouses, wetlands, and even pirates!” says Steve Stewart, Summer Discovery Cruise program director. “Anyone who likes to get on the water and learn about the Great Lakes is encouraged to participate. There’s something for everyone!”

Summer Discovery Cruises are open to the public (ages 6 and up) and will take place on the lower Detroit River and Lake St. Clair during the period July 27 through August 22. Cost for adults is $15, and $10 for children under 18.

For cruise descriptions and registration information, see: www.discoverycruises.org