



OHIO SEA GRANT

2010–2014 Strategic and Implementation Plan

EXECUTIVE SUMMARY

Including
F.T. Stone Laboratory,
the Center for Lake Erie Area Research (CLEAR), and
the Great Lakes Aquatic Ecosystem Research Consortium (GLAERC)



Ohio Sea Grant Mission

The mission of the Ohio Sea Grant College Program is to increase the public's understanding and improve development and conservation of our Great Lakes and ocean resources, with particular emphasis on Lake Erie.

Ohio Sea Grant Leadership

Dr. Jeffrey M. Reutter
Program Director
reutter.1@osu.edu

Jill Jentes Banicki
Assistant Director
Communications
jentes.1@osu.edu

Dr. Chris Winslow
Assistant Director
Research and
Administration
winslow.33@osu.edu

Frank R. Lichtkoppler
Extension Program
Coordinator
lichtkoppler.1@osu.edu

Ohio Sea Grant Office
1314 Kinnear Rd., Area 100
Columbus, OH 43212-1156
tel: 614.292.8949
fax: 614.292.4364
ohioseagrant.osu.edu

**Stone Laboratory,
Field Office**
P.O. Box 119
Put-in-Bay, OH 43456
tel: 419.285.2341/
614.247.6500
fax: 614.247.6578
stonelab.osu.edu

A Program of Action

For more than 30 years, Ohio Sea Grant has worked to help restore and rejuvenate Lake Erie and its regional economy. With its unique combination of research, education, and outreach efforts, Ohio Sea Grant has become a program of action, working with stakeholders and partners to solve the lake's most pressing environmental and economic issues.

It's the integration of research, education, and outreach that allows Ohio Sea Grant to investigate issues and problems and share the solutions with those likely to shape our future. Research alone seldom solves problems, but when it is translated and delivered through innovative tools and training, new opportunities arise. Through its affiliation with Ohio State University, Ohio Sea Grant's access to leading scientists and educators enables the program to share research findings with decision makers, citizens, business owners, and future leaders.

Research: Finding the answers.

Since its inception, Ohio Sea Grant has worked to solve the most pressing problems facing Lake Erie by supporting almost 500 research projects with more than 250 principal investigators at over 20 colleges and universities. In addition, Ohio Sea Grant manages the F.T. Stone Laboratory, the oldest freshwater biological field station in the United States, which serves as a base for more than 65 researchers annually.

Education: Teaching others how to apply the answers to problems.

Stone Laboratory serves as the main educational facility for Ohio Sea Grant, offering 25–30 courses each summer to undergraduate and graduate students, advanced high school students, and teachers. In addition to college-level and professional courses, Stone Lab instructors lead Lake Erie field trips for more than 7,000 students in grades 4–12 and other groups. Education efforts also focus on the classroom through teacher training and curriculum development.

Outreach: Sharing information on how to apply the answers with stakeholders around the Great Lakes, and finding new answers to local problems.

Lake Erie's critical problems can't be solved just by one or two clearly-defined actions. Each problem is impacted by the individual actions of citizens and visitors. This means informing the public is key to enhancing the environmental and economic health of Lake Erie.

Ohio Sea Grant has a unique presence within the state, thanks to its connection with Ohio State University Extension. Extension agents in Lake Erie shoreline counties are able to provide residents with localized expertise on a variety of issues, and to provide feedback on local needs to Ohio Sea Grant and the University. Through a partnership with the Ohio Department of Natural Resources Division of Wildlife, the Aquatic Visitors Center at Put-in-Bay, along with other Lake Erie locations, provides a hands-on setting to educate visitors about the importance of Great Lakes stewardship and research.

Seven Issues Facing Lake Erie

We address these seven issues and more through our four primary focus areas.

- Sedimentation & Dredging
- Nutrient Loading & Phosphorus
- Harmful Algal Blooms
- The Dead Zone
- Aquatic Invasive Species
- Climate Change
- Coastal Community & Economic Development

The complete Ohio Sea Grant 2010–2014 Strategic and Implementation Plan is available at go.osu.edu/osgstrategicplan. It includes more detail on the program's goals and strategies, as well as anticipated short-, mid-, and long-term outcomes for each focus area.

Focus on Sustainable Coastal Development

Ohio Sea Grant's goal is to create healthy coastal economies with working waterfronts, an abundance of recreation and tourism opportunities, and public access. By balancing environmental and economic concerns, an efficient use of land, energy, and water can strengthen the region's ability to attract and retain jobs and increase quality of life for its citizens. Achieving this goal is dependent on empowering and enabling local decision makers and citizens to recognize and make sustainable choices that are also economically efficient.

Strategies

- Support research, education, and outreach that provide Ohio's coastal communities and elected officials with the information, training, and tools needed to enhance waterfront-related economic activities while balancing environmental issues.
- Support efforts to preserve and increase public access to Lake Erie.
- Engage Lake Erie coastal communities in planning processes that identify and pursue sustainable economic development policies and programs.
- Strengthen Ohio Sea Grant research and extension capacity to help communities determine sustainable carrying capacities through resource assessments, cost-benefit analysis, scenario building, modeling, and other techniques.
- Support innovative research on land-use practices and building designs that promote energy and water conservation, renewable energy technologies, and the creation of other tools to help communities grow sustainably.
- Help Lake Erie communities evaluate their ecological footprints and grow in environmentally sustainable ways, focusing on products developed in cooperation with NOAA and other partners.
- Work with NOAA offices, the EPA, and regional and local partners to disseminate assessment tools, model plans and ordinances, best management practices, alternative development approaches, and other techniques that enable citizens to develop economies in environmentally sound ways.
- Build Ohio Sea Grant's capacity to assess cost-benefit tradeoffs in the coastal zone through a greater emphasis on socioeconomic research, impact studies, cost-benefit research, and other methods of evaluating alternative scenarios for coastal communities.
- Foster regional cooperation and partnerships among local government officials, community stakeholders, and regional planning organizations to promote sustainable growth strategies that protect local and regional natural resources and ensure their availability for future generations.

Focus on Healthy Coastal Ecosystems

Ohio Sea Grant's goal is to provide sound scientific information that supports ecosystem-based approaches to managing the coastal environment of Lake Erie and the Great Lakes, and to encourage the application of this information wherever possible. In addition to creating a highly valuable, sustainable Great Lakes economy, this approach can restore function, value and productivity to degraded ecosystems in the region.

Strategies

- Support research to improve our understanding and forecasting of ecosystem changes in Lake Erie caused by stresses to the system, and reduce the impact of these stresses.
- Contribute to the development of baseline data, standards, and indicators to support ecosystem-based approaches to land use, water, fisheries, and other resource management within Ohio and Lake Erie, collaborating with appropriate local, state, national, and international partners.
- Develop methods to evaluate ecosystem-based management approaches, assess their effectiveness once they are in place, and guide future management efforts.
- Work with partners within and outside of NOAA to develop data, models, and training activities that support ecosystem-based planning and management approaches, and share these with constituents in the Lake Erie watershed.
- Support collaborative efforts that advance our capability to predict the effects of human activities and environmental changes on coastal resources in order to mitigate impacts, best manage a changing environment, and adapt to the changes' effects.
- Provide life-long learning programs for people of all ages that enhance understanding of coastal environments and promote stewardship of healthy ecosystems.
- Support research to improve the effectiveness of ecosystem restoration and identify promising new restoration approaches and technologies.
- Invest in the development and dissemination of new information, policies, technologies, and methods to address water quality degradation, prevent the introduction and spread of aquatic non-native species, and minimize negative impacts on coastal, ocean, and Great Lakes food webs.
- Provide technical support and access to the latest information and techniques for citizens, organizations, and businesses that need help with specific mitigation/restoration problems.

Focus on Safe and Sustainable Seafood Supply

Ohio Sea Grant seeks to provide knowledge and tools to promote sustainable Lake Erie and Great Lakes fisheries that meet public demand, and to support a healthy Lake Erie fishery that harvests, produces, processes, and markets fish products responsibly and efficiently. Ohio Sea Grant also strives to educate informed consumers who understand the importance of healthy ecosystems and sustainable harvest practices, who appreciate the health benefits of fish consumption, and who understand how to evaluate seafood safety.

Strategies

- Use Ohio Sea Grant's research, extension, education, and communication capabilities to develop and disseminate essential knowledge about natural and human threats to the long-term viability of Lake Erie and Great Lakes fisheries, and to identify ways to minimize these threats using ecosystem-based fisheries management and other innovative approaches.
- Conduct integrated research, education, and outreach activities to support a viable domestic aquaculture industry with acceptable environmental impacts, in ways that are consistent with national objectives and that build on Ohio Sea Grant's leadership role in this area.
- Work with agency and industry partners to enhance the management and productivity of Lake Erie's fisheries.
- Engage harvesters, recreational fishermen, aquaculturists, and managers in the development of innovations related to the condition, use, and conservation of Lake Erie and Great Lakes natural resources.
- Support research, development, and transfer of new technologies to keep Lake Erie and Ohio fisheries financially competitive, and environmentally responsible.
- Enhance training and technical assistance programs related to the application of standards for safe handling, preservation, and preparation of Lake Erie fish.
- Develop educational programs and materials that enhance the public's understanding of what is required to maintain a sustainable Lake Erie fishery, and to build public awareness of differences in the quality, safety, and nutritional benefits of sport-caught fish.
- Work in close coordination with regional partners to develop information portals that give access to factual information on the Lake Erie fishery.

Focus on Hazard Resilience in Coastal Communities

Ohio Sea Grant aims to increase understanding of the risks associated with living, working, and doing business along the Lake Erie coast. Hazards of interest for the program include climate change, algal blooms, rip tides, and economic shifts. While Lake Erie and the Great Lakes region provide tremendous economic opportunities, residents and communities need to be prepared for and respond to these hazardous events and coastal catastrophes in the most effective manner. Ohio Sea Grant and its network of partner agencies have taken on a leadership role in the efforts to prepare coastal communities and citizens for these needs.

Strategies

- Assess Lake Erie and Great Lakes hazard-related risks, and increase the availability and usefulness of hazard-related information and forecasting for citizens, industries, and decision makers in coastal communities.
- Work with marine commercial enterprises to assess the risks associated with doing business in the Lake Erie and Great Lakes area in the context of environmental and political factors.
- Work with NOAA and Sea Grant partners, as well as other organizations, to develop comprehensive education, literacy, and preparation programs on the immediate and long-term effects of climate-related changes and other hazardous events on human safety and property along the coast.
- Help public and private decision makers and local emergency management agencies create and adopt policies, plans, and ordinances to reduce risks, manage catastrophic events, and speed recovery.
- Create and disseminate, in partnership with NOAA's National Weather Service and others, integrated demographic and coastal hazard information databases that help measure human vulnerability in specific coastal regions, support hazard-related planning activities, and facilitate disaster relief efforts.
- Work with NOAA and other partners to make hazard-related data and data-derived products available and relevant to support decision making during crisis events.
- Contribute to the nation's rapid response capability by developing ways to mobilize Sea Grant's national network of scientific and technical expertise to inform response strategies on Lake Erie and the Great Lakes.
- Make Ohio Sea Grant's local knowledge and contacts available to partners on Lake Erie and the Great Lakes who have hazardous event responsibilities, to facilitate the speed and quality of response to crises.