

# Ohio Sea Grant and Stone Laboratory



Ohio Sea Grant's work encompasses diverse issues relevant to local, regional and national priorities, including healthy coastal ecosystems, sustainable fisheries and aquaculture, resilient communities and economies and environmental literacy and workforce development. Ohio Sea Grant and its education and research facility Stone Laboratory continue to broaden their reach across the state. Some of the program's initiatives to strengthen Ohio's coastal communities are highlighted here.

## Improving Decision Making, Leadership, and Sustainability with the Lake Erie Chamber of Commerce

Ohio Sea Grant led a partnership with OSU Extension, the Toledo Chamber of Commerce and the Leadership Fund to develop a ten-week curriculum for local government officials. This effort prepares local leaders to make sustainable decisions focused on environmental, economic, and societal health and stability. In 2020, 33 public officials representing 18 coastal communities in Lucas County and surrounding areas participated.

## Teaching Teachers to Educate the Next Generation of Citizens

"I have had several high school students do research projects centered around our water resources with being part of the Great Lakes watershed. Two of these students have continued their studies in environmental science and natural resources at the college level. Another former student just contacted me this past month excited to tell me that she had just shared a high school experience from Stone Lab with a professor at the university she attends. In 2018 I was able to take a group of students on an overnight field trip to Stone Lab. So much learning happened in that 24-hour period. My experiences at Stone Lab and working with Ohio Sea Grant have changed me, how I teach, and how I challenge my students." — Donna Meller, High School Science Teacher, Pettisville Local Schools [go.osu.edu/teachingteachers](https://go.osu.edu/teachingteachers)

## Detecting Fungal-Like Disease in Aquaculture Operations

Aquaculture is a growing industry in Ohio and the Great Lakes region, providing farm-raised seafood ranging from crawfish to walleye. Just like land-based farms, fish farmers spend a lot of time making sure their animals are healthy. Dr. Vipa Phuntumart and her team at Bowling Green State University have developed a method to detect *Saprolegnia*, a fungal-like pathogen that can result in an estimated loss of \$40 million to U.S. aquaculture operations every year, in water samples from fish farms. This allows the fish to be treated with eco-friendly options before they show symptoms.



## Supporting Marine Trades Industry with Education and Professional Development

In response to marina industry demand for education and professional development, the Ohio Clean Marinas Program created the annual Ohio Marina Conference, which offers relevant education and training to Ohio marinas. 83% of past event attendees reported the conference helps them maintain their business or advance professionally. The 2020 conference had 95 attendees and included presentations from experts on water levels, stormwater, wastewater, insurance, recreational boating and fishing, compliance assistance, marine debris, and tourism. An awards ceremony also recognized certified and recertified Clean Marinas.



## Protecting Drinking Water for Ohio Residents

In 2014, a harmful algal bloom left 500,000 residents in Toledo without drinking water. Ohio Sea Grant was one of the first to respond, performing testing for water treatment plants and supporting city officials managing the problem. Today, Ohio Sea Grant researchers are developing new ways to keep algal toxins out of drinking water, from early warning systems when blooms approach water intakes to new treatment methods that save cities money. An annual Stone Lab workshop on algal blooms has trained 227 people from 2011 to 2016, including a water treatment plant operator in Norwalk, who identified a harmful algal bloom in their reservoir and averted what could have been a serious problem.

## Partnering to Preserve Coastal Lands for Habitat and Tourism Opportunities

The Lake Erie Islands are a unique environment in Ohio, providing critical habitat for many indigenous animals and plants. They have been identified as one of the most vulnerable regions to development in the Great Lakes, while also holding significant value both biologically and economically. Ohio Sea Grant has maintained long-standing partnerships with the Lake Erie Islands Conservancy since 2003 and the Put-in-Bay Township Park District since 2007, assisting in their missions to conserve and protect the Lake Erie Islands for future generations. This partnership led to the preservation of more than 100 acres of coastal and inland lands that benefit island residents, businesses and wildlife, while providing outdoor educational opportunities for students and researchers.

## Developing a Sensitive, Low-Cost Method to Detect an Herbicide in Ohio Surface Waters

Glyphosate, the active ingredient in Round-Up™ herbicide, is widely used in Ohio agriculture, increasing from less than 200 metric tons in 1990 to 1300 metric tons in 2015. There is limited data on how much glyphosate and the compounds it degrades into enter surface waters because it is complicated and expensive to detect, but emerging health concerns make development of cheaper, faster testing methods important. Dr. Laura Johnson at Heidelberg University is developing such a method for water samples from the Lake Erie watershed, which suggest that glyphosate and related compounds are found in surface waters at highly variable concentrations and at levels below those that cause human health risks.


## Building Successful Lake Erie Charter Businesses

With over 800 captains, Ohio boasts the largest charter fishing fleet on the Great Lakes, earning an estimated \$14.6 million in revenue and attracting thousands of customers to local harbor communities. Keeping these businesses viable is important for Lake Erie coastal economies, so Ohio Sea Grant organizes an annual Ohio Charter Captains Conference to support the charter industry with training needs. Over 80% of attendees report the conference helps them keep their charter business going or advance professionally in their career. Due to the COVID-19 pandemic, the 2020 and 2021 conferences were transitioned to successful virtual events. Annually reaching 20-25% of licensed captains, in partnership with the Ohio Department of Natural Resources-Division of Wildlife, Lake Erie Charter Boat Association, U.S. Coast Guard, and U.S. Customs and Border Protection, the Ohio Charter Captains Conference helps Lake Erie charter businesses be more successful through training in business management, regulatory requirements, and environmental issues.

## Helping Coastal Businesses Weather the Storm of COVID-19 Pandemic

The Cities of Northwood, Perrysburg and Archbold established a partnership with Ohio Sea Grant and Reveille LTD to develop a Business Retention and Expansion program focused on supporting existing jobs and businesses across all sectors during the COVID-19 pandemic shutdown. The program surveyed businesses within each city to identify challenges and present findings to the communities so they can take informed action. This targeted business information, training tools and outreach led to resilient, proactive strategies that supported 4,797 jobs across all reported sectors valued at \$229,186,269.

Proactive strategies supported

**4,797**   
JOBS VALUED AT  
**\$229,186,269**



## OHIO SEA GRANT COLLEGE PROGRAM

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Ohio Sea Grant, based at The Ohio State University, is one of 34 state programs in the National Sea Grant College Program of the National Oceanic and Atmospheric Administration (NOAA), Department of Commerce. The program is supported by NOAA, The Ohio State University, OSU Extension, the Ohio Department of Higher Education and donations and endowments.