

TWINELINE

2014 WINTER EDITION VOL.36/NO.1

Celebrating

The Battle of Lake
Erie Bicentennial

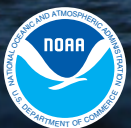


TABLE OF CONTENTS

2014 WINTER EDITION

TWINE LINE



	Page
Put-in-Bay Celebrates Battle of Lake Erie Bicentennial	3
Conservation Assessment Tools.....	6
Surveying the Landscape.....	8
Renovations at Stone Lab Continue	10
<i>Great Lakes Climate</i> website	11
New Life for Dredged Material	12
Ohio Sea Grant to Fund Seven New Research Projects.....	13
New Ohio Sea Grant project helps determine	14
Lake Erie's value to its residents	16
2014 Stone Lab Courses	17
FOSL	17
Student Spotlight	
Buckeye Island Hop	
Renaissance Reunion	

RETREAT ON THE ROCK 2013



Photos from the
event are available at
flic.kr/s/aHsjKzhHrp.

Communications staff from across Ohio State University came together at Stone Lab in September for two days of professional development, networking, and a glimpse at Lake Erie science.

Meeting spaces are available for rent at Stone Lab facilities from May – October. Please call the Bayview Office at 419-285-1800 for more information.



OHIO SEA GRANT

The Ohio State University
1314 Kinnear Rd.
Columbus, OH
43212-1156
Phone: 614.292.8949
Fax: 614.292.4364
ohioseagrant.osu.edu

OHIO SEA GRANT STAFF

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

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

Dr. Christopher Winslow
Assistant Director
winslow.33@osu.edu

Bryan Ford
Business Manager
ford.95@osu.edu

Nancy Cruickshank
Publications Manager
cruickshank.3@osu.edu

Christina Dierkes
Outreach Specialist
dierkes.10@osu.edu

Lyndsey Manzo
Education Coordinator
manzol@westerville.k12.oh.us

George Oommen
System Engineer
oommen.6@osu.edu

Grace Hicks
HR, Fiscal & Travel Coordinator
hicks.519@osu.edu

John Tripp
Office Associate
tripp.3@osu.edu

Greg Aylsworth
Designer
aylsworth.2@osu.edu

EXTENSION AGENTS

Frank R. Lichtkoppler
Lake & Ashtabula Counties
440.350.2267
lichtkoppler.1@osu.edu
Program Coordinator

Heather Elmer
Ohio Coastal Training Program
419.433.4601
heather.elmer@dnr.state.oh.us

Tory Gabriel
Ottawa County
419.898.3631
gabriel.78@osu.edu

Dr. Kristin Stanford
Stone Laboratory
Education & Outreach Coordinator
614.247.6500
stanford.147@osu.edu

Joe Lucente
Lucas County
419.213.2028
lucente.6@osu.edu

Sarah Orlando
Clean Marinas Coordinator
419.609.4120
orlando.42@osu.edu

Matt Thomas
Stone Laboratory
419.285.1846
thomas.347@osu.edu

Twine Line (ISSN 1064-6418) is published four times a year by the Ohio Sea Grant College Program at The Ohio State University, 1314 Kinnear Rd., Columbus, OH 43212-1156. Subscription price is \$10.00 per year (four issues). The opinions expressed are those of the authors only. Please contact the office to obtain permission before reprinting articles or graphics. Ohio Sea Grant is a statewide program that supports greater knowledge and stewardship of Lake Erie and the Great Lakes. It is part of the NOAA Sea Grant College Program (NOAA grant NA16RG2252, project M/P-2), which includes 32 state programs. Support of Ohio Sea Grant is provided by National Sea Grant, the State of Ohio, The Ohio State University, Ohio State University Extension, and participating universities, agencies, and businesses.

Put-In-Bay Celebrates BATTLE OF LAKE ERIE BICENTENNIAL 1813-2013



200 years ago, men in uniform were a well-known presence at Put-in-Bay, as sailors of the United States Navy were stationed there during the War of 1812.

by Christina Dierkes, Ohio Sea Grant Communications

During Labor Day weekend 2013, uniforms – this time worn by both men and women – again made an appearance during the festivities that celebrated the Bicentennial of the Battle of Lake Erie.

Some of those uniforms belonged to the Ohio State University Marching Band. About 250 band members traveled to Put-in-Bay to participate in the Bicentennial parade, and to play a short concert at Perry's Victory and International Peace Memorial.

"I thoroughly enjoyed the trip and am so excited we were able to take part in the celebration," says Zacke Naughton, a fourth-year electrical engineering student and sousaphone player. "Before the concert, a majority of the group simply walked the docks, talking with locals and getting our pictures taken with anyone who would have it. We honestly felt like celebrities! We got

Karl Rabenack



many accolades and many of the locals had us on their boats for a talk and a picture or two. It was such a fun experience!"

The concert of course included Tchaikovsky's *1812 Overture*, a piece not actually connected to the War of 1812, but often played in the United States during Independence Day celebrations and other major events. "The band ended the concert with the *1812 Overture*, and right at the appropriate spot, fireworks in the harbor went off," remembers Dr. Jeff Reutter, Ohio Sea Grant & Stone Lab Director. "It was just an incredible display."



► **Above:** Tall ships from the Great Lakes converge on Put-in-Bay for the Bicentennial celebration. **Left:** Professionals and amateurs alike got a chance to participate in the battle re-enactment.



COVER STORY



► **Above:** A replica of the *Brig Niagara*, the relief flagship of Commandant Perry during the Battle of Lake Erie, also provides the backdrop for college courses covering the history, politics, and environmental concerns of the Great Lakes region. Stone Lab manager Matt Thomas took part in one of those courses this summer, showing students around some of the shipwrecks near Alpena, Mich. (at right)

Perry's Victory & International Peace Memorial on South Bass Island commemorates the long-lasting peace between Britain, Canada, and the U.S. and honors those who fought in the Battle of Lake Erie. The Doric column reaches 352 feet above Lake Erie (47 feet taller than the Statue of Liberty), making it the third-tallest national monument after the Washington Monument and the St. Louis Arch.

With its Gibraltar Island home having played an important role before the battle, Stone Lab took part in the festivities as well, from providing island tours to some of the descendants of Master Commandant Oliver Hazard Perry, who led the American fleet in the 1813 Battle of Lake Erie, to having ships attend the battle re-enactment west of South Bass Island.

"That re-enactment was witnessed by easily 3000 personal vessels that were surrounding the whole scene," remembers Matt Thomas, Stone Lab's manager. "That was quite a spectacle in itself, just seeing that many small boats near West Sister Island.

But the Coast Guard was there to keep things safe and do a little crowd control, so it was a long day on the water, but it was neat."

The Lab's annual donor appreciation event was also moved to Labor Day weekend, and Stone Lab supporters and other special guests were able to enjoy the festivities around Put-in-Bay. "We wanted to extend our thanks and provide an opportunity for our donors to go out and see this once-in-a-lifetime re-enactment live and in person," Thomas says.

Dr. Tom Rosol, Professor of Veterinary Biosciences at Ohio State's College of Veterinary Medicine, was one of the weekend guests at Stone Lab. "Even with the choppy waters, the Lake Erie battle re-enactment was an experience of a lifetime," Rosol says. "Many thanks go to the staff of Stone Lab for creating an amazing weekend, and the impressive fireworks were a fitting conclusion."

"Everyone loved it," Reutter adds. "It was a truly amazing weekend. I've never seen that many people on the island, and it was perfect weather, just a gorgeous day. Everybody had an incredible experience."



Gibraltar Island is also home to Perry's Lookout, where it is said Perry would spend long stretches of time at the cliff's edge, keeping a watchful eye for the British fleet. Today, the lookout provides a spectacular view of some of the Lake Erie Islands to students and other visitors to Stone Lab, Ohio State's Island Campus.

During the Bicentennial, the spot high above the lake also offered a perfect vantage point to observe the 17 tall ships from around the Great Lakes that converged on Put-in-Bay for the events. Among those ships was a replica of the *U.S. Brig Niagara*, the relief flagship of Commodore Oliver Hazard Perry during the Battle of Lake Erie. The ship is home-ported in Erie, Pennsylvania, but travels the Great Lakes regularly, including as part of a three-week Stone Lab course offered in partnership with Niagara and Penn State universities.



“Many thanks go to the staff of Stone Lab for creating an amazing weekend, and the impressive fireworks were a fitting conclusion.”

— DR. TOM ROSOL

Narotski took on the part of Lieutenant Robert Anderson, recreating – with the help of his wife Jane – the officer’s uniform from historical patterns and as many authentic materials as possible. In the six months before the event, they traveled hundreds of miles for wool fabric, scoured antique shops and online listings for buttons and a sword, and even ordered epaulettes for the uniform from Pakistan.

“It was quite a process,” Narotski remembers, “but to the best of our ability the outfit is a uniform, not a costume, made with authentic materials or as close as we could find.” Their efforts were rewarded during the weekend, as visitors asked to take photographs, and even some of the descendants of Commandant Perry, who were in town for the events, complimented the work.

And while there were some logistical problems during the day, the re-enactment was the experience of a lifetime for many of the people involved.

“We could have participated much more, but as it was, it was a very nice day sail in a historic setting,” Narotski says. “Overall it was a wonderful experience.”

While the ships were mostly manned by experienced sailors, interested guests had the opportunity to make a donation in exchange for a spot on one of the ships during the battle re-enactment. Sam Narotski, a former Stone Lab student and current member of the Friends of Stone Lab, was able to take a spot as an officer on the privateer *Lynx*, which was playing the part of the American schooner *USS Ariel*.

“I’ve been coming up to South Bass Island for a very long time,” Narotski says. “I have been to the Perry Cave and the monument and the new National Park center, and it all adds to the ‘realness’ of what happened here, not to mention Perry’s Lookout on Gibraltar Island. So I have had a deep ingrained experience here with and about the battle, and I have also had a great interest in the Navy for the longest time.”



THE BATTLE OF LAKE ERIE

On September 10, 1813, nine American ships engaged six British vessels near the Lake Erie islands in what would become the most important strategic battle over control of Lake Erie.

It didn’t look good for the Americans at first: after his flagship *Lawrence* was heavily damaged by British cannons, 28-year old Master Commandant Oliver Hazard Perry took a small rowboat through heavy fighting to the *Niagara*. From this new flagship, he was able to break through the British lines and force them to surrender. A short dispatch to Major General William Henry Harrison simply bore the now-famous words “We have met the enemy, and they are ours.”

The Battle of Lake Erie marked the first time in history that an entire British naval squadron had ever surrendered, with all six ships successfully captured. Perry’s victory – the first military campaign he led during the War of 1812 – allowed the American fleet to take control of Lake Erie, break American Indian support lines to the British, and capture Detroit. Control of that city also ensured an American victory in the Battle of the Thames near Chatham-Kent, Ontario, in October 1813. The encounter resulted in the death of Shawnee leader Tecumseh, the destruction of the American Indian coalition that supported the British, the ultimate defeat of British and American Indian forces, and the end of the War of 1812 two years later.



► **Top:** Sam Narotski, a member of the Friends of Stone Lab, took part in the battle re-enactment aboard one of the tall ships. **Left:** During a Stone Lab course on the *Brig Niagara*, students also learn how to sail a historic tall ship, from steering to climbing the mast to set sails.

CONSERVATION Assessment Tools

OHIO SEA GRANT ASSISTS THE NATURE CONSERVANCY
IN DEFINING CONSERVATION SUCCESSES

by Christina Dierkes,
Ohio Sea Grant Communications

SCOTT SOWA



► **Above:** The project team had a chance to show off some of their work during a visit to western Lake Erie in the fall of 2013.

When algal blooms hit Lake Erie, discussions about the blooms' causes become hot topics in the surrounding communities. But while Lake Erie algal blooms are an important concern for the region, people often don't think about the impact that those nutrients and sediments can have on the watershed before they reach places like Sandusky Bay. Where do these problematic materials come from? Where do they enter the waterways? How do they affect plant and animal life, both in the stream and along streambanks? And what are the best ways to reduce the impacts of nutrients and sediments, both on local streams and on their eventual destination, Lake Erie?

The Nature Conservancy (TNC) is addressing those questions through the development of computer models that allow users to focus on what's happening to the ecosystem in the Western Lake Erie watershed as small as individual farms. The models focus on assessing and forecasting the ecological impacts of agriculture on the watershed's ecosystem, as well as the benefits of conservation practices that reduce those impacts.

The project is one of a number of Conservation Effects Assessment Projects (CEAP), funded by the Natural Resources Conservation Service (NRCS) under the U.S. Department of Agriculture's 2002 farm bill. CEAP projects assess how effective environmental conservation practices are at reducing the impacts of agriculture on the surrounding ecosystems to ensure that funding for these practices is distributed in a way that makes the most of available resources.

"Essentially the US government wanted to make sure that the money they were spending on NRCS conservation programs was in fact making a difference," explains Carrie Vollmer-Sanders, Western Lake Erie Basin Project Director for TNC. "CEAP assesses the effectiveness of the farm bill's conservation programs that taxpayer dollars are spent on."

Other partners include Ohio Sea Grant, NOAA, Ohio State University, USDA's Agricultural Research Service (ARS), Texas A&M University, and the ARS's Grassland, Soil, and Water Research Laboratory.

A key component of this project is the Soil and Water Assessment Tool (SWAT), a watershed model developed jointly by the USDA Agricultural Research Service and Texas A&M University. The model is used globally to assess potential impacts of agriculture on aquatic ecosystems and forecast the benefits of conservation practices, which is critical to conservation planning. The CEAP project is using the SWAT model, calibrated with data specific to the Western Lake Erie watershed, to determine realistic sustainability goals for each stream segment – a length of stream that occurs between two successive tributaries, analogous to a city block – across the entire Western Lake Erie watershed.

"In this first phase, we establish relations between biological metrics that measure the health of the fish community and water quality and flow variables generated by SWAT. This allows us to identify and map which of these variables are limiting the fish community," explains Scott Sowa, Director of Science and Great Lakes Senior Aquatic Ecologist for TNC. "In the second phase, we forecast the benefits of conservation practices at select watersheds to assess the costs and ecological benefits of those practices. This two-phase modeling process provides us with information we



► **Left to Right:** The research team visited a number of locations in the western Lake Erie watershed during a field meeting in Toledo in the fall of 2013 to see the impacts of agriculture on the area first-hand. Teams members and guests also took a cruise on the Maumee River to learn more about the ecosystem. **Below:** Researchers speak to media representatives about their project during a site tour.

can use to help us set realistic watershed sustainability goals. So we can say these goals are meaningful ecologically, but they're also economically feasible given the current availability of resources and the current realities of social dimensions like farmer participation, for example."

Agriculture impacts watersheds because runoff from farm fields – from rain or snowmelt, for example – carries with it soil particles and nutrients from fertilizers. When that runoff enters local waterways, the sediment and nutrients are carried downstream and eventually end up in places like Lake Erie, but local waterways are impacted by those contaminants as well. Suspended sediments make the water murky and can prevent fish from hunting for food effectively, and bottom dwellers like mussels prefer stony substrates rather than the fine clay surface created when sediment settles out of the water column.

Conservation practices in agricultural areas tend to target those sources of pollution, called non-point sources because there is no specific spot, like a sewage treatment plant, where the pollution originates. In the Maumee River watershed, those practices may include

conservation tillage, where some of the plants from a previous crop remain on the soil to anchor it in place, or tile drainage management systems, which keep water in the soil instead of letting it freely run into neighboring streams.

"Tile drainage hasn't been modeled before, and it's exciting to have that as part of this project because we have a lot of sub-surface tile and quite a few tile drainage management systems in the Western Lake Erie Basin," says Vollmer-Sanders.

In a complimentary project, developing decision support tools will help end users make decisions on the best conservation practices and where they should be placed to help achieve those sustainability goals. Not only will these tools be able to determine a cost estimate for conservation work in the selected watershed area, but they can also be used to strategically allocate resources – funding, expertise and labor – to the parts of the watershed where investments can go the farthest in conserving and restoring an ecosystem.

"You need to have goals to define success," says Sowa. "And you need tools that allow you to target practices strategically at multiple scales, and then also give you the ability to track progress towards those goals."

Another key component of this project involves the creation of an advisory committee to make informed decisions about which conservation practices are already accepted in their region, and therefore would be more easily implemented at a larger scale. Committee members will also help TNC develop "future conservation scenarios," sets of best management practices (BMPs) that can be

used to show the potential impact of different combinations of BMPs and watershed coverage.

There are an infinite number of scenarios that could be created: for example, scenarios could include five BMPs covering 25% of the watershed area, or they could include 20 BMPs implemented in 50% of the watershed area. In a previous project, Sowa and the TNC team used an advisory panel and existing data on conservation practices to determine what BMPs were already implemented in the region in order to create realistic future conservation scenarios that were then modeled for a selected subset of priority watersheds. From these modeling efforts, they were able to provide an estimate of costs and environmental impacts of those "commonly implemented" BMPs. Other times, adding new, possibly more effective, BMPs may be of more interest, and the tools would help in deciding which practices to add.

The advisory committee will play an important role in making the decision on which future scenarios will be used in the current proof-of-concept phase of the project. "It's a mix of technical, professional and policy folks, people who could use this information, but also folks who could help us improve the actual implementation of the project," says Sowa.

Ohio Sea Grant Director Dr. Jeff Reutter is also part of the team putting together the committee, and Ohio Sea Grant Extension agents and communications staff will help TNC with outreach efforts once the model and decision tools are ready for end user requests.

Of course, once the model is completed, the upper reaches of the Western Lake Erie watershed won't be the only places that will benefit from this information. As the final recipient of all runoff coming from those areas, Lake Erie is also likely to benefit from improved conservation practices across its watersheds.



Anthony Sasson

new life for dredged material

by Christina Dierkes,
Ohio Sea Grant Communications



Dredging shipping channels is an unavoidable part of harbor maintenance in the western Lake Erie basin. In Toledo, the Army Corps of Engineers removes about one million cubic yards of sediment from the Maumee River each year, washed downstream by heavy rainstorms and agricultural runoff. But once the sediment is removed from the shipping channel, where does it go?

So far, there have been two options: storage in containment facilities, or open lake dumping. However, containment facilities are expensive, take up valuable space, and don't look particularly attractive. And open lake dumping could add fertilizer attached to sediment particles to an already fragile lake ecosystem, potentially worsening harmful algal blooms.

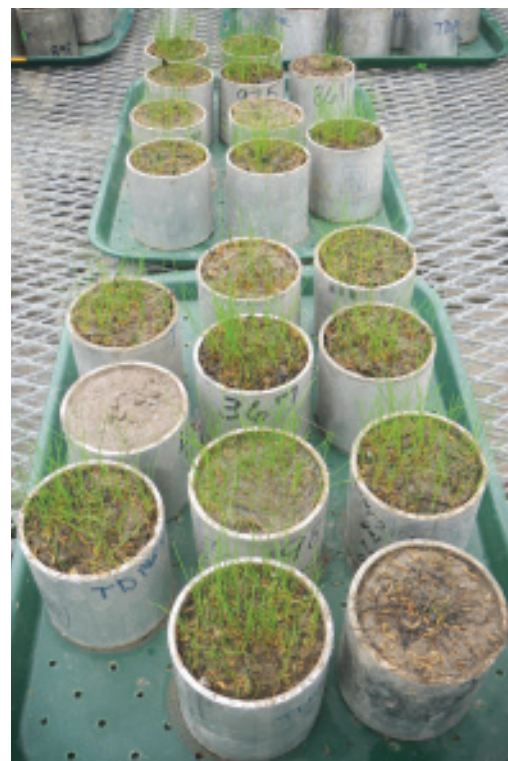
Dr. Elizabeth Dayton, Research Scientist in Ohio State University's School of Environment & Natural Resources, is working to provide a third option: beneficial reuse. Funded by Ohio Sea Grant, she is collaborating with soil blenders along the Lake Erie shore to create custom soil blends for construction and landscaping that incorporate dredged material as a main component.

"We've recently completed a characterization scheme for soil blends, based on chemical and physical properties," Dayton explains. "That allows us to come up with a more tailored soil blend, where someone can tell us approximately what they want in the soil, and we can help them create a recipe that

will meet their needs. And of course we're trying to have dredged material be the primary ingredient."

The first customers for such a custom soil blend are the City of Toledo and the Toledo Land Bank, who commissioned a custom soil blend for remediation of building sites where abandoned homes are being demolished. Dayton and her team created a blend of 80% dredged material and 20% leaf compost from the city's yard waste collection, which matched the desired soil specification. The city is currently in the process of hiring a soil blender to manufacture the fill material, which could be used on more than 300 sites throughout the city.

Dayton is also working on fill material for the Cherry Street Legacy Project in central Toledo, an effort to rejuvenate the neighborhood surrounding Mercy St. Vincent Medical Center. She is providing the project with a soil blend that is both appropriate for filling demolished building lots after potentially lead-contaminated soil is removed, and for turning the lots into green space or side yards for neighboring homes.



Top to Bottom: Researchers incubate soil blends to help determine how well each mix allows plants to grow. Core samples are taken to get a closer look at soil structure without having to disturb much of the surrounding soil. // **Facing Page:** The Cherry Street neighborhood in central Toledo is becoming a test site for the use of sediment soil blends in community restoration efforts. Dayton's team is providing soil blend recipes to rehabilitate abandoned building sites, which are turned into public green space or side yards for neighboring homes. Photos: Kim Chapman

➤ The project is scheduled to complete in January 2015, but Dayton expects to continue to work with her contacts in future site remediation projects. For more information, contact her at dayton.15@osu.edu.

“We had a great opportunity to use resources such as dredging material and leaf collection and make a product that can improve the health of the community, it can improve the beauty of the community, and it will help us create a sustainable environment.”

— KAREN ROGALSKI, CHERRY STREET LEGACY PROJECT COORDINATOR

Karen Rogalski, who coordinates the project as part of the hospital's community health efforts, appreciates the opportunity to use local resources in her work.

“Our mission at the hospital is to improve the health of our community,” she says. “And we had a great opportunity to use resources such as dredging material and leaf collection and make a product that can improve the health of the community, it can improve the beauty of the community, and it will help us create a sustainable environment.”

The Cherry Street Legacy Project is a community partnership designed to create a stronger and safer neighborhood. The project currently focuses on demolishing abandoned homes in the area, to improve the overall value of the neighborhood, as well as to make it a safer place to live.

“We established baselines on all our crime when we first started this project,” Rogalski explains. “And it's not surprising that our

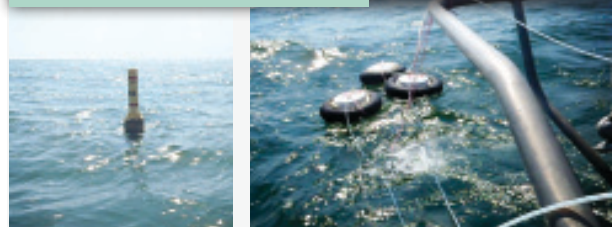
neighborhood's number one crime for the last several years was burglary, because if you have a blighted structure next to you, it provides an opportunity for someone to stand in that structure unseen, and when you leave, then your house is broken into.” By removing the abandoned buildings and improving line of sight for residents and police officers, burglary incidents were reduced so much that it is no longer the top crime in the neighborhood.

In addition to providing tailored soil blend recipes to some of these partners, Dayton and her research team will create an analysis of the economic impacts of using dredged sediments in soil blends. “We've gotten some information from some of the soil blenders, but it's not enough to run an analysis yet,” she says. “I'm hoping to add this partnership with the land bank and the City of Toledo to the data, because that would be a really good test study. So that's going to be on our plate for this winter for sure.”



Below: A University of Cincinnati project will continue to measure Lake Erie's contribution of methane emissions to the atmosphere.

New Funded Projects



Ohio Sea Grant to Fund Seven New Research Projects

Every two years, Ohio Sea Grant issues a request for proposals to scientists across Ohio conducting projects that address critical issues facing Lake Erie and the Great Lakes. In addition to beginning seven new projects, Ohio Sea Grant will support three projects continuing from the last cycle. Below are the ten projects Ohio Sea Grant will fund between February 2014 and January 2016.

▶ ELIZABETH DAYTON

Ohio State University
Feb 2012 – Jan 2015

Beneficial reuse of dredged material in manufactured soil blending: Economic/logistical and performance considerations

▶ ELENA IRWIN

Ohio State University
Feb 2014 – Feb 2016

Linking agricultural production and Great Lakes ecosystem services: Modeling and valuing the impacts of harmful algal blooms in Lake Erie

▶ DARREN BADE

Kent State University
Feb 2013 – Jan 2015

Should nitrogen be managed in Lake Erie? The potential role of nitrogen fixation by cyanobacteria

▶ AMY TOWNSEND-SMALL

University of Cincinnati
Feb 2015 – Jan 2017

Relative contributions of hypoxia and natural gas drilling to methane emissions from Lake Erie

▶ JAY MARTIN

Ohio State University
May 2012 – Jan 2015

Impacts of climate change on public health in the Great Lakes due to harmful algae blooms

▶ CHRIS VANDERGROOT

ODNR Division of Wildlife

Feb 2014 – Jan 2016
Understanding dam removal impacts on a formerly prolific Great Lake's walleye

▶ JUSTIN CHAFFIN

Ohio State University
Feb 2014 – Jan 2016

The role of nitrogen concentrations in regulating cyanobacterial bloom toxicity in a eutrophic lake

▶ LINDA WEAVERS

Ohio State University
Feb 2015 – Jan 2017

Delivery of sediment amendments using far-field ultrasound

▶ KEVIN CZAJKOWSKI

Ohio State University
Feb 2014 – Jan 2016

Mapping drain tile and modeling agricultural contribution to nonpoint source pollution in the western Lake Erie basin

▶ GEORGE BULLERJAHN

Bowling Green State University

Feb 2014 – Jan 2016
Source tracking and toxigenicity of *Planktothrix* in Sandusky Bay

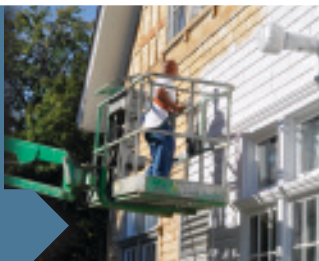
renovations at STONE LAB

> CONTINUE

by Christina Dierkes,
Ohio Sea Grant Communications



As part of the renovations this summer, the Research Building's exterior was stripped down to the woodwork and repainted in its original color scheme. Solar panels were installed on top of the Classroom Building on Gibraltar Island, and behind the scenes, new technology will help Stone Lab continue to use solar power in the most efficient way.



Ohio Sea Grant's Stone Lab definitely benefits from its Lake Erie island location, putting students and researchers in the middle of the action when it comes to Great Lakes research and education. However, winters on Lake Erie can take their toll on building exteriors, and running a top-notch research facility housed in 100-year-old walls requires updates and renovations on a regular basis.

This year, Stone Lab staff have focused on the Research Building on South Bass Island, across Put-in-Bay harbor from Stone Lab's Gibraltar Island. The new Algae & Water Quality Lab was completed earlier this year, offering researchers the opportunity to perform testing right on the lake instead of having to send samples to labs a few hours away.

The most easily visible update has been to the exterior of the 1890 building. All of the paint was stripped from the wooden exterior, and workers took the opportunity to repair all of the exterior woodwork, which had been damaged over the years, before priming and

painting the whole building again. The new coat of paint continues the historically accurate white and grey color scheme, but new visitors may not realize just how historic it is at first glance. "It looks like a brand new building," says Stone Lab Manager Matt Thomas, who oversees the renovation process.

Stone Lab is also adding more green energy to its line-up. Three solar thermal water heaters on the roof of the Dining Hall were installed in March 2012 and produce almost all of the hot water the Dining Hall uses during the summer. Solar panels were added to the roof of the Classroom Building on Gibraltar Island in October

2013, essentially doubling the solar energy output of the island to 26 kilowatts. During the installation, special attention was paid to not compromising the visual appeal of the historic Classroom Building. "The University Architect's Office and Third Sun Solar put a lot of thought into making sure the panels don't clash with the architecture of the building, and it looks pretty good," says Thomas.

Dr. Jeff Reutter, Ohio Sea Grant and Stone Lab Director, says that "the new solar panels continue Stone Lab's efforts to provide students, researchers, and visitors to the island and our website with opportunities to

If you would like to support Stone Lab and help keep the facilities running smoothly, you have a number of options to do so. Donations are always accepted at stonelab.osu.edu/fosl/give, are completely tax-deductible, and include membership in the Friends of Stone Lab (FOSL). Or keep an eye out for upcoming events, such as the annual Winter Program and the Spring Work Weekend, at stonelab.osu.edu/fosl/events.

study different solar arrays and arrangements while reducing our operational costs and allowing us to do our part to address climate change, which is one of the reasons we are having harmful algal blooms.”

Funding for the project was supplied by the Ohio State Office of Energy and the Environment with the support and advice of the Ohio State President's and Provost's Council on Sustainability (PPCS). “These projects also would not have been possible without support from the Office of Research,” Reutter adds.

The solar pavilion at the western end of Gibraltar Island was completed in June 2012 and features fifty 240-watt solar panels of two types, as well as a way to tilt two small arrays at different angles to demonstrate and study the importance of being perpendicular to the sun. “Each panel has a microinverter to convert DC to AC power, and to communicate the output of each panel to our website,” Reutter explains. “The 40 high-efficiency 300-watt panels on the Classroom Building allow students, scientists and the public to evaluate

the impact of four different types of inverters and DC optimizers.”

“The experimental side of things is really behind the scenes,” Thomas says. Photovoltaic cells in a solar array don't all produce the same amount of energy all the time – the angle at which sunlight strikes the cell, shade from surrounding trees or overhead clouds, and even small imperfections and dirt specks on the cover glass can all cause differences in energy output. By manipulating the way in which the panels' computer system optimizes the flow of electricity the solar panels produce, researchers can find out which configurations can compensate for those differences to lead to the best energy output.

And to make using all of that solar power safer, electrical wiring is being updated throughout the lab's buildings. “Some of these buildings that we use are from the 1920s or 1890s, like the office building, and they have multiple decades of electrical changes and service,” explains Thomas. “So we're getting everything current now, and that's a big renovation that's not going to be noticeable from the outside.”

In addition to big-ticket items like solar panels or painting an entire building, Stone Lab staff – and volunteers – constantly repair and organize things to make the lab run more smoothly. During this year's Buckeye Island Hop, volunteers helped to clear out additional storage spaces, and new concrete steps into the Research Building ensure the safety of staff and visitors.

“Those little things really add up after a while,” Thomas says. “It's amazing – you can see the light at the end of the tunnel, and we couldn't accomplish a lot of it without people volunteering at events like Buckeye Island Hop.”

GREAT LAKES CLIMATE WEBSITE

A one-stop shop for Great Lakes climate change information

The Ohio State University Climate Change Outreach Team has created Great Lakes Climate, an online collection of curated and annotated Great Lakes climate change resources for educators, government officials, community planners, and the general public. Available materials range from curriculum on climate change impacts in the Great Lakes to information on mitigation those impacts in communities throughout the region.

The OSU Climate Change Outreach Team welcomes submissions for inclusion in the collection.

Visit greatlakesclimate.com to access resources and submit your own.



Great Lakes Climate was created with NOAA funding from the EPA's Great Lakes Restoration Initiative.

Installing solar panels on top of a three-story building on a small Lake Erie island has its own set of logistical challenges, but Stone Lab staff and contractors alike were up to the task.



SURVEYING *the* LANDSCAPE

INTERDISCIPLINARY RESEARCH EXAMINES
CONNECTION BETWEEN FARMING AND
HEALTH OF MAUMEE RIVER WATERSHED

NOAA



by Christina Dierkes, Ohio Sea Grant Communications

Northwestern Ohio's landscape is marked mostly by agriculture, with farms of all sizes stretching across the Maumee River watershed and beyond.

A collaborative project, led by Ohio State University, is examining the connection between people's perception of the health of Lake Erie and the Maumee River watershed, the actual state of these ecosystems, and how both are likely to shift under future influences like climate change. The overall project is funded by a National Science Foundation program aimed at examining the connection between human and natural systems – how humans influence an ecosystem, and how changes in that ecosystem in turn affect humans' perception of and future actions towards it.

"The big research question of the project is whether or not we can offset the predicted negative impacts of climate change on Lake Erie, like harmful algal blooms, decreased water quality, and lost recreation opportunities," says Dr. Robyn Wilson, Associate Professor in Ohio State University's School of Environment & Natural Resources. "We're asking if we can offset what are likely to be some negative impacts from the changing climate through changes in human behavior."

Those impacts are likely to include increasingly strong storm events, which in turn will wash both sediments and nutrients, such as fertilizer, into streams and eventually Lake Erie. Combined with expected warmer temperatures, all of these factors could contribute to an increase in harmful algal blooms and associated problems.

Chesapeake Bay Program



"Since we can't stop the climate from changing, we can't stop it from raining, and we can't stop the temperatures from increasing, the only thing we can do to decrease the likelihood of those expected negative economic and environmental impacts is to then change the human behavior," Wilson says. An overview of the project is available online at go.osu.edu/maumeebay1.

Currently, the researchers are analyzing data from a pilot survey of 652 farmers in the Maumee River watershed to help them create a larger follow-up survey that will be sent out in January 2014. Results indicate that there is a fairly consistent split between farmers that has been seen in other surveys as well. 70-80% of respondents agree that nutrient runoff is a problem in the watershed, and while they think that they're already doing a good job of limiting that runoff, they would be willing to do more if needed. On the other hand, 20-30% believe that nutrient runoff isn't really an agriculture issue, but more related to urban development or septic systems, and they are not as willing to take additional action.

Above: NOAA satellite imagery shows sediment runoff and algal blooms in much of western and central Lake Erie.

Left: Farms are a common sight in Ohio, and especially the northwestern region of the state. Agriculture contributes \$105 billion to Ohio's economy, and covers more than 14 million acres of land.

“The big research question of the project is whether or not we can offset the predicted negative impacts of climate change on Lake Erie, like harmful algal blooms, decreased water quality, and lost recreation opportunities.”

— DR. ROBYN WILSON



Results of the pilot survey are published in *Farmers, phosphorus and water quality: A descriptive report of beliefs, attitudes and practices in the Maumee Watershed of northwest Ohio*, available at ohioseagrant.osu.edu/maumeebay.

For more information about this project, contact Robyn Wilson at wilson.1376@osu.edu.

“What we’re trying to do in our research is to take those 20-30%, and see both how we can target policy efforts at those people, and whether it really is a case of a small minority causing the problem,” says Wilson. “So from a policy standpoint, you can then really focus your mechanisms on the right place, develop the right incentive program, develop the right messaging when it comes to outreach, and in particular, motivate those farmers who most need to change.”

Wilson has already received some positive feedback on the report from a professor at the University of Toledo, who has used it to answer a frequently asked question from his students: what do farmers say about all this? “Our motivation with the report was basically to say we’ve collected this data on what farmers think about this issue,” Wilson says. “We wanted to get some of that basic descriptive information out there so people would have some baseline understanding of what farmers are thinking and doing and are willing to do.”

The larger survey will dig deeper into the connections between farmer demographics, outside incentives and policy programs about nutrient management, and willingness

to incorporate different types of precision application techniques, such as incorporating fertilizer into the soil and timing broadcast fertilizer application with crop needs and weather forecasts.

“We’ll also have questions that ask really targeted behavioral questions to get at what the farmers are currently doing, and what they’re willing to do differently,” says Wilson. “We’ll be focusing on the precision agriculture idea of whether they’re not just applying the same amount of fertilizer to an entire field, but instead applying the right rate at the right place at the right time.” This precision approach is popular in current policy conversations, because it focuses on prevention and crop management rather than technological solutions to deal with the runoff.

Once the larger survey is completed, the researchers will use the results to develop a probabilistic model of farmer behavior – basically a way to determine the likelihood of farmers’ values, attitudes, beliefs and behaviors given observable information like crop rotation and farm size. When combined with the biophysical models of watershed data – showing the current health of the ecosystem,

and what practices would most improve that health – this behavioral model in turn will help policy makers and watershed conservation groups target regulations and incentives towards people most likely to be able to make a difference.

“That’s where the human and the natural system really come together,” says Wilson. “We need to be able to make some predictions about who’s most likely to change, and what sort of interventions would encourage a shift in behavior among those people. And then the hope would be, if you’re targeting the right people and the right behaviors, that you will see those positive impacts on the physical side.”

Despite the technical nature of the project, the research team always maintains a focus on how their findings can impact the people who live and work in the Maumee River watershed.

“In the end, what we’re really trying to do is figure out how you get the right information to farmers,” Wilson summarizes. “How do you target policies in the most effective way while being fair to farmers, giving them the right kind of resources and support and incentives to put the right practices in place, and adding that human piece into a policy making process that often leaves it out.”

New Ohio Sea Grant project helps determine

LAKE ERIE'S

VALUE
TO ITS RESIDENTS*by Christina Dierkes,
Ohio Sea Grant Communications*

For some things, it's easy to define their value: a pair of jeans or a pizza is worth whatever someone has paid for them. But for others, like a pristine beach or a great fishing spot, worth is much harder to define. In one of the research projects recently funded by Ohio Sea Grant, scientists and economists from Ohio State University will develop an economic model that does just that, to help policy makers decide which conservation practices will raise the value of the Lake Erie ecosystem to its residents and visitors.

Dr. Elena Irwin and doctoral student Wendong Zhang of Ohio State University's Department of Agricultural, Environmental & Development Economics (AEDE) are planning to develop an economic framework that will assign dollar values to ecosystem services – “the benefits that nature provides to humans,” according to Irwin – when negative events like harmful algal blooms are reduced or eliminated.

Irwin and Zhang will specifically look at three services Lake Erie provides: water clarity, safe and clean drinking water, and recreational activities like fishing and beachgoing. These services are called “non-market goods” because typically there are no set prices for these services. The value of water clarity and clean drinking water can be estimated through lakefront property values and reduction in water treatment costs due to algal toxins. Recreational activities will be valued through two surveys: a mail survey of anglers, sent to a subset of people who hold Ohio fishing licenses, and an online survey of beachgoers.

The surveys will use two forms of questions to get at the value people place on a healthy Lake Erie ecosystem. Revealed preferences are determined based on housing prices, which reflect the relative value of neighborhood features, including environmental conditions for those houses that are located close to Lake Erie. Stated preferences, on the other hand, use hypothetical scenarios to produce a dollar value that individuals would associate with a given change in environmental conditions – for example, a question may ask “how much would you be willing to pay for a 50% reduction in algal blooms at your favorite fishing spot?”

“The drinking water treatment cost will be based on an engineering cost calculation,” Irwin adds. “So if we were able to reduce the presence of algal toxins, how much does that save in terms of additional treatment cost? That's called avoided cost, since you're looking at the cost you avoid because you're providing a healthy ecosystem service, in this case drinking water.”

The research enhances a multi-year National Science Foundation (NSF) project that examines how farmers' best management practices in the watershed affect water quality in Lake Erie, and how people's perceptions of the lake influence those practices. The NSF research team plans to



Above: Huntington Beach on Cleveland's west side shows how many people visit the Lake Erie shoreline during a warm summer day.

Photo: Nathan Hardin

develop decision-making models that take into account the relationships between farmer behavior, land management, and hydrology of the western Lake Erie watershed.

These models in turn will help policy makers and watershed managers understand how guidelines and regulations are formed, and identify practices that make sense for upstream activities and can improve the downstream ecosystem. In addition, the models could be used to help decide between a number of suggested conservation practices, because they can show which practice will provide the best cost-benefit ratio while maintaining desired ecosystem traits.

Irwin and Zhang's project adds another dimension to the NSF project by focusing on economic implications of policy implementation. “By linking this economic model with the models produced through the NSF grant, we'll know that if there is a nutrient management policy imposed on the farmers, this will potentially generate a reduction in phosphorus loadings,” says Zhang. “This would then translate into a lower chance of or lower intensity of harmful algal blooms, which would translate into the dollar value of



Nathan Hardin

We're pretty excited to be doing this," Irwin says. "It's pretty cutting edge in terms of linking all the pieces, and the important point is that you need both the social scientists and the biophysical scientists working together, and that's what we're doing."

increased recreational activities, increased lakefront property values, and lowered wastewater treatment cost."

The project will also give a chance to undergraduate interns in Ohio State's new Environment, Economy, Development & Sustainability (EEDS) major to gain real-world research experience. This past summer, undergraduate students Nate Hardin and Corey Damron and AEDE Master's student Vincent Valentino piloted the beachgoer survey along the Lake Erie shoreline, but they ran into some troubles along the way.

"Initially they went out with official OSU polo shirts and clipboards to gather people's emails, so they looked very official and not many people had an interest in talking with them," Irwin explains. "So we had a strategizing session about how to get people to even interact with us, because the students were becoming very discouraged."

The students came up with a great idea: offer the right incentive. Armed with a cooler full of popsicles, the students had much better luck, and 95% of the people that provided an email address on the beach later completed the online survey. "That cooler completely changed the whole dynamic because it made people more receptive," says Irwin. "Kids came up and asked for popsicles, so that gave the students an entry point for a quick conversation." The researchers will use the same protocol to collect emails during the summer of 2014 for the full survey.

"We're pretty excited to be doing this," Irwin says. "It's pretty cutting edge in terms of linking all the pieces, and the important point is that you need both the social scientists and the biophysical scientists working together, and that's what we're doing." Completion of the model is expected in early 2016.

In addition to Irwin and Zhang, the research team also includes Jay Martin, Professor of Ecological Engineering at Ohio State, and post-doctoral researchers Mike Fraker (Ohio State Department of Evolution, Ecology, and Organismal Biology) and Seyoum Gebremariam (Ohio State Department of Food, Agricultural and Biology Engineering).

For more information about this Ohio Sea Grant supported project, contact **Dr. Irwin at irwin.78@osu.edu**.



Above: Once student researchers added a cooler of popsicles to their equipment, collecting beachgoer emails for survey requests became much easier than before.

STONE LABORATORY

Summer Courses 2014

For applications, go to stonelab.osu.edu or call 614-292-8949

INTRODUCTORY COURSES

The courses listed to the right are one-week courses running Sunday–Saturday and are open to advanced high school and current college students.

One-Week Courses – 2 credits

ENR 2360	Ecology and Conservation of Birds.....	June 15-June 21
EEOB 1930	Introduction to Biological Studies – Aquatic Biology.....	June 15-June 21
KNSFHP 1140.05	Lake Erie Sport Fishing.....	June 15-June 21
EARTHSC 1107	Field-Based Introduction to Oceanography.....	July 27-August 2
EEOB 1930	Introduction to Biological Studies – Aquatic Biology.....	July 27-August 2
ENTMLGY 1260	Introductory Insect Field Biology.....	July 27-August 2
EEOB 1930	Introduction to Biological Studies – Aquatic Biology.....	August 3-August 9
EEOB 1910	Introduction to Biological Studies – Local Plants.....	August 3-August 9

UPPER-LEVEL COURSES

Open to college students who are studying biological sciences, education, and natural resources, as well as science teachers.

Five-Week Courses – 4 credits

EEOB 5420	Aquatic Ecosystems – Ecology of Inland Waters.....	June 22-July 26
EEOB 3410	Ecology.....	June 22-July 26
EEOB 3310	Evolution.....	June 22-July 26
EEOB 5940	Field Zoology.....	June 22-July 26
EEOB 5930	Ichthyology.....	June 22-July 26

One-Week Courses – 2 credits

EEOB 5910	Field Herpetology.....	June 15-June 21
EEOB 4950	Field Ecology.....	July 27-August 2
EEOB 5210	Spider Biology.....	August 3-August 9
ENR 5194	Group Studies: Climate and Sustainability.....	August 3-August 9

Other Courses

EEOB 3189	Field Course: Environmental Science.....	June 10-July 4, 2 credits, 3 weeks on the Flagship <i>Brig Niagara</i>
ENR 5699	Current Topics in Environment and Engineering.....	June 22-July 26, 1 credit, 5 weeks
EEOB 5970	Larval Fish Identification Workshop.....	June 29, .5 credit, 1 day
EEOB 5950	Algae Identification Workshop.....	August 11-August 12, .5 credit, 2 days

NON-CREDIT WORKSHOPS

Non-credit workshop courses last one to three days and are open to the public. Participants must be at least 18 years of age and have completed high school.

Larval Fish Identification Workshop.....	July 29
Algae Identification Workshop.....	August 11-August 12
Dealing with Cyanobacteria, Algal Toxins and Taste & Odor Compounds.....	August 13-August 14
Outdoor Photography Workshop.....	August 15-August 17
Lake Erie Sport Fishing Workshop.....	August 29-August 31
Fish-Sampling Techniques Workshop.....	October 11-October 12

SCIENCE COURSES FOR EDUCATORS

Classes are open to classroom teachers, non-formal educators, and education majors with a rank of junior or above by the class date.

One-Week Courses – 2 credits

EARTHSC 5189.05	Geologic Setting of Lake Erie.....	TBD
EARTHSC 5584	Principles of Oceanography for Educators.....	June 15-June 21
EEOB 4950	Field Ecology.....	July 27-August 2
ENR 5194	Group Studies: Climate and Sustainability.....	August 3-August 9
ENR 5614	Marine and Aquatic Education.....	August 3-August 9

REU PROGRAM

Expand your research skills with Stone Lab's Research Experience for Undergraduates (REU) Scholarship Program. Students spend their non-class days working one-on-one with research supervisors, collecting data, analyzing discoveries, and preparing a final presentation.

Reproductive biology of the round goby (Ichthyology)
 Distribution and ecology of crayfish (Ecology)
 Survival rates of birds of the Lake Erie Islands (Ornithology)
 Fisheries techniques: research and fish survey development (Fisheries Management)
 Lake Erie Watersnake field and laboratory research (Herpetology)
 Exploration of Lake Erie nutrient loading, hypoxic events (the "dead zone"), and harmful algal blooms (Limnology)

Course credits are based on the Ohio State University semester credit system and are transferable to most colleges and universities.

TUITION ASSISTANCE AND JOBS

All students taking for-credit courses are eligible for scholarship funds, which typically range from \$100 to \$2,500. Students enrolled in five-week courses can also apply for Stone Lab's part-time positions or find jobs at local Put-in-Bay businesses. For more information, [visit stonelab.osu.edu/appllynow](http://stonelab.osu.edu/appllynow).



Digging Deeper INTO SCIENCE

by Christina Dierkes,
Ohio Sea Grant Communications



Sarah Vanderhorst

Between science fair projects and a summer class at Stone Lab, Erin Rogers is already well on her way to a career in the sciences. This summer, the Tippicanoe High School junior from Tipp City, Ohio spent a week at Stone Lab, studying local plants and exploring the Lake Erie shoreline.

"I found out about Stone Lab through Science Fair, and attended a summer course because it sounded like a fantastic opportunity to have fun and earn college credit at the same time," Erin says. "I took the Local Plants class, and while it was not my first-choice course, it was very interesting and enjoyable!"

Like all Stone Lab courses, the one-week Local Plants class is jam-packed with content: daily field trips to different ecosystems along the Lake Erie shore offer hands-on learning opportunities, and classroom sessions introduce background knowledge to help students understand those experiences better. The classes also give high school students like Erin a chance to get a head start on college credits, and to get an idea of what to expect after they graduate.

"I plan to major in chemical engineering and minor in environmental engineering," says Erin. "I am seriously considering OSU for college, and Stone Lab allowed for a taste of what college is really like. It also tied in nicely with my science fair project, 'Effects of Runoff Pollution on Plant Growth,' and helped me achieve a deeper understanding of my topic."

With students living on Stone Lab's Gibraltar Island home in Put-in-Bay harbor for the duration of their classes, they also get the chance to explore the island environment during their free time. Swimming, volleyball, and walks on neighboring South Bass Island are just some of the available activities.

"The island itself was gorgeous," Erin remembers. "I loved the feeling of being independent that the area provided, yet still having

Erin Rogers



"The island itself was gorgeous," Erin remembers. "I loved the feeling of being independent that the area provided, yet still having security in knowing that even the opposite end of the island is only a short walk away."

security in knowing that even the opposite end of the island is only a short walk away."

All in all, students come to Stone Lab to learn, but it's not just about Lake Erie science. Living on the island and being responsible for themselves also means they have to learn how to get along with roommates – sometimes for the first time in their lives – and how to manage their time wisely. But if they're willing to put in the work, Stone Lab is a great experience that will always look good on college applications. And many students who attend one class not only come back for more, they tell their friends to sign up for classes too.

"I would warn my friends that it is most definitely NOT a summer camp - be prepared to work!" Erin says. "However, I would definitely recommend taking any of the Stone Lab classes, as they were a great experience and an even better opportunity to get college credit while having fun!" **FOSL**

Friends Of Stone Laboratory

Dear friends,

This has been a wonderful and memorable year for the lab and the island community as we celebrated the bicentennial of the Battle of Lake Erie. Celebrations lasted throughout the year and culminated on Labor Day weekend. Visitors were treated to a concert by the OSU marching band followed by fireworks. The reenactment of the battle on the lake was something we soon won't forget. Seeing all the tall ships together was thrilling as was the wild ride on the lake waves that day. Thank you to everyone who contributed to the Lighting the Bay event. It was spectacular.

The following weekend, the Friends sponsored our Open House weekend. Once again, with the help of our volunteers, we were able to host over 1,000 guests. People who have joined us before were impressed by the many recent changes to the lab such as the improvements to the research facilities, classrooms and dorms. Solar panels have been installed and throughout the island learning stations have been constructed adding to the educational aspect of Gibraltar. One day we would like to be able to showcase Cooke Castle in its renovated glory. The Friends are currently working toward making that a reality. We will give you updates on the progress toward our goal.

We have much to be grateful for as we enter the holiday season. Classes are filling and thanks to the generous donations of many, we were able to offer 53 scholarships to students and sponsor 10 REUs in 2013. This is only possible because of the generosity of those who donate to our funds. As we know, money invested in education has benefits far beyond a dollar value. Your donations are supporting not only the students but countless others who can further advance a sustainable healthy Great Lakes ecosystem. Please consider contributing in whatever way you can, knowing the importance and impact of your gift.

Visit our website at stonelab.osu.edu to keep updated and to make your contribution. Looking forward to seeing everyone at the Winter Program in Columbus in late January.

Best holiday wishes to all of you!

*Sincerely,
Sheila Lewicki, FOSL President*



2013 Buckeye Island Hop

The 12th Buckeye Island Hop was the year of the rain... wet weather predominated but fortunately it was not cold. This year the Columbiana County Alumni Club rejoined the Colleges of Arts and Sciences Alumni Society, FOSL, and the OSU Retirees Association as sponsoring partners.

Unfortunately, some planned jobs were not accomplished this year. The government shutdown cancelled work at Perry's Victory and International Peace Memorial. Hopes of staining the front porch of Bayview, sanding and priming Adirondack chairs, and painting the basement door of the Dining Hall were washed away by the rain. Numerous tasks were done on Gibraltar Island however. Team Zitto constructed wooden platforms inside the Dining Hall's basement in order to raise the washers and dryers off the floor, easing their use. Another team thoroughly cleaned the dining room and basement, even removing spider webs between floor joists. Old upholstered furniture was cleaned out of Barney Cottage and moved to South Bass. Roll away beds were sorted and parted out, and then moved to the Aquatic Visitors Center or the dumpster.

A steady drizzle did not keep volunteers from gardening and landscaping at the Lake Erie Islands Historical Society (LEIHS), the Lake Erie Islands Nature and Wildlife Center (LEINWC), and South Bass Island Lighthouse. Drainage trenches were dug out at LEIHS and a trail mulched at LEINWC. Leaves and debris were removed from the remnants of the Victory Hotel pool at the South Bass Island State Park. In the Research Building, tables and floor drains were cleaned, and the basements of Bayview and Peach Point cottages and the back room of the AVC were cleared of junk.

Luckily the sprinkles abated and the day ended with the traditional wine tasting on the patio, photos at the dock, and perch dinner. Dr. Jeff "Rain Man" Reutter presented an informative and interesting lecture about the synergistic history of Ohio Sea Grant and Stone Lab. Many folks departed for evening activities on South Bass while some stayed to watch the Ohio State vs. Northwestern Game. 48 volunteers and 20 staff participated in the weekend's activities.

The next IHOP will be October 3-5, 2014. Please save the date! FOSL

The Friends of Stone Laboratory (FOSL) began in 1981 as a support group to “bring Stone Laboratory into the 21st century with the best possible facilities, equipment, and professors, and make this an unequalled learning experience available to all outstanding students.” Members of the Friends provide a way for former students to support the facility by raising awareness and funds for scholarships, research, and equipment.

FOSL BOARD OF DIRECTORS

Sheila Lewicki, *President*
Ken Scott, *Vice President*
Joan Bradley, *Secretary*
Lydia Bailey, *Treasurer*
Tracey Meilander, *Past President*

BOARD MEMBERS

Laura Rufenacht
Angela Greene
Charlene Prochazka
Tyler Lawson
Perry Orndorff
Laura Yamsek

F.T. STONE LABORATORY FIELD STATION

The Ohio State University
PO Box 119, Put-in-Bay, OH 43456
419.285.1800, 614.247.6500, Fax 614.247.6578, stonelab.osu.edu

STONE LAB STAFF

Dr. Jeffrey M. Reutter, Director (reutter.1@osu.edu)
Dr. Chris Winslow, Assistant Director (winslow.33@osu.edu)
Dr. Kristin Stanford, Lab Outreach Coordinator (stanford.147@osu.edu)
Matt Thomas, Laboratory Manager (thomas.347@osu.edu)
Arleen Pineda, Program Coordinator (pineda.2@osu.edu)
Kelly Dress, Business Office Manager (dress.3@osu.edu)
Dr. Justin Chaffin, Research Coordinator (chaffin.46@osu.edu)



Dates to Remember

January 21, 2014	Winter Program & Silent Auction
September 5-7, 2014	Stone Lab Open House
October 3-5, 2014	Buckeye Island Hop

Renaissance Reunion

The last weekend in September was an extraordinary celebration of the lives of John L. Crites, PhD and his wife Phyllis. About 30 of his students, friends and children (Jill Crites Cooks and Robert Crites) will cherish the experience for the rest of their lives. You can share this experience on-line through the wonderful 70-page souvenir booklet compiled by Verna Holoman, PhD at osu.box.com/critesreunion. The booklet contains an eloquent essay by Paul Stromberg, DVM, PhD, Dr. Crites obituary from the Ohio Academy of Science, and many interesting recollections by Dr. Crites' students and friends. Event photos are available at www.flickr.com/photos/ohioseagrant/sets.

For many reasons, John "Jack" Crites, PhD, could be considered a Renaissance Man. He was a researcher, professor, mentor and an accomplished artist. Dr. Crites was a true Stone Labber. He was a professor both on Ohio State's main campus and at Stone Lab in 1956, 1965, and 1967-1980. He was Associate Director for Research at Stone Lab from 1974-1980 and chairman of the Department of Zoology and Entomology from 1981-1990. He believed that in order to teach effectively, the professor had to be intimately involved with research. When he was the Associate

Director for Research he advised students to work hard and play hard. When touchy issues arose at Stone Lab, he was often called upon to resolve them because of his excellent communication skills and relationships with students.

When asked, Dr. Crites declined to serve on the FOSL Board due to a conflict with his departmental duties; however, Phyllis served on the Board 1984-1988. Some of his students and friends also served on the Board or its formulation committee including:

Larry Cooper, PhD, 2000-2003

Karen Jennings, MS, 1981-88 and 1995-2000

Ed Skoch, PhD, 1981-1982

Paul Stromberg, PhD, 1998-2001

David Thrush, MS, 1997-2000

E. Louise Ackerman Troutman, MS, 1981-82

The Renaissance Man was an amazing artist who willingly shared his talents with others. When the FOSL Board of Directors wanted to start an endowment fund in his honor, he wanted it to be for research. He had several black and white



drawings of Stone Lab and contributed them as a fund raiser for the endowment. One of his prints is sent as a donation "thank you" from the Crites Research Endowment, now for a gift of \$500 each. It has funded numerous Research Experiences for Undergraduates (REUs).

Dr. Crites and Phyllis had a cottage called "Windsong" on the West Shore drive of South Bass. They loved western Lake Erie and Stone Lab so much that their ashes were spread in the lake where the *BioLab* frequently trawls for fish between Middle Bass and Rattlesnake Islands. They "joined" one of John's best friends, T. Richard Fisher, PhD, from Bowling Green State University who taught Field Botany at Stone Lab for many years and whose death had preceded theirs.



THE OHIO STATE UNIVERSITY

Ohio Sea Grant and Stone Laboratory
The Ohio State University
1314 Kinnear Road
Columbus, OH 43212-1156

Non-Profit Org.

U.S. Postage

P A I D

Permit No. 711

Columbus, OH

Help Stone Lab renovate Cooke Castle!



Historic Cooke Castle on Stone Lab's Gibraltar Island is a National Historic Landmark, and has housed U.S. presidents and Civil War leaders in its prime. However, the castle is now in need of extensive renovations to return to its former glory.

Your gift to Stone Lab will help turn Cooke Castle into a place to host groups and policy makers working on issues related to science, education, the environment, the economy and other Lake Erie issues. Please donate today – we have great plans for the future, but we need your help to achieve them!

Of course, your donation also supports other Lake Erie research, education and outreach, from student scholarships to high-tech lab equipment. All donations are fully tax-deductible, and donors are eligible for a number of other Stone Lab benefits.



VISIT stonelab.osu.edu/fosl/give TODAY TO GIVE YOUR GIFT.

