

# TWINE LINE

The educational newsletter of Ohio Sea Grant, covering issues, events, and research related to Lake Erie and the Great Lakes



## How to Win Back the Beaches

by Jill E. Jentes, Ohio Sea Grant Communications

Covering miles of shoreline and accommodating over 1.4 million visitors last year, Lake Erie public beaches have traditionally been centers for summertime activities. With millions visiting, these beaches have evolved into key income generators, contributing over \$21 million each year to local communities. But as this summer approaches, many vacationers will be packing up and heading to other sources of summer entertainment. For many, Lake Erie beaches have lost some of their luster, causing visitation at state park beaches to decrease 20 percent over the past five years.

Lake Erie beaches are not alone. Public beaches across the nation have noticed a drastic decrease in beach visitation over the past 15 years. For many vacationers, public beaches are no longer the focal points for summer fun. Water parks and municipal pools with their added amenities now compete for the beachgoers' attention. How much do amenities really influence a vacationer's choice?

New Ohio Sea Grant research by Dr. Brent Sohngen and Chris Murray of Ohio State University's Agricultural, Environmental, and Development Economics Department investigated visitation patterns at 15 of Lake Erie's public beaches. In the two-year study, they found that beach amenities, such as picnic tables, lifeguards and beach water quality advisories, influence a beachgoer's choice of beach.

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[www.sg.ohio-state.edu](http://www.sg.ohio-state.edu)

Every year beach advisories at Lake Erie beaches cost \$3.75 million in lost visitor spending. The reduction of one beach advisory at all beaches could result in an economic increase of \$100,000 per beach for local economies.



## ASK Your Agent

*A column devoted to frequently asked or interesting questions fielded by Ohio Sea Grant agents*

Walter Williams, Cleveland

### Can Recreational Boaters, Anglers, coexist with Personal Watercraft?

by Walter Williams, Ohio Sea Grant Extension

**P**ersonal Watercraft (PWC), widely known by the trade name Jet Skis, are said to shatter the tranquility of many lakes and pollute the air and water. With warmer weather right around the corner, I anticipate hearing more complaints about some PWC operators.

During the recent Mid-America Sail & Power Boat Show at the International Exposition Center in Berea, Ohio, I heard several conversations concerning the misuse of PWCs on Lake Erie and other inland lakes in Northeast Ohio. These discussions focused on two main issues: (1) PWC operators that fail to observe wake and speed zones; and (2) the noise generated by PWCs near residential or camping areas, especially in the early morning or late evening hours.

While most PWC users operate their watercraft in a responsible manner, those who do not have caused problems and concerns for management agencies and lake users. In fact, as of April 20, 2000, the National Park Service (NPS) has banned PWC in 66 parks, recreational areas, and seashores. Contact the NPS for a listing of surrounding parks affected by this restriction.

In order to address the problems caused by some PWC operators and other recreational boaters — and to make Ohio's waters safer for all users — the Ohio Department of Natural Resources, Division of Watercraft now requires that individuals born on or after January 1, 1982, who plan to operate a powerboat over 10 horsepower, successfully complete a course approved by the National Association of State Boating Laws Administration (NASBLA) or pass a proficiency exam. The goal of this education is to help students recognize that boating involves exposure to risk. PWC operators affected by this regulation can take a course offered by the U.S. Coast Guard Auxiliary, U.S. Power Squadron, or courses offered by the Division of Watercraft. I recommend visiting their web site at [www.cgaux.org/](http://www.cgaux.org/) for more information (see article on page 4 for details about these courses), or call U.S. Coast Guard Auxiliary at 800/336-2628; U.S. Power Squadrons at 800/FOR-USPS.

Recreational boaters, anglers, families, and PWC operators who live or camp near the lake shore can coexist by respecting each others rights. Through boater education programs, boater/PWC accidents will be reduced. **TL**

*For more information, call the Division of Watercraft at 877/4BOATER (877/426-2837)*

## FYI—For Your Information

### March Water Levels

Lake Erie's level rose seasonally during March. The mean level was 570.31 feet which is 0.20 foot higher than last month's mean level and 0.56 foot below normal. The 2000 level is 1.25 feet lower than the March 1999 level and 1.11 feet above the Low Water Datum elevation reference system. **TL**

### Lake Erie Islands Travel Planner Available

A free Lake Erie Islands Travel Planner, produced by the Ottawa County Visitors Bureau is now available. With approximately 6 million visitors expected each year to the Lake Erie Islands regions, this visitors guide includes information about restaurants, attractions, and lodging in Put-in-Bay, Marblehead, Port Clinton, Lakeside, and other locations along the Lake Erie shoreline. For a free copy of the guide, call the Ottawa County Visitors Bureau at 800/441-1271 or visit [www.lake-erie.com](http://www.lake-erie.com). **TL**

### Web Site of Interest

One of the most comprehensive web sites for aquaculture information is Aquanic at [www.aquanic.org](http://www.aquanic.org) sponsored by Sea Grant, USDA, the Regional Aquaculture Centers and all major universities involved with aquaculture. The site, developed by LaDon Swann of Illinois-Indiana Sea Grant, provides a wealth of information including a beginners section, federal and regional publications, various aquaculture newsletters, slide shows, videos, and contact information. Check out Aquanic at [www.aquanic.org](http://www.aquanic.org) for all your aquaculture questions. **TL**

### Aquatic Workshop Announcement

Do you want to learn more about Aquaculture? The Aquaculture Program at the Ohio State University's Center at Piketon will be conducting a one-day "Aquaculture 104" workshop Saturday, July 29, 2000 from 9:00 to 4:00 at the Centers at Piketon in Piketon, OH. The goal of this workshop is to provide introductory information to people who have an interest in aquaculture. There will also be a tour of the facilities where you can see aquaculture production in progress. For more information, please contact Laura G. Tiu, Research & Extension Associate for Aquaculture Centers at Piketon at 800/297-2072 (Ohio only), 740/289-2071, or [tiu.2@osu.edu](mailto:tiu.2@osu.edu) **TL**

### New Changes in Ohio Fishing Rules

For those planning to fish for bass and brown trout in Lake Erie this summer, Ohio Department of Natural Resources Division of Wildlife announced new fishing regulations effective March 1, 2000. Citing the need to preserve the quality of bass fishing in Lake Erie, the daily bag limit has been reduced from eight to five for anglers seeking largemouth, smallmouth, and spotted bass. The minimum size limit for keeping any of these three species has been raised to 14 inches from 12 inches. **TL**

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## Research Review:

# Zooplankton Abundance – Vital for Young Fish Survival

by Lisa Denlinger, Ohio Sea Grant

In order to maintain high populations of Lake Erie's sport and forage fish, it is helpful for resource managers to know what factors contribute to a young fish's survival. Recruitment models that determine first-year survival rates of young fish, however, have traditionally focused on water temperature and predation by adult walleye as the key indicators for young fish survival. Recent Ohio Sea Grant research by Dr. David Culver at The Ohio State University, reveals that the biggest indicator may be the availability of zooplankton for juvenile fish.

To correlate the data patterns, Culver and his graduate team developed a four-period timeline. The researchers combined their own records on zooplankton abundance, fish diet, and zebra mussel population with annual fish abundance surveys taken by the Ohio Division of Wildlife. The timeline depicted the relative amounts of specific fish species alongside the amount of externally loaded phosphorus from 1965 to 1993, as shown by the diagram. The compilation was then used to confirm the relationship between zooplankton availability and the young fish population.

### Period 1

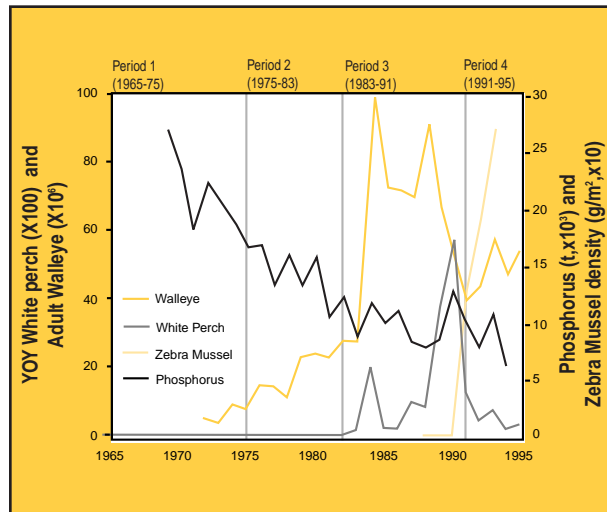
The amount of phosphorus that entered the lake during this period steadily decreased. The zooplankton population did not suffer because the mineral became incorporated within the lakebed. Later, when a stable zooplankton community was established, the fish populations began to increase as well.

### Period 2

A continuation in the decrease of phosphorus loading and the increase of adult walleye was documented during this time-frame. Alewife populations also decreased in the latter half of period two. The alewife is not preyed upon by the walleye, but its diet is restricted to zooplankton. These data infer that the alewife population decline may have been the result of competition with other fish for zooplankton, combined with its inability to utilize other food sources.

### Period 3

Phosphorus loading began to stabilize as the walleye population reached the top of the chart. At the same time, the white perch was introduced. White perch consume zooplankton, benthos, and fish. This fish's versatile diet enabled it to compete with other species despite its status as prime walleye prey. The population of white perch continued to increase until 1988 when the zebra mussel appeared.



The four-period timeline depicts the number of young walleye and white perch in relation to zebra mussel density and phosphorus loading, based on sampling collected on South Bass Island in western Lake Erie.

### Period 4

The researchers caught about 15 percent fewer forage fish, during the fourth period. They projected that this may be the result of competition between gizzard shad and zebra mussels since both of these organisms consume zooplankton through very efficient filter feeding. Since walleye eat forage fish, it was logical that the number of walleye seemed to decline when the population of foragers declined. Whether or not the walleye actually decreased as much as the graph shows, is unknown since water clarity increased at this time making it easier for the walleye to evade capture.

Meanwhile, the amount of phosphorus pollution externally loaded into the lake has remained relatively constant. The bottom dwelling zebra mussels increase the amount of phosphorus in the water by ingesting phosphorus-filled benthos. That phosphorus, which was incorporated within the sediment, is forcefully excreted upward through the water column by the zebra mussels. This process adds to the total amount of phosphorus available to fertilize cyanobacteria (blue-green algae), which competes with zooplankton for living space and sunlight. The researchers infer that the amount of phosphorus suspended in the water will increase as zebra mussel abundance and activity increase. The consequent reduction in zooplankton is then expected to make it more difficult for young fish to survive. This will especially impact the fish that are only able to eat zooplankton.

The results suggest that change in zooplankton abundance has had a more drastic effect on young fish survival than the abundance of walleye adults, the main predators of young fish. This means that variation in the nutrients that support algal food on which zooplankton depend is essential for young fish survival. Management of Lake Erie's fisheries requires being able to predict the number of reproducing adult fish required to maintain a healthy, enjoyable fish population. Culver's research emphasizes the importance of the dynamics of nutrients, phytoplankton, and zooplankton in maintaining high recruitment of Lake Erie's sport fish and forage fish populations. **TL**

This article is based on an Ohio Sea Grant funded project by Dr. David Culver of The Ohio State University and his former graduate students, Gouthaman Gopalan, Lin Wu, and Bruce Trauben. For more information about this research, contact Dr. Culver at [culver.3@osu.edu](mailto:culver.3@osu.edu) or 614/292-6995.



**One additional lifeguard** hour per week is worth an estimated **\$3684** for each beach.

**Reducing sand grain size, zebra mussel shells, and cobbles on beaches by 10% is worth an estimated \$708,646.**

Beach advisories, which are issued when pathogens, such as *E. coli* reach hazardous levels in shoreline waters, are normally a result of sewage entering surface water due to defective septic tanks, sewage overflows, or animal waste from agricultural run-off. Although visitors can swim when advisories are issued, the study indicates that beach advisories affect a beach user's decision to visit.

"When beach advisories are issued, visitors will make a choice – they either stay at

that beach, select a different beach, or choose another activity all together. This study shows that beach advisories are heavily valued by beach users," states Murray, the project's research associate. These advisories affect more than just visitor numbers. "Each Lake Erie beach advisory costs an average of \$100,000 per beach in lost visitor spending within 10 miles of a beach. With an average of 2.5 beach advisories per season, the effect these advisories have on a beach's local economy is about \$250,000," states Murray. Applying state park visitation estimates to all 15 beaches, a reduction of beach advisories by one would create an estimated \$3.75 million in visitor spending each year.

Although beach managers themselves cannot reduce beach advisories, local communities can diminish contamination occurrences by eliminating combined sewer overflows, adjusting sewage treatment methods,

and better supervising agricultural run-off. However, these policies can be very costly to implement. Murray emphasizes that communities must look at the projected yearly reduction of visitor spending if new practices are not implemented. "Policymakers have the ability to control beach advisories. There is evidence that combined sewer overflows and storm sewer overflows are significant sources of bacterial contamination in the water. By reducing the number of combined sewer overflows and increasing a wastewater treatment plant's ability to handle them, beach visitation and spending would increase," says Murray.

Beach managers can do something to lessen the effects of beach advisories. Increasing the number of amenities at a Lake Erie beach can offset the loss of beach visitation. The study found that beachgoers highly value sand quality characteristics such as finer sand grains, reduced zebra mussel shells on the beaches, and decreased cobbles. By improving these amenities and adding more lifeguard hours and picnic tables, the study suggests that visitation can improve. "Some of the beaches studied had higher than average beach advisories. Visitation, however, remained fairly high because the other beach amenities like sand quality could still attract visitors. Swimming wasn't necessarily the primary focus when other amenities exist," explains Sohngen.

This project was jointly funded by Ohio Sea Grant and the Ohio Lake Erie Commission's Lake Erie Protection Fund. For more information about this project, contact Dr. Brent Sohngen at [sohngen.1@osu.edu](mailto:sohngen.1@osu.edu) or 614/688-4640 or Chris Murray at 614/292-6972 or [murray.255@osu.edu](mailto:murray.255@osu.edu). Fact sheets such as *The Value of Lake Erie Beaches* (FS-078), *The Economics of Lake Erie Beaches* (FS-082), and addendums (FS-082 a-o), detailing the economics for each of the 15 beaches studied are available at [www-agecon.ag.ohio-state.edu/Faculty/bsohngen/beach/beachin.htm](http://www-agecon.ag.ohio-state.edu/Faculty/bsohngen/beach/beachin.htm) or by contacting Ohio Sea Grant (see back cover for order form). TL

**Five additional picnic tables** per beach is worth an estimated **\$29,908.**

# Ohio's Mandatory Boating Education Requirement

By Emily King, Ohio Department of Natural Resources, Division of Watercraft

As we kick off the "2000 Boating Season", be aware of Ohio's new education requirement law. Beginning January 1, 2000, boaters born on or after January 1, 1982, are required to successfully complete an approved safe boater course or a proficiency examination before operating power craft greater than 10 horsepower.

Many options are available for boaters to meet this education requirement. Boaters have the opportunity to take a traditional classroom course. The Ohio Department of Natural Resources Division of Watercraft, the U.S. Coast Guard Auxiliary, the U.S. Power Squadrons and other educational grant recipients such as the American Red Cross, local park departments and marine patrols are providing these programs. Courses range from eight to 20 hours in length and cost between five to 25 dollars. Classroom instruction remains the preferred method of meeting the new education requirement.

The ODNR Division of Watercraft recently reintroduced a home-study course that allows a person to complete the course at their own pace. Participants can complete a worksheet and exam and return it to the Division to be graded. Another option if a boater needs immediate results is to take a challenge test for proficiency equivalency of the information at selected sites across the state. Proficiency testing sites are



Two central Ohio teens wasted no time in meeting the new education requirements for boaters born after December 31, 1981 to operate boats greater than 10 horsepower. Katie Albanese, (third from left,) was presented with the first Ohio Boater Education Card for completing the new home study course offered by the Ohio Department of Natural Resources' Division of Watercraft and Ryan Haire received the first card for passing the new proficiency test. Division of Watercraft staff pictured with the students are Deputy Chief Pamela Dillon, Chief Jeff Hoedt and Public Information and Education Manager Emily King.

located at all Watercraft offices. Many of our boating education partners are assisting with select sites throughout the state of Ohio. A 45-day temporary certificate will be issued until the permanent wallet size card arrives in the mail.

For boaters who have access to the Internet, an online boating course is an option. Be aware that the course must be approved by the National Association of State Boating Law Administrators. An easy way to locate a course is to log on to ODNR Division of Watercraft web site and link to the free Boat U. S. Foundation for Boating Safety Online Course.

Ohio is just one of the many states to pass a mandatory boating education law. Pennsylvania, Michigan, Indiana, and Kentucky also have similar laws in place. Before traveling and boating in other states, be sure to call ahead and check on the latest boating requirements. Do not get

caught unprepared. Many of the surrounding states are requiring a certificate for all ages of personal watercraft operators who operate Jet Skis, Wave Runners, and similar watercraft.

For more information on course dates, proficiency test sites, or to order home study materials, call the ODNR Division of Watercraft at 877/4BOATER (877/426-2837) or visit [www.dnr.state.oh.us/odnr/watercraft](http://www.dnr.state.oh.us/odnr/watercraft) today. TL



## Recent Publications

Selected Titles from Ohio Sea Grant

Ohio Sea Grant produces a wide range of publications ranging from fact sheets and brochures to more technical publications such as journal reprints (based on Ohio Sea Grant funded research) and technical bulletins. Some of our materials are also available on our web site at [www.sg.ohio-state.edu](http://www.sg.ohio-state.edu). To order publications, use the form on the back page.

### Fact Sheets

- FS-082 The Economics of Lake Erie Beaches: 1998 Lake Erie Beach User Survey Results**  
Chris Murray, Brent Sohngen, Frank Lichtkoppler, and Mary Bielen; free  
*Note: This fact sheet provides an overview of the study; individual fact sheets are available for each of the 15 beaches surveyed; contact our office for more information.*

### Reprints

- RS-245 Phenotypic Effects of Leptin in an Ectotherm: A New Tool to Study the Evolution of Life Histories and Endothermy?**  
Peter H. Niewiarowski, Michelle L. Balk, and Richard L. Londraville; free

### Technical Bulletins

- TB-041 Catalogue of the Vascular Plants in Old Woman Creek Estuary and Watershed**  
Charles E. Herdendorf, Ricki C. Herdendorf, and David M. Klarer  
Limited availability; \$3.00 shipping fee
- TB-042 Valuing the Ottawa River: The Economic Values and Impacts of Recreational Boating**  
Leroy Hushak and Mary Bielen; \$6.00



Mike Heniken, FOSL President

## Dear Friends,

An exciting aspect of being a member of the FOSL board is that we get to witness the exciting events that take place, and are also called upon to help shape the future of Stone Lab. This spring and summer we will be participating in two such events. In May, we will participate in a joint strategic planning retreat with the Ohio Sea Grant and Stone Lab programs. Later, in July, we will represent FOSL at the Ohio Sea Grant State Legislature / Congressional Day. This is a great chance for FOSL to directly interface with influential legislators and administrators. The impressions and knowledge gained by these people are often beneficial to Stone Lab in the future. These kinds of activities are something I take very seriously and to which I feel very privileged to be invited. I feel it is a testament to the support and guidance that the Friends have given to Stone Lab over the past 20 years.

Please take some time to reflect on what role you can play in the Friends of Stone Lab. Obviously, we value your membership and financial support. We hope you can respond generously in our current campaign. In addition, each of you can act as information relays about Stone Lab to your respective professional and educational realms. We value your time and input of ideas.

Now is the time of the year when we are seeking persons for the FOSL board. Consider a board position which puts you in the "front row" for news and activities relating to Stone Lab.

Sincerely,  
**Mike Heniken**  
President FOSL

# FRIENDS OF STONE LABORATORY

OHIO'S LAKE ERIE LABORATORY SINCE 1895

## Engineered Algae and Water Levels

by Michael McBride, FOSL Vice President

The Second Annual Winter Lecture was held on Saturday, February 19, 2000. Attendees were treated to a wide variety of interesting topics this year. Dr. Jeff Reutter, Director Ohio Sea Grant and Stone Laboratory, and Mike Heniken, President of FOSL, welcomed everyone to the lecture and encouraged their questions and participation in the afternoon lectures. A Distinguished Service Award was presented to John Kleberg, Assistant Vice President, Business and Administration, The Ohio State University, for his dedicated research, support, and efforts on behalf of the restoration of Cooke Castle. Mr. Kleberg was also presented with an artist print of Cooke Castle (one of the limited edition prints by Dr. John Crites. See back donation form).

Dr. Reutter presented a quick visual history of many highlights of both Stone Lab and Lake Erie's history. It is quite dramatic to visually see the difference in the water quality of Lake Erie from the "green paint" algal bloom days, to the clear waters of the recent years. A wide spectrum of faces from all eras of Stone Lab was included which triggered many memories and quite a few laughs.

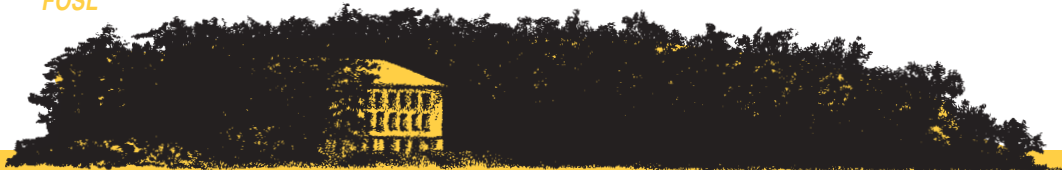
The topic of metal grabbing algae was presented by Dr. Richard Sayre, Chair, Plant Biology at The Ohio State University. He presented a clear and fascinating look at the use of phytoremediation to clean up toxic heavy metal pollutants. Many plants and algae produce binding proteins, which can uptake heavy metals. Much of Dr. Sayre's research investigated the use of bioengineering the algae to enhance their metals removal efficiencies. The use of bioengineered algae has many possible applications for both the cleanup and detection of heavy metal pollution.

Lake Erie water levels are a major concern for many people living near the lake as well as those who use the lake for commercial or recreational purposes. Dr. Scudder Mackey, Supervisor, Lake Erie Geology Group, Ohio Geological Survey, Ohio Department of Natural Resources, addressed many issues relating to this topic. He stressed the point that humans do not control Lake Erie water levels. There are no dams, impoundments, or dikes which they use to control Lake Erie's water level. The level of water is determined by precipitation in the geographical region of the Great Lakes. In fact, from a historical perspective, the current "low" levels are actually very close to the mean lake levels for the past century. Dr. Mackey also discussed the impact of water levels on physical, biological, and societal issues. **FOSL**

## Class of 1980 – Reunion

If you were a student, researcher, or instructor from the summer of 1980, Joan (Huston) and Jim Tomko would like to hear from you. They would like to organize a reunion for this summer's annual membership weekend. Please contact them at the address listed below. Joan and Jim would also like to receive any information about your careers, lives, families, etc. since you were at Stone Lab. Whether or not you plan to attend the annual FOSL weekend, they would like to hear from you. **Joan and Jim Tomko,**  
317 Greenbriar Drive, Aurora, OH 44202 • (330) 562-5506 • [jotomko@earthlink.net](mailto:jotomko@earthlink.net)

**FOSL**



# Stone Lab Accepts Delivery of M/V Explorer

by John Hageman, Stone Lab Manager

The papers have been signed; it's official! Stone Laboratory is the proud new owner of the 42-foot *M/V Explorer*, formerly operated by the fisheries research station of the Division of Wildlife in Sandusky. The Explorer is well suited to the duties of the Lab and will be kept busy, allowing us to:

- Accept more requests from researchers for vessel time, which has been limited recently due to a packed *Bio Lab* schedule;
- Improve our capabilities for scheduling field trips during our summer quarter which were lost when our other boat, the *Gibraltar II* was surplused;
- Provide additional opportunities to accommodate more spring and fall school groups currently on our aquatic science workshop program waiting list. **FOSL**

## Stone Laboratory Guest Lectures 2000

All lectures begin at 7:45 PM. A university boat leaves the dock in front of the Research Building at 7:30 PM before each lecture. Lectures normally conclude at approximately 9:00 PM. Transportation to and from Gibraltar Island is free.

**All lectures are FREE and open to the public.**

<b>Week 1</b>	6/8	No Lecture
<b>Week 2</b>	6/15	<i>Christopher Jones, Director, Ohio EPA</i> "The Conservation and Revitalization Fund and Related Issues"

### Term 1

<b>Week 3</b>	6/22	<i>Dr. Jan Miller, U.S. Army Corps of Engineers</i> "Research and Policy Interactions: Dredging and Dredged Material Management in Toledo Harbor"
<b>Week 4</b>	6/29	<i>Dr. Jane Forsythe, Bowling Green State University</i> "The Geologic Setting of Lake Erie"
<b>Week 5</b>	7/6	<i>Dr. Charles E. Herdendorf, Ohio State University</i> "Science on a Deep Ocean Shipwreck: Exploring the Gold Rush Steamer SS Central America"
<b>Week 6</b>	7/13	<i>Steve Pollick, Outdoors Editor, Toledo Blade</i> "On the Trail of the Iditarod 2000: Alaska's Last Great Race"
<b>Week 7</b>	7/20	Transition between terms—No Lecture

### Term 2

<b>Week 8</b>	7/27	<i>Dr. Frank Quinn, Great Lakes Environmental Research Laboratory, NOAA</i> "Great Lakes Water Levels: Past, Present and Future"
<b>Week 9</b>	8/3	<i>Gary L. Isbell, Administrator, Fisheries Management and Research Group, Division of Wildlife, ODNR</i> "Lake Erie Fisheries: Population Status and Trends"
<b>Week 10</b>	8/10	<i>Dr. Steve Brandt, Director, Great Lakes Environmental Research Laboratory, NOAA</i> "Current Research at GLERL"
<b>Week 11</b>	8/17	Finals Week—No Lecture
<b>Week 12</b>	8/26	<i>Open House—12:00-4:00 Saturday—Open to Public</i> Friends of Stone Laboratory Annual Meeting and Educational Programs and Tours of Gibraltar Island and South Bass Island Lighthouse

Sponsored by the Friends of Stone Laboratory and the Office of Housing and Food Service.

## Calendar

### July 21

Ohio Sea Grant's 12th State Legislature/  
Congressional Day on Lake Erie

### August 26-27

Annual FOSL Meeting and  
Stone Laboratory Open House

### September 25-29

Ohio Sea Grant/ Stone Laboratory  
Program Assessment

## Return to the Rock

by Michael McBride,

FOSL Vice President

**W**hen was the last time you stepped on the rock? Has your family grown suspicious of your tales about Stone Lab? Have you seen firsthand the clarity of Lake Erie's waters? There is a way to find answers to all of those questions and have lots of fun too. Make your plans now, to attend the annual Friends of Stone Lab member's weekend, August 26-27, 2000. This will be held in conjunction with the **3rd annual Stone Lab Open House for the general public Saturday, August 26, 12-4**. Come for the weekend and bring the family.

There will be a great variety of activities from which to choose. You can participate in many hands-on learning experiences and show off your aquatic knowledge to your family. Alternatively, you may choose to explore the many interesting sites of South Bass Island and Put-in-Bay. Of course, you can also just choose to sit back and relax, while reminiscing with old and new friends.

Look for the details in the next newsletter or contact the Stone Lab office. Perhaps you would like to make this weekend part of a longer vacation, if so here are a few places you may wish to consult: [www.put-in-bay.com](http://www.put-in-bay.com), [www.lake-erie.com](http://www.lake-erie.com); [sandweb.com](http://sandweb.com), [www.erie-county.org](http://www.erie-county.org).

**FOSL**



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