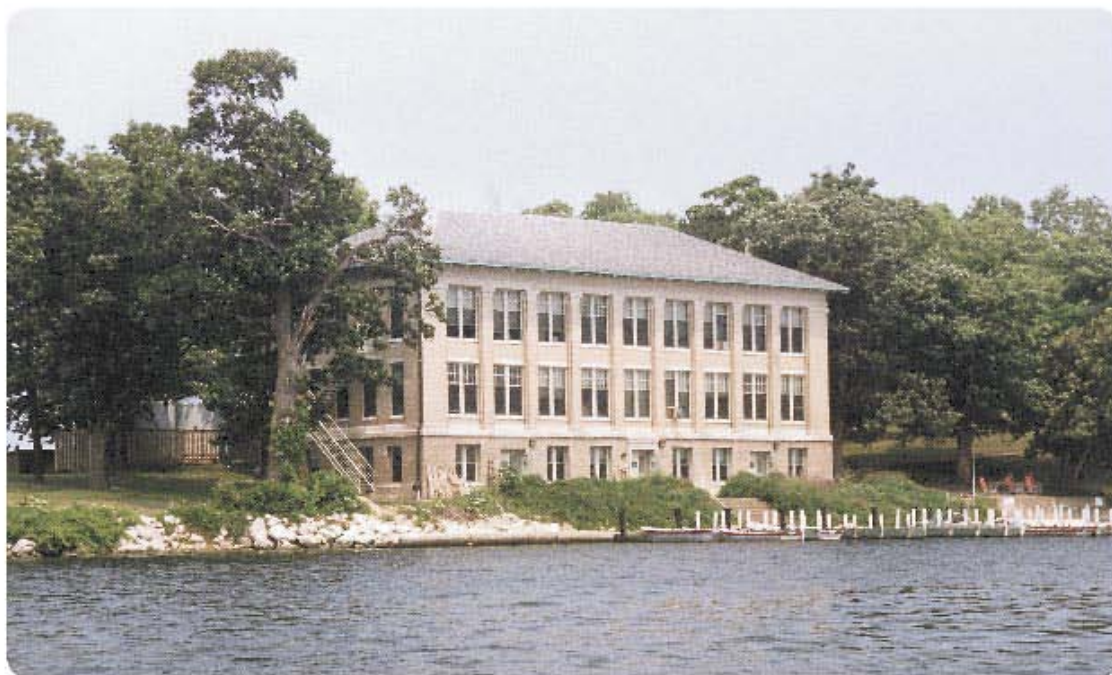


Ohio Sea Grant

C o l l e g e P r o g r a m

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including
F.T. Stone Laboratory

OHSU-PR-014

the
Center for Lake Erie
Area Research (CLEAR)

and the
Great Lakes Aquatic
Ecosystem Research
Consortium (GLAERC)

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Ohio Sea Grant and Stone Laboratory in Press 1 January- 31 December 2006

The Ohio Sea Grant College Program, administered by the Office of Research at The Ohio State University, is one of 32 programs in the National Sea Grant College Program, NOAA, U.S. Department of Commerce. The program uses a combination of research, education and outreach projects to address critical environmental, economic and education issues affecting Ohio, the Great Lakes region and the nation. Sea Grant is a true partnership between universities, government and the private sector. Each year the program supports projects at a number of Ohio colleges, universities and agencies.

F.T. Stone Laboratory, Ohio's Lake Erie Laboratory located on Gibraltar Island at Put-in-Bay, was created in 1895 and is the oldest freshwater biological field station in the country. The Laboratory, which is administered by the School of Natural Resources in the College of Food, Agricultural and Environmental Sciences at Ohio State University, has been called "*the base for the research that saved Lake Erie.*" In addition to the 20-35 research projects that are conducted at the Laboratory annually, we support approximately 170 special workshops/field trips and educational tours for 6,000 students from grade 4 through adults during the spring and fall, and offer 25 courses for college credit each summer. Since 1990 students in these courses have come from 99 colleges and universities and 341 high schools (superior high school students can enroll in introductory courses and get college credit while in high school).

As part of our outreach program we try to work closely with science writers, outdoor writers, and journalists of all types. We believe that communicating science to non-scientists is an important priority for our program, and we believe the popular press, radio and television can help us with this mission. As a measure of our success, we collect articles written about our work and/or in which our scientists are quoted. While I am sure we missed some of the articles written about us, and sometimes we were not referenced in articles written about research projects that we supported, **the following collection contains 268 articles from 123 different publications/venues printed in 2006. Some are short announcements about our programs while others go into great detail about our work, e.g. Representative Bob Latta's article from 19 April, coverage of Dr. Miner's goby research from 14 May, coverage of our shrinkwrap recycling program from 1 July, coverage of the Put-in-Bay underwater cleanup from 1 September, coverage of Dr. Walker's toxin removal research from 5 September, coverage of Dr. Sayre's algal anti-terrorism research from 12 November, and numerous articles covering Kristin Stanford's watersnake research on the Discovery Channel's popular program, "Dirty Jobs."**

I am very pleased that the media recognizes our scientists as experts and finds our work and our programs to be of interest and pertinent to real-world issues affecting this country, this region, and this state. Thanks to all of the authors and publications for their help. Please call or write if you would like more information on any of the issues or articles listed in the attachments. Photocopies of individual articles are free, a hard copy of the entire collection is \$15.00, a CD with the collection on it is \$5.00, but the entire collection will be downloadable from our web site sometime this summer. Contact Nancy Cruickshank at cruickshank.2@osu.edu for details.

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YOUR EXTENSION CONNECTION

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January

Great Lakes added to science education network

By JOHN FLESHER AP Environmental Writer

TRAVERSE CITY, Mich. (AP) -- Invasive species, toxic pollutants, "dead zones" - scientists study them, politicians debate what to do about them. Now there's a program to help schoolchildren learn about the Great Lakes and their biggest challenges.

It will bring together research scientists and science teachers for workshops, curriculum development and other projects aimed at improving Great Lakes education.

"The goal is to increase scientific literacy of students in the Great Lakes region," Don Scavia, a natural resources and environmental science professor at the University of Michigan, said Monday.

Scavia is also director of Michigan Sea Grant, a cooperative program between the University of Michigan and Michigan State University that promotes Great Lakes sustainability.

Sea Grant offices around the Great Lakes are teaming up to join the Center for Ocean Sciences Education Excellence, a nationwide network that seeks to bridge the gap between marine research and teaching.

"We can work together to get to the classrooms the kind of relevant science education that is so critical in developing a citizenry that can respond to modern needs," said Rosanne Fortner, education coordinator for Ohio Sea Grant.

The Great Lakes program is the 10th for the center, which previously has focused on the saltwater seas. Despite their differences, the Great Lakes and the oceans have points in common, and the center will raise awareness of those similarities, Fortner said.

Example: Scientists have raised concerns about the "dead zone" in Lake Erie - an area with little or no dissolved oxygen, a condition that can cause fish kills and toxic algae blooms. But the Gulf of Mexico and other oceans also have dead zones, she said.

The program will focus on a different Great Lake annually for the next five years, starting with Lake Superior. A field research trip for teachers will be held aboard a U.S. Environmental Protection Agency vessel each summer, Scavia said.

More than 2,500 teachers of pupils in fourth through 10th grades and 350 researchers are expected to participate in the activities.

Lampreys in Lake Erie

by John Hageman

Last winter, there were reports once again of sea lampreys, or as they are often incorrectly called, "lamprey eels," being seen on fish observed under the ice or caught while ice fishing. Eels have jaws like other fish - lampreys have circular jawless mouths.

Three winters ago, several lampreys were seen on carp swimming under the ice in the Put-in-Bay Harbor by the local perch-jerkers. One of Bud Gehring's guys caught one on a walleye. In the fall of 2004, I saw a lamprey on two different carp while shining a spotlight into the water looking for walleyes.

Then, two winters ago, two lampreys were reported to me a few days apart by the Middle Bass guys. One was delivered to me at my ice shanty - still alive - which I kept and displayed for the duration of the Cleveland Sport and Travel Show.

However, the lamprey I received was not the notorious sea lamprey, *Petromyzon marinus*, but the less common silver lamprey, *Ichthyomyzon unicuspis*. For many years, the silver lamprey were protected as an endangered species, but a quick review of the ODNR list reveals it is no longer listed. The supervisor of the Sandusky Fisheries Research Station, Jeff Tyson, told me they saw dozens of the silver lampreys last season in their test nets.

Lamprey Life History

Both the sea lamprey and the silver lamprey begin their lives in silt-free streams - more commonly found in eastern Lake Erie. They feed for several years on microscopic food that drifts to them as they face into the current from their burrows. At maturity, they swim downstream to the lake to begin the phase of their lives when they become parasitic to other fish. With their sharp teeth inside their rounded mouth, they rasp a hole through the side of their victim and consume blood and bodily fluids. Many fish survive this attack, as evidenced by the number of fish seen with a lamprey scar, but others weaken and die. In the spring, sexually mature lampreys return to their birthplace stream and spawn, then die.

Identification of the sea and silver lampreys

The sea lamprey is the larger of the two, attaining a length of 12 to 25 inches, while the silver lamprey only grows to 10 to 14 inches. The dorsal (top) fins are separated in the sea lamprey, but continuous in the silver lamprey. Muscle segment counts (myomeres) run from 63 to 80 in the sea lamprey, but only 50 to 56 in the silver lamprey. Teeth in the sea lamprey are 2-pronged but only have a single point in the silver lamprey. Finally, coloration on the sea lamprey may contain chocolate blotches until spawning time, when both species turn blue-black colored.

Sea lampreys are considered an undesirable, exotic pest with millions of dollars spent each year to keep their numbers within reason using lampricides such as TFM, Bayliscide or sterilization. On the other hand, the native, uncommon silver lamprey, while never likely to win any popularity contests, is considered a relatively harmless member of the Great Lakes fish community's food chain, and do not need to be killed when encountered due to their rarity.

Funds being raised to renovate Cooke's

Ohio State's John Kleberg believes Cooke's Castle is a historical treasure worth saving.

So much so, he is at the forefront of a fund-raising effort trying to raise millions of dollars to save the limestone mansion that sits atop the rocky bluff on Gibraltar Island.

Originally built in 1865 by Philadelphia banker Jay Cooke, the 15-room structure was unique for its day due to its Gothic trim and castle-like tower. Kleberg feels the history of the house and the man who built it need to be preserved for future generations.

"Most people do not know of Jay Cooke, a local Sandusky native, who was the financial center in the mid-19th century," said Kleberg. "The design of the castle, the ownership and the number of personages who visited, and recorded these visits, need to be preserved. It is part of the educational mission we have to bring this history to life for students of all ages."

Kleberg, who retired as assistant vice president of Business and Finance at OSU, currently works part-time in

the university's office of Student Affairs. He also is a member of the Lake Erie Islands Historical Society.

Cooke, a deeply religious man, used his banking skills to fund the Union effort during the Civil War. It has been said by many Civil War historians that without Cooke, the North would have never won the war.

Cooke intended for his summer home on Gibraltar to be his family's retreat from the big-city life in Philadelphia. During those summers, he would invite clergy from many different denominations to his island so they could learn about their different religion's beliefs and traditions. Cooke would pay their travel expenses and invite them to stay as long as they desired at his comfortable home. Over the years, he also welcomed U.S. Presidents Rutherford B. Hayes and William Howard Taft to his serene island along with Supreme Court Justice Salmon P. Chase.

Now, over 100 years later, the interior of the once grand home is in a state of disrepair and is in need of a complete restoration. In 1998, a project was begun to revamp the exterior of the castle.

"The exterior is restored," said Kleberg. "We did roofs, windows, drainage and put the porches back on."

"Jay Cooke's son, Henry, who became an Episcopal priest, was a great photographer. He took hundreds of photos, many of which are at the Hayes Center in Fremont with others at the Ohio Historical Society in Columbus. They provided the basis for the design on the reconstructed porches. They are original in design."

"The next step would be a total project on the interior; it really cannot be done piecemeal. Thus, we need the capital funds to get the work completed."

Kleberg said close to three million dollars will be needed to complete the project. He said the group has been looking for money from the University Development Fund since about 1995. To date, the contributions have come from private individuals, as well as university staff and faculty.

"The dollars will be used to completely renovate the interior; plumbing, electrical and finishes," he said. "The interior is in very bad shape and much work needs to be done. There would also be a need to move some walls, since things were added over the years."

"The intention is not to put it into original condition, but to clearly be sensitive to the original construction."

One highlight of the original interior is the set of built-in bookcases that adorn Cooke's library on the first floor of the castle's tower. Constructed of cherry, the ornate woodwork brings a warmth to the house even today.

Gibraltar Island is now owned by Ohio State University and is the site of Stone Lab, which serves as a biological field station for the university. In the future, Kleberg sees the castle as a welcome addition to the university's facilities on South Bass Island.

"We anticipate the facility, when reconstructed, to be



The exterior of Cooke's Castle on Gibraltar Island.



An interior photo of Jay Cooke's library at the castle.

Photos courtesy of John Rees -

www.PutInBayPhotos.com

used for university conferences, particularly in support of Stone Lab," he said. "Cooke's Castle is a National Historic Landmark and the island is the site for a very important and historic lake laboratory. The importance of Jay Cooke in the preservation of the Union during the Civil War should not be underestimated.

"We need to share that important history with the broader community that visits South Bass, Put-in-Bay and Gibraltar."

If you'd like to help ... Donations for the Cooke Castle Restoration Project can be sent to:

Office of Student Affairs

710 Lincoln Tower

1800 Cannon Drive

Columbus, OH 43210-1230

For more information, contact John Kleberg at (614) 688-3550

Buckeye Boater

...Providing News and Insights to All Ohio's Boaters

A Newsletter from ODNR Division of Watercraft January 2006



Clean Water Program

The Division of Watercraft urges all recreational boaters to get on board with Ohio's Clean Boater and Clean Marina Programs. Learn about litter prevention, waste disposal, boat painting, cleaning, aquatic nuisance species, and the Ohio Clean Marina Program.

Nine Lake Erie marinas officially became Ohio's first Clean Marinas in a dedication ceremony at Spitzers Lakeside Marina, Lorain, on Wednesday, October 19. Beaver Park North, Beaver Park Marina, Cedar Point Marina, Edgewater Yacht Club, Marina Del Isle, Middle Bass Island Yacht Club, Sandusky Yacht Club, Spitzer Harbor Walk & Rack Storage, and Spitzer Lakeside Marina have voluntarily met pollution control standards set by the program's main administrators, Ohio Sea Grant, Ohio Department of Natural Resources, and the Lake Erie Marine Trades Association.

In the coming year, make boating in a clean environment one of your top priorities. Visit "Relevant Links" to learn how.

Relevant Links

- [Clean Boating](#)
- [Boating & the Environment Fact Sheet](#)

Other Web Sites

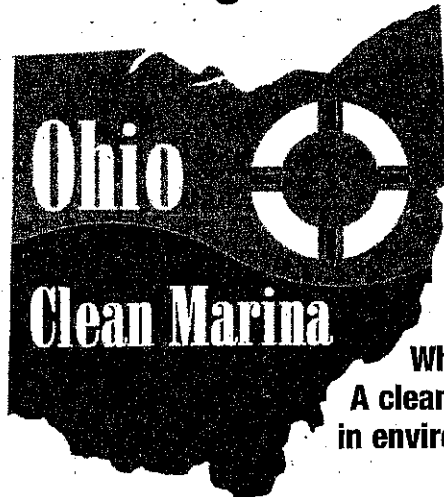
- [Ohio Clean Marinas Program](#)
- [Ohio Clean Boaters Program](#)
- [Ohio Sea Grant College Program](#)

News

- [Nine Lake Erie Marinas to Receive Ohio Clean Marinas Certification](#)

Congratulations!

**The Cleveland
Mid-America
Boat Show salutes
these marinas that
have earned the
Ohio Clean Marina
designation...**



- **Spitzer HarborWalk & Rack Storage**
Lorain OH
- **Lakefront Marina**
Port Clinton Ohio
- **Cedar Point Marina**
Sandusky OH
- **Middle Bass Island Yacht Club**
Middle Bass Island OH
- **Edgewater Yacht Club, Inc**
Cleveland OH
- **Sandusky Harbor Marina**
Sandusky OH
- **Marina Del Isle**
Marblehead OH
- **Spitzer Lakeside Marina**
Lorain OH
- **Beaver Park North, Inc.**
Lorain Ohio
- **Huron Lagoons Marina**
Huron OH
- **Sandusky Yacht Club**
Sandusky OH
- **Beaver Park Marina**
Lorain Ohio

What is a Clean Marina?
**A clean marina is an industry leader
in environmental stewardship.**

www.ohiocleanmarina.osu.edu

Tips for Storing Live Bait

Courtesy of Ohio Sea Grant

By Fred Snyder,
Ohio Sea Grant
Extension

of leftover bait. Maybe a trip gets rained out, or you pass a shop offering great prices on bulk quantities – what do you do with a flat of 500 worms or a few and keep minnows for

If you do much fishing, you've probably found yourself at times with lots

weeks at a time.

Keeping night crawlers healthy is much simpler than storing minnows but still requires proper techniques. Your best results will come from low temperatures, moderate moisture and good quality bedding material.

Night crawlers stay healthiest at temperatures below 60 degrees and preferable in the upper 30's to low 40's. At temperatures above 70 degrees they will last only a couple of days regardless of how you pack them. A large plastic container with a snap-on lid is ideal for keeping crawlers in the refrigerator. Of course, storing crawlers in the family fridge is sometimes a political impossibility. If so, a cheap spare refrigerator for the basement can be a great investment.

If you're keeping night crawlers for only a day or two, the same dirt or moss they came in is adequate. But to store them for a week or more and bring them into fat, firm condition, paper-based worm bedding is unbeatable. Made of pulverized paper and other ingredients, the bedding keeps the crawlers clean and well-fed. Also, a couple of dead crawlers usually won't sour the entire mix and kill the rest of your worms as with regular dirt or sphagnum moss.

Look for this inexpensive product at bait shops or department stores, sold in paper bags under several brand names. Wet it thoroughly then squeeze out excess water, leaving it

damp. You'll have the best night crawlers you've ever seen, and in the fridge they'll last form months if not over-crowded.

Minnows also stay alive much better when you keep the temperature down, but water quality is a more immediate problem. Low oxygen and ammonia build-up must be controlled just for your baitfish to survive throughout a day of fishing.

Warm water holds less oxygen than cold water, yet fish need more oxygen at higher temperatures. It's a contradictory situation that leads to lots of dead minnows on warm days.

Body wastes excreted by the minnows rapidly form ammonia which is toxic to them even at very low levels. A portable aerator with an air stone can help keep adequate oxygen levels in your bait containers but does nothing to remove ammonia. Frequent water changes are essential. Ammonia is the invisible killer that accounts for all those dead minnows in the bucket even though your aerator was running.

If you want to keep quantities of minnows at home, use the largest container you can get. I keep a small livestock watering tank behind the house and it works great, providing the aerator stays on, the unchlorinated well water is changed frequently and dead minnows are removed. Daily water changes not only remove ammonia, but also help keep the temperature

down.

You'll find that emerald or lake shiners are tough to keep alive. They get very stressed when temperatures rise above the low 60's. Golden shiners and fathead minnows are more tolerant of warm water, but they're still easiest to hold at low temperatures.

Feed minnows sparingly with bread crumbs or preferable, find an inexpensive aquarium fish food. Feed no more than they'll eat in a couple of minutes, and remove the excess. Remember that feeding rapidly fouls the water, requiring additional water changes. Food isn't necessary if the minnows will be used within a week or so.

Holding crayfish for an extended period is difficult. They produce copious amounts of body waste which leads to ammonia poisoning. So it's best not to keep them in water, even though they normally live in it.

Bait dealers store crayfish in damp sphagnum moss. It keeps their gills damp but allows ammonia to dissipate. The ideal storage temperature for crayfish is in the low 50's. But it's still difficult to keep them for more than a week.

In the course of a year some of us spend lots of money on live bait. With handling methods like these you can stretch your dollars and sometimes get through a pinch when bait is scarce.

01.15.2006. "Ohio Sea Grant to join NSF Center." OSU TODAY

OHIO SEA GRANT TO JOIN NSF CENTER

-- Ohio Sea Grant and OSU's School of Environment and Natural Resources are partners in the newly funded National Science Foundation Center for Ocean Science Education Excellence. The COSEE Great Lakes will receive nearly \$2.5 million for a five-year program for coordinated research, education and outreach initiatives connecting Great Lakes topics and issues with counterpart concepts in the science of the world ocean.

-- > CONTACT: <mailto:jentes.1@osu.edu>

http://nsf.gov/news/news_summ.jsp?cntn_id=104553&org=olpa&from=news

Lake Erie Dead Zone Dangers Topic of Latest Photo Essay

In Week of Jan. 30, 2006 / News

A team of Kent State University researchers has embarked on a study to help determine why "dead zones" continue to flourish in Lake Erie's central basin and what can be done about it.

"In our desire to have many things, we are causing the damage," says Dr. **Robert Heath**, Kent State professor of biological sciences and head of the Water Resources Research Institute. Heath is principal investigator on an International Field Year on Lake Erie (IFYLE) grant to uncover the causes of dead zone growth. The initiative, which is funded through the National Oceanic and Atmospheric Administration's (NOAA) Great Lakes Environmental Research Laboratory, is billed as one of the most comprehensive Lake Erie research field programs ever conducted.



Tracey Meilander and Curtis Clevinger prepare samples in one of the labs onboard the RV Lake Guardian. Photo by Bob Christy

Read "[Clear Water Revival: Research lends credence to Lake Erie 'dead zone' dangers](#)," in the spring 2006 *Kent State Magazine* and [watch the corresponding video in this week's e-Inside](#) to learn more about Heath and two of the students involved in the research.

Also, take some time to peruse the corresponding photographic essay on "[Clear Water Revival](#)." These photo essays are created to support success stories that are introduced in the printed university calendar, the *Kent State Magazine* and in other marketing materials. Each photo essay features a different topic that demonstrates how Kent State changes lives.

For more information on Kent State's integrated marketing efforts like these, contact **Flo Cunningham**, director, University Communications and Marketing, at 330-672-8508.

Nearly \$31,000 Awarded From the Lake Erie Protection Fund

Maritime Archeological Survey Team, Inc. (MAST) - \$10,000 *"Historic Shipwreck Mooring Blocks-Public Access"* Project director: Kenneth S. Marshall. Project details: MAST plans to install permanent mooring blocks adjacent to several Lake Erie shipwrecks. The permanent mooring blocks eliminate potential damage to the sites caused by direct connection to the wrecks. This will also allow larger charter vessels to use the moorings, thereby providing increased access to the non-boating diver. Addition of the off-wreck mooring blocks is needed to provide ongoing protection to these unique, submerged, historical resources.

The Ohio University Research Foundation - \$9,955 *"The Development of an Underwater Trailways System for Ohio's Lake Erie"* Project directors: David Kelch and Joe Lucente of Ohio Sea Grant. Project details: A 16-20 page, color guide and a website will be created to help Ohio residents and visitors locate the many historical, cultural and recreational shipwrecks and unique underwater habitats in Ohio's Lake Erie waters. The guide will also promote eco-tourism and economic development.

Clean Marina Program

The Ohio Clean Marina Program is a proactive partnership designed to encourage marinas and boaters to use simple, innovative solutions to keep Ohio's coastal and inland waterway resources clean. The Program assists these operators in protecting the resources that provide their livelihood - clean water and fresh air.



The basic goal of the Program is environmental stewardship by making marinas and boaters more aware of environmental laws, rules and jurisdictions, and to get as many marinas as possible to follow best management practices and to be designated as a "Clean Marina."

How to become an Ohio Clean Marina

1. Learn about the Ohio Clean Marina Program.
2. Take the Ohio Clean Marina Pledge.
3. Conduct a self-assessment of your marina property.
4. Schedule a confirmation visit.
5. Maintain your Ohio Clean Marina status.
6. Enjoy your rewards.

Get started right away, attend an informational workshop. They are free of charge and outline the details of the Clean Marina Program

January 31: 1:00 - 3:30 p.m. at the Ohio Lake Erie Commission Office, One Maritime Plaza in Toledo.

February 8: 9:30 a.m. - 12:30 p.m. at the ODNR office of Coastal Management, 105 West Shoreline Drive in Sandusky.

Pre-registration is required. Contact Gary Comer, Jr., Ohio Clean Marina Coordinator at 419-609-4120 or comer.29@osu.edu

Clean Boater Program

Did you know that nearly 420,000 boats share Ohio's waterways?

The Ohio Clean Boater Program is a proactive partnership designed to encourage marinas and boaters to use simple, innovative solutions to keep Ohio's lakes, rivers, and streams pollution-free. The basic goal of the Program is environmental stewardship by making marinas and boaters more aware of environmental laws, rules and jurisdictions, and to get as many boaters as possible to follow best boater practices and to be designated as a "Clean Boater."



A grant has been received from the Lake Erie Protection Fund, to develop the Clean

Boater Program as a component of the Clean Marina Program.

How to become an Ohio Clean Boater

Boaters are expected to abide by the Best Boater Practices listed within the program's clean boater brochure. Best boater practices are the first steps to a successful Clean Marinas Program in Ohio. Next time you're boating make the following a habit:

1. Follow fuel and engine maintenance guide.
2. Use environmentally friendly boat products when painting and cleaning your vessel.
3. Dispose of waste properly, which includes:
NEVER throw cigarette butts overboard,
NEVER discard fishing line or fish wash overboard,
NEVER dispose of plastics in the water, just to name a few.

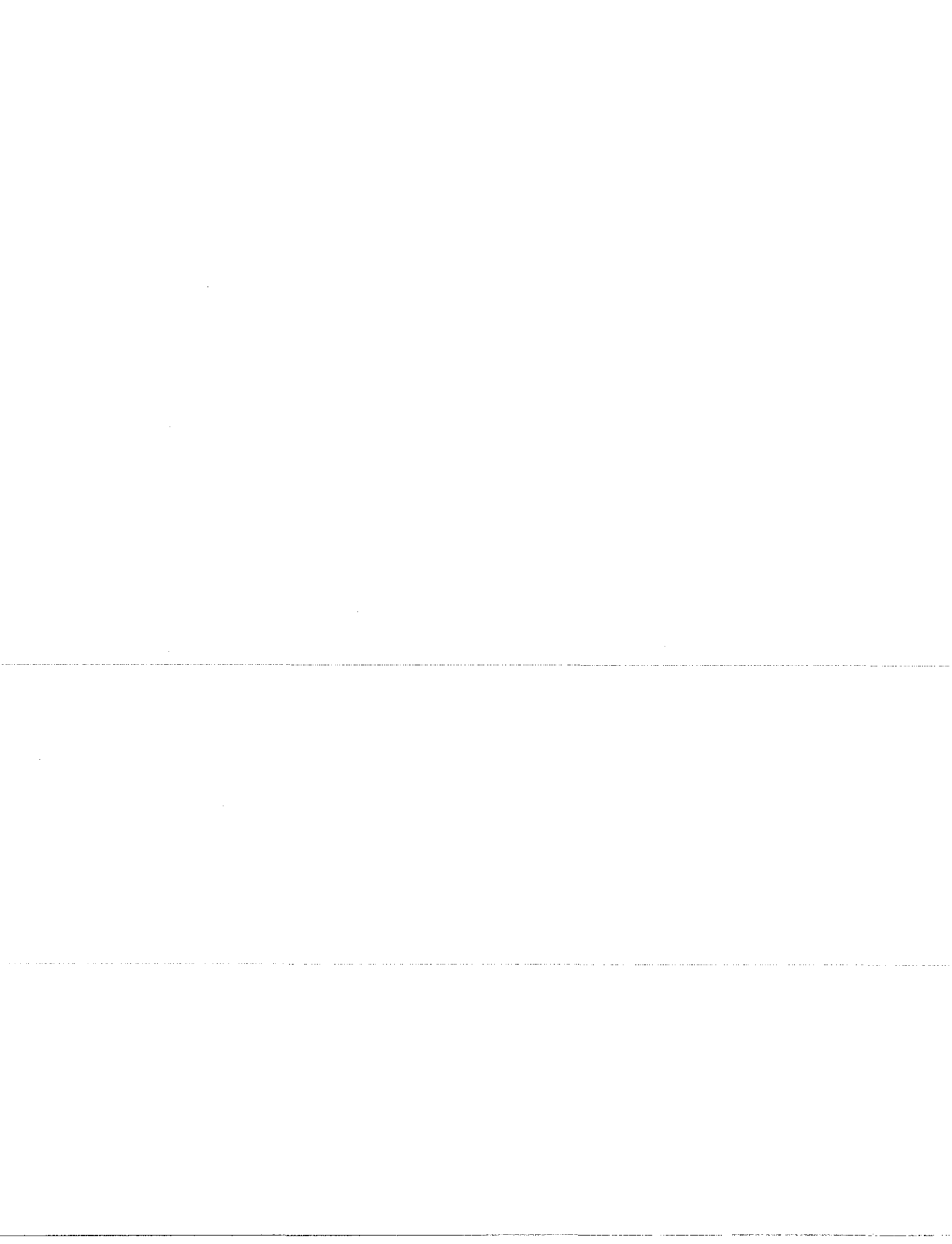
For more information about how you can become part of the Clean Boater or Clean Marina program visit: <http://www.ohiocleanmarina.osu.edu> or <http://www.ohiocleanboater.osu.edu>

Contacts on these programs are:

Ohio Clean Marina Coordinator: Gary Comer, Jr. at 419-609-4120 or comer.29@osu.edu

Ohio Clean Boater Coordinator: Leroy J. Hushak at 614-292-3548 or hushak.1@osu.edu

February



Ohio Lake Erie Commission awards \$30,955 in grants

TOLEDO — Nearly \$31,000 has been awarded by the Ohio Lake Erie Commission for five research projects that will benefit Lake Erie and its environmental, recreational and economic resources.

Grant recipients include: Maritime Archaeological Survey Team, Inc., \$10,000; The Ohio State University Research Foundation, \$9,955; The Ohio State University, \$8,000; Heidelberg College, \$2,000; and Cleveland Lakefront State Park, \$1,000.

These quarterly grants are limited to \$10,000 or less and are generally awarded for one year unless the specific nature of the project warrants a longer time period. Small grants may be used as seed money to test the feasibility of both large and small projects. Small grant proposals are reviewed and selected at each quarterly meeting of the Lake Erie Commission.

The Ohio Lake Erie Commission was created to preserve Lake

Erie's natural resources, enhance its water quality and promote economic development in the region. The director of the Ohio Department of Natural Resources serves as the commission's chairman. Additional members include the directors of the departments of transportation, development, health, agriculture and the Ohio Environmental Protection Agency.

The commission oversees the Ohio Lake Erie Protection Fund, which is the source of grant funding. This fund is supported by Ohioans each time they purchase a Lake Erie license plate displaying either the Marblehead Lighthouse or the Toledo Harbor Lighthouse, as designed by Ohio artist Ben Richmond.

Maritime Archeological Survey Team, Inc. (MAST) (\$10,000) — "Historic Shipwreck Mooring Blocks — Public Access." Project director: Kenneth S. Marshall. MAST plans to install permanent

mooring blocks adjacent to several Lake Erie shipwrecks. The permanent mooring blocks eliminate potential damage to the sites caused by direct connection to the wrecks. They also allow larger charter vessels to use the moorings, thereby providing increased access to the non-boating diver. Addition of the off-wreck mooring blocks is needed to provide ongoing protection to these unique, submerged, historical resources.

The Ohio State University Research Foundation (\$9,955) — "The Development of an Underwater Trailways System for Ohio's Lake Erie." Project directors: David Kelch and Joe Lucente of Ohio Sea Grant. A 16-20 page, color guide and a website will be created to help Ohio residents and visitors locate the many historical, cultural and recreational shipwrecks and unique underwater habitats in Ohio's Lake Erie waters. The guide will also promote eco-tourism and economic development.

The Ohio State University (\$8,000) — "Solid-phase micro extraction fibers as models to predict contaminant bioaccumulation." Project director: Roman Lanno. Researchers will be examining a method using polymer fibers to absorb contaminants compared to the

Continued from Page 8

absorption of zebra mussels resulting in a faster, less costly test. Data from this study will support the Lake Erie Protection & Restoration Plan and help establish criteria to evaluate contaminated sediment sites.

Heidelberg College (\$2,000) — "The Sandusky River Watershed Symposium." Project director:

David Baker. The college plans to host a two-day Sandusky River Watershed Symposium in June 2006 that will cover water quality programs put in place since the last symposium held 30 years ago. The symposium will be a major force in the continued development and implementation of watershed action plans in the Sandusky River Watershed.

Cleveland Lakefront State Park, Ohio Department of Natural Re-

sources (\$1,000) — "Lake Kleenerz Stop Aquatic Hitchhikers Campaign — a Pilot Project." Project director: Carol Ward. A middle school group will collaborate with ODNR to produce 1,000 color pamphlets titled "Stop Aquatic Hitchhikers." The brochure will be distributed at 9 marinas and 13 yacht clubs across northeast Ohio. The project will help raise boater awareness of aquatic invasive species.

02.01.2006. "Fishing Pros Speak at the Detroit Boat Show." DetroitBoatShow.net

Get the latest and greatest fishing tips, February 18 - 26, 2006 at Cobo Center

MARK ROMANACK... A full time outdoor writer and book author, Mark Romanack is the owner of Precision Angling, LLC that has published 11 different books on fishing including the popular Precision Trolling series. Romanack also writes monthly fishing columns for Michigan Out of Doors, Cabela's



Outfitter Journal, Michigan Woods n Waters News and Michigan Hooks & Bullets publications. His "Boat Show" seminars include Family Friendly Fishing Methods and Go Fish Ontario a user guide for anglers planning to head north this summer to fish Ontario. Scheduled for 2/18, 2/19, 2/21, 2/22, 2/23, 2/24, 2/25, 2/26.

LANCE VALENTINE... A licensed fishing guide and walleye fishing specialist, Lance Valentine targets walleye on many of the top fisheries in the region including the Detroit River, Lake Erie and Saginaw Bay. His knowledge of fishing electronics including sonar and GPS is second to none and his seminar "Getting the Most from Electronics" is a must see event. Scheduled for 2/18, 2/19.

FRED SNYDER... An Extension Specialist for Ohio State University's Sea Grant program, Fred Snyder is among the region's most knowledgeable on the sportfishing resources of Lake Erie. Snyder's seminar "The Changing Face of Lake Erie" will highlight many of the recent sportfishing changes that have occurred on Lake Erie (both good and bad) and shed light on the future of fishing on this the richest of all Great Lakes fisheries. Scheduled for 2/18

JON BONDY... A licensed guide and tournament professional, Jon Bondy spends more than 150 days a year on the water targeting a wide variety of species including walleye, bass and muskie. His seminar "Deep Water Muskie Fishing" puts anglers in the driver's seat, opening up a world of fishing opportunities few anglers realize exist. His bass fishing seminar "Smallmouth Opportunities" focuses on the outstanding fishing available in both the Detroit River and Lake St. Clair. Scheduled for 2/19, 2/25

GREG HOROKY... A tournament pro and international fishing ambassador, Greg Horoky lives in nearby Ontario where he spends much of his time targeting yellow perch along the north shore of Lake Erie. This untapped fishery may well be the best perch fishing in North America. Horoky's seminar "Yellow Perch of the Western Basin" is a must see event. Horoky will also conduct an open water trolling seminar "Bows and Eyes of Lake Erie" that targets untapped populations of rainbow trout and walleye that are found along the seldom fished Ontario shore of Lake Erie. Scheduled for 2/20, 2/24

CAPTAIN RON LEVITAN... A full time charter captain with over 25 years of Lake Erie experience, Captain Ron fishes out of Toledo Beach and runs over 150 charter trips per year. A trolling specialist, Ron's seminar "Spoon Trolling for Open Water Walleye" will target methods for catching Lake Erie walleyes from spring through summer. Scheduled for 2/18, 2/25

02.01.2005. "Events for Wednesday, February 22, 2006" OSU LANTERN.COM

Winter Open House & Silent Auction

Duration: 7:00 PM - 9:00 PM

Location: Fawcett Ctr, 2400 Olentangy River Rd

Stone Lab & Ohio Sea Grant's Winter Open House and Silent Auction. The Auction items include tickets to various cultural activities, travel opportunities, signed limited edition prints, items for the home and office, meals at local restaurants and variety of items for OSU fans. Great items for a great value. (Payment by cash or check; no credit cards.)

Feature presentation with Ian Adams, Ohio's Bicentennial Photographer will show "Images of Lake Erie and Stone Laboratory from Our Photography Workshop"

FREE and OPEN to EVERYONE. Refreshments and DOOR PRIZES.

Please r.s.v.p at 292-8949 or email Bonita Cordi @ cordi.2@osu.edu.

02.15.2006. Jay Cooke and Gibraltar Island. Sandusky Library Series

Winter Wednesdays Brown Bag Lunch Series

Bring your lunch and join us in the Library Program Room (Terrace Level) as we explore topics in local history. The Series will be held:

WEDNESDAY, JANUARY 18 - 12:00-1:00 p.m. - TOPIC: Hotel Victory. Tom Koba of Koba & Company will introduce and screen his film on this gone but not forgotten landmark, followed by a Q & A. Tom Koba is a Berlin Heights filmmaker.

WEDNESDAY, FEBRUARY 15 - 12:00-1:00 p.m. - TOPIC: Jay Cooke & Gibraltar Island. John R. Kleberg of The Ohio State University will present a PowerPoint presentation on the Cooke family and their home away from home, the Cooke Castle. Kleberg, retired assistant vice president from Ohio State, has worked on the restoration of Cooke Castle for nearly 20 years. This presentation gives insight into Jay Cooke and his summer residence on Gibraltar Island. Many images from the 1800's are used for illustration. Jay Cooke was a native of Sandusky who went on to become a Civil War financier.

WEDNESDAY, MARCH 15 - 12:00-1:00 p.m. - Local author and historian Roger Long will present a lecture on a local history topic. More detailed information will be available closer to the date of the program.

**Since this is a drop-in series, registration is not required. For further information, please contact Maggie Marconi at 419-625-3834.*

ANNOUNCEMENTS

Fortner Receives Award

On Feb. 17, Rosanne Fortner was presented with the William H. Arnold Award at the annual meeting of the Science Education Council of Ohio [SECO] in Akron. This award is given to an individual who has been active in SECO and continues to be active after retirement from full-time employment in science education.

Accepting the award on Rosanne's behalf were the three science teachers who are currently Stone Lab Fellows on her latest Ohio Sea Grant project, Lyndsey Manzo from Westerville North and SENR graduate student, Georgia O'Hara from Beechcroft High School, and Ed Ingman of The Graham School. The SECO is the Ohio chapter of the National Science Teachers Association.

News Herald, The (Port Clinton, OH)

Get the latest and greatest fishing tips, today through Feb. 26 at Cobo Center in Detroit from the following pros:

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Mark Romanack - A full time outdoor writer and book author, Mark Romanack is the owner of Precision Angling, LLC that has published 11 different books on fishing including the popular Precision Trolling series. Romanack also writes monthly fishing columns for Michigan Out of Doors, Cabela's Outfitter Journal, Michigan Woods n Waters News and Michigan Hooks & Bullets publications. His "Boat Show" seminars include Family Friendly Fishing Methods and Go Fish Ontario a user guide for anglers planning to head north this summer to fish Ontario. Scheduled for Feb. 18, 19, 21, 22, 23, 24, 25, and 26. **Lance Valentine** - A licensed fishing guide and walleye fishing specialist, Lance Valentine targets walleye on many of the top fisheries in the region including the Detroit River, Lake Erie and Saginaw Bay. His knowledge of fishing electronics including sonar and GPS is second to none and his seminar "Getting the Most from Electronics" is a must see event. Scheduled for Feb. 18 and 19.

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Captain Jeff Godi - A licensed charter captain who fishes Saginaw Bay, this amazing body of water has been on fire in recent years for walleye. Starting in April and providing great fishing through Labor Day, Saginaw Bay benefits from the most aggressive stocking effort ever conducted in the Great Lakes region. Jeff's seminar "Walleyes of the Saginaw Bay Basin" is a great investment for anyone interested in testing the waters of Saginaw Bay this year. Scheduled for Feb. 22, 25 and 26.

Gary Bowman- A lifelong member of the fishing/marine industry. The founder of the Great Lakes Walleye Classic tournament circuit and a member of the sales team at Wonderland Marine West, Gary's weekday seminars will focus on fish catching techniques for some of the regions most Popular Walleye Destinations. Destinations will include Saginaw Bay, Lake Erie, Little Bay de Noc and Sault Ste. Marie. Scheduled for Feb. 21 and 23.

NBAA Staff - The National Bass Anglers Association is a rapidly growing bass fishing group with over 2000 members in the Michigan area. NBAA hosts a wide variety of local and regional tournaments that are very popular with anglers who enjoy fishing with friends and family members in a fun and competitive atmosphere. The seminar "Fishing with NBAA" outlines the fishing sites for 2006 and passes along fishing tips that are guaranteed to help everyone catch more bass in 2006. Scheduled for Feb. 21, 22, 23, 24, 25 and 26.

Jim Barta - Don't miss his exciting session as Jim tells us how to best Fish Big Detroit River Walleye. Jim is a liscensed guide and charter captain and nationally published outdoor writer, specializing in Walleye Fishing. He speaks around the country at boat, sport, and fishing shows. He has been featured in Field & Stream, Outdoor Life and Forbes magazines. Jim appears regularly on 12 - 15 television shows each year and as a native Michigander offers unique insight into Detroit River Walleye fishing. Scheduled for Feb. 18, 19 and 20.

Pro fishermen will be at Cobo Center

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Coming soon

Sportsman's Outdoor Gear Flea Market (Feb. 25): The American Sportsman Shop, 27736 Rt. 82 in Columbia Station, is hosting the show. New and used items involving fishing and hunting will be available for sale. There is a \$2 admission. Women and under 16 are free.

Steelhead Seminar at Fur, Fin & Feather (March 2): Learn all about steelhead fishing during Ohio Sea Grant's Lake Erie Tributary Stream and River Steelhead Angling Seminar to be held at Fin-Feather-Fur Outfitters, 652 State Route 250 East, Ashland, Ohio. The seminar will be conducted from 5:30 p.m. to 8 p.m. For more information, call Fin-Feather-Fur at (419) 281-2557. The seminars are free with seating limited on a first-come, first-serve basis.

ODNR Regulations Hearing (March 5): This is your chance to be heard. Your opinion is wanted by the ODNR concerning next year's hunting regulations and dates. I personally suggest everyone contacts them to suggest that the spring turkey season opens too late again in 2006. In my opinion, opening the turkey season a week earlier offered some spectacular hunting this year.

Open houses will be held on March 5 in each of the state's five wildlife district offices to provide the public an opportunity to view and discuss proposed hunting and trapping regulations with state wildlife officials. Directions to the meetings can be obtained by calling 1-800-WILDLIFE.

Wildlife Diversity Seminar (March 8): Some of Ohio's lesser-known wildlife will take center stage during the 2006 Ohio Wildlife Diversity Conference, at the Aladdin Shrine Center in Columbus. The conference "Looking Beyond the Surface" is open to the public and is sponsored by the ODNR Division of Wildlife. For more information about the conference or to register, call 1-800-WILDLIFE, or visit the ODNR Web site at ohiodnr.com for more information.

Now is the time to catch steelhead

Ohio Sea Grant

Ohio's Lake Erie tributary rivers and streams offer some of the best steelhead fishing in the United States, and one of the best times to take advantage of this opportunity is now.

During the fall, steelhead begin entering streams from the Vermilion River to Conneaut Creek. Fish will continue to enter streams all winter long in preparation for the spring spawn.

Most steelhead spawn during February and March, and returned to Lake Erie by early May. This fishery offers great opportunities for shore-bound anglers to catch trophy-sized fish during the fall, winter and spring along Ohio's North Coast.

The bag limit is two fish per day, 12 inches or greater in length.

Steelhead are stocked yearly into the Vermilion River, Rocky River, Chagrin River, Grand River and Conneaut

Safety first

Always keep safety in mind when fishing Ohio's Lake Erie tributary rivers and streams. They may look benign compared to the rivers in the western U.S., but don't be fooled. River bottoms are slippery, the water is cold and currents can be strong.

Be particularly cautious around ford areas, where the current may be stronger and the water much deeper. If unfamiliar with a stream or river, always fish with a partner.

— Ohio Sea Grant

Creek by the Ohio Department of Natural Resources, Division of Wildlife.

In addition to the stocked rivers, steelhead can be found in most any tributary stream or creek entering Lake Erie east of Huron.

Public access is available in local county Metroparks systems and on city-, state- and federal-owned properties unless posted. The law requires anglers to have written permission to fish from private property.

Conditions on the rivers will

vary with the weather. Avoid fishing when rivers are dark brown, generally after a rain or snow-melt. Water which appears to be greenish in color, but not crystal clear, provides good fishing conditions.

Smaller creeks and rivers will be fishable first.

If you are just beginning in steelhead fishing, start with spinning gear and bait. Spawn sacs, minnows and night-crawlers are effective baits for steelhead. Cast upriver and let the bait, which should be bouncing the bottom, drift downstream with the current.

If you prefer fly fishing, use sucker spawn egg patterns, clouser minnows, woolly buggers and single egg patterns. As with spin fishing, cast upstream and drift your fly down, making sure the fly is on the bottom. If you are doing things right, you will lose a lot of bait, hooks and flies which get snagged on the bottom. However, you will also catch fish.

CALENDAR

Education

STEELHEAD SEMINAR

WHAT: Ohio Sea Grant's Lake Erie Tributary Stream and River Steelhead Angling Seminar

WHERE: Fin-Fur-Feather Outfitters, 652 State Route 250 East, Ashland

WHEN: Thursday, March 2, 5:30-8 p.m.

FEE: Free; seating limited to first-come, first-serve.

FYI: Speakers include Grafton's Jim Craig and Dave Kelch, and Kelly Riesen of Ohio Sea Grant.

FOR INFO/RESERVATIONS: Call (419) 281-2557.

March

New National Scenic Byway to Celebrate Lake Erie's Heritage and Nature

"Tourism simply doesn't go to a city that's lost its soul."

So says Arthur Frommer, travel expert and legendary author of many national and international travel guides. What does he mean by a community's soul? How do we know if we've lost it? What can we do to make sure we don't?

Lake Erie Coastal Ohio Inc. formed in 2002 to develop a plan for promoting heritage and nature-based tourism opportunities along the shoreline. Equally important to promoting tourism is to ensure our communities have the experiences travelers seek.

And, according to the Travel Industry Association of America (TIA) and "National Geographic Traveler," today's travelers are seeking outdoor experiences, historic and charming towns, rural country sides, authentic historical sites and events that celebrate our culture and ethnicity. In their study titled "Geotourism," TIA and "National Geographic Traveler" identify that travelers seek to "see, tour and learn about a place."

Travelers are searching for more than just entertainment. They want to make a connection to the destinations they visit.

Recognizing this growing interest in historical sites and natural areas, as well as the challenges facing many of the preservation groups and nonprofits that manage our historical treasures and natural

landmarks, Lake Erie Coastal Ohio developed a plan that included seeking designation as an America's Byway®.



In April 2005, a state scenic byway was designated along the shoreline, and in October, the Federal Highway Administration designated the Lake Erie Coastal Ohio Trail, a part of the America's Byways® system of national scenic byways in the United States. The route parallels the lake, replacing the existing Lake Erie Circle Tour which bypassed many of our communities because they weren't on a state or federal highway. Great Lakes Circle Tour signs will appear periodically along the new byway route so travelers will know the route is part of a greater system of routes encircling the Great Lakes.

Under the National Scenic Byways Program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways based on their archaeological, cultural, historic, natural, recreational and scenic qualities. To be designated as a National Scenic Byway, a road must possess at least one of these qualities and be regionally significant.

The National Scenic Byways Program, established by Congress in 1991 and administered by the FHWA, was created to preserve and protect the nation's scenic byways and, at the same time, promote tourism and economic development. Benefits of the National Scenic Byways Program mean coordinated promotion of the America's Byways® routes in America through the media and through a web site (www.byways.org), as well as a grants

BYWAY cont'd on page 8

BYWAY, continued from page 6

program dedicated to designated byways in America. The program also provides educational opportunities, networking and resources for promoting and preserving the features of the designated byway that made it worthy of designation.

"The Lake Erie Coastal Ohio Trail is one of the most impressive trails in Ohio," said Gordon Proctor, director of the Ohio Department of Transportation (ODOT).

The Lake Erie Coastal Ohio Trail will be attractive for all kinds of travelers; however, it should be particularly appealing for those Baby Boomers who have the time and money to travel. For this reason, Lake Erie Coastal Ohio is working collectively with all visitors bureaus and communities along the lake to promote our heritage and nature.

From bird watching to kayaking, touring a lighthouse to exploring an Underground Railroad site, Lake Erie Coastal Ohio works to help these providers improve these experiences, protect these resources and promote their availability. The more than 200-mile trail begins in Ashtabula County and journeys along Lake Erie, ending in Lucas County. Some of the route's amenities include historic lighthouses and scores of museums, national parks, wildlife centers, marshes, prairies, state parks, covered bridges and history centers detailing the rich heritage of the communities along the route.

"As we've traveled the coast working on the byway designation, we've discovered communities filled with hope for revitalizing their downtowns, providing additional rec-

reational activities, restoring the integrity of our historic places and protecting the quality of their environment. The National Scenic Byway designation brings us one step closer to helping them achieve that goal," said Frank Lichtkoppler, Lake Erie Coastal Trail byway chairman and The Ohio State University Ohio Sea Grant extension specialist.

Frommer understands the importance of celebrating your community's personality. Your community's soul can be found by embracing your heritage and natural treasures ... by recognizing that your community could look just like any other place in America if you lose those features that make it special and tell "your story." Along Lake Erie, we have many stories to tell. And soon, travelers will be able to come closer and experience the Great Lakes along the Lake Erie Coastal Ohio Trail.

For more information, contact the Lake Erie Coastal Ohio Trail at info@coastalohio.com, or visit the web site at www.coastalohio.com.



Clear Water Revival Research lends credence to Lake Erie "dead zone" dangers

by Lisa Lambert, M.A. '05

"It is even more necessary than ever for mankind as a whole to have an intelligent knowledge of the environment if our complex civilization is to survive, since the basic laws of nature have not been repealed."

— Dr. Eugene P. Odum, University of Georgia

I sat in my grandmother's kitchen, captivated by the natural phenomenon unfolding beyond her picture window: A resplendent sunset of purples, pinks and oranges painted the sky in broad streaks, as the sun, a ball of fire, slowly, and then quickly, disappeared behind the blue-gray veil of rippling water.

As a child, I believed such a site was only possible in this very special place. Even now, though I've witnessed picturesque sunsets in other locales, the impact of a Lake Erie sunset is extraordinary.

For lake lovers, the shore is a sanctuary, the fish and wildlife supported by the lake a form of sustenance, sport and spectacle. For the budding geologist sifting through the rocks and sediment left by the tide, or the amateur ornithologist, the lake is essential.

Lake Erie was an integral part of my grandparents' lives, both as a source of income and enjoyment. They judged the seasons by the mood of the lake, just as scientists judge the health of the Great Lakes ecosystem by the changes in its waters.

"Lake Erie is the bellwether," says Dr. **Robert Heath**, Kent State professor of biological sciences and head of the Water Resources Research Institute. Because of its size, depth and location, he says, Lake Erie serves as a crystal ball — scientists who peer into its waters glimpse the future of the other Great Lakes.

Lakes offer sustenance, sport

The Laurentian Great Lakes, whose fingers extend into eight states and across international borders to Canada, include lakes Erie, Huron, Superior, Ontario and Michigan. They served as the gateway to the interior of North America and a necessary route for commerce and trade.

Approximately 12 million people live in the Lake Erie watershed; the lake provides drinking water for about 11 million of these inhabitants and boasts more fish production than all of the other lakes combined.

Sport fishing in Lake Erie is a multimillion-dollar industry. Of the Great Lakes, Erie is second only to Lake Michigan in sport fishing, and its western basin is known as the Walleye Capital of the World.

“It’s a huge economic resource because of its commercial appeal,” says Kent State research assistant and doctoral candidate *Tracey Meilander*.

Most importantly, the Great Lakes, which formed as glaciers scraped the Earth during the last ice age, now constitute the largest body of freshwater on the planet, providing 20 percent of the total supply.



Tracey Meilander, a doctoral candidate in biological sciences, assists with Lake Erie dead zone research. Photo by Bob Christy, '95

Pollution threatens

Despite the importance of the lake as a source of drinking water, water quality did not become an express concern to the public until the 1960s. At that time, the lake was “dying” — like a person with an undetected terminal disease — as excessive phosphorus from agricultural runoff, detergent-laden wastewater and insufficiently treated sewage entered the lake. Together, these posed a health threat to swimmers and wildlife and stimulated the growth of algae and bacteria. The rapid growth of these organisms created oxygen-starved, or eutrophic, conditions, Heath says.

The Great Lakes share their borders with states that relied heavily upon industry for growth and prosperity. With industrial prosperity came industrial pollution in the form of polychlorinated biphenyls (PCBs), which often were discharged into tributaries or lake waters. Though their use has been banned, PCBs are hearty organic chemicals that don’t degrade well — they remain in the ecosystem, accumulated in sediment near harbors and industrial sites.

As invasive species of plants and microbial life-forms jockeyed for position within the lake ecosystem, a similar battle played out on the lake’s shores, as the fishing industry, shipping industry, residents and politicians campaigned for lake management policies to satisfy their special interests. Everyone would lose if something wasn’t done to stop the cycle of nature set in motion by human activity.

By the late 1960s, seasonal algal blooms spread over entire portions of two of the lake’s three basins. According to Environmental Education for Ohio, a statewide portal for environmental education resources, mats of algae washed ashore, fouling beaches, and newspaper headlines announced, “Lake Erie Is Dead.” While the entire lake was not, in fact, dead, one area, known as a “dead zone,” expanded greatly during the heyday of phosphorus loading.

Scientists have traced the existence of the dead zone, a shallow area in the lake’s central basin, to at least the 1930s. Like all living organisms, the prolific algae eventually died, dropped to the bottom of the lake and decayed. This process robs the bottom of the lake of oxygen, Heath explains.

As waters warm in the spring and summer months, the situation worsens. Oxygen-depleted water became trapped on the bottom of the lake beneath a naturally occurring thermal barrier. Only the tiniest creatures, such as bacteria, can live in these conditions. Fish and other animals that swim into the dead zone simply die from lack of oxygen.

As the central basin dead zone grew to its historically largest area, Canadian and American regulatory agencies agreed that limiting phosphorus loads was the key to controlling excessive algal growth and that a broad, inclusive approach to lake management was necessary. The approach included instituting clean water laws, building sewage treatment plants and banning phosphorous from most detergents.

For the first time, international cooperation produced environmental results. Phosphorus levels were reduced to a third of what they had been.

Fast-forward two decades.

As any avid boater will tell you, the phrase "fast and furious" accurately describes a Lake Erie storm. One minute you're enjoying the vast expanse of blue sky, sun glinting off of calm waters, and the next minute dark clouds swirl overhead as wind and waves batter your tiny vessel. In the 1990s, the emergence of nonpoint source pollution as a threat to the lake's ecosystem came about in a similar fashion, catching the scientific community off guard.

This hard-to-monitor form of pollution can include oil washed off parking lots by storms, or pesticides and fertilizers carried into water supplies from farm fields or suburban and urban development. And it may be a culprit in the growth of Lake Erie's central basin dead zone, where the concentration of nutrients has increased steadily in recent years, baffling scientists.

"In our desire to have many things, we are causing the damage," Heath says. "We want to have a strong agricultural industry in our state, but Lake Erie is the only Great Lake where agriculture is the main watershed activity." Heath notes the other lakes are surrounded primarily by forest rather than farmland.

A multiagency, international investigation is under way to uncover the causes of dead zone growth. It involves state and local governments and several universities, including Kent State. The International Field Year on Lake Erie (IFYLE) initiative, through the National Oceanic and Atmospheric Administration's (NOAA) Great Lakes Environmental Research Laboratory, is billed as one of the most comprehensive Lake Erie research field programs ever conducted.

Dead zones threaten ecosystem

Heath is principal investigator on an International Field Year grant, and Meilander is a co-investigator. The Kent State team focuses on microbial ecology of Lake Erie and phosphorus dynamics. They are among a cadre of scientists examining various issues including: (1) the causes and consequences of dead zones, (2) the factors that lead to harmful algal blooms and (3) how lake physics and food webs affect fish production.

In 2005, the Kent State team, comprised of undergraduate and graduate students, made five weeklong Lake Erie cruises on the RV Lake Guardian, a research vessel fully equipped with laboratory space. They collected data from water samples at more than 50 research stations and currently are completing the data analysis phase of their work.

"We're looking at bacterial activity in the specimens we've collected," Meilander says, "including how many there are, how big they are, how much they're growing, how much they're using up different nutrients, and how much of those nutrients are contained in their cells."

The Kent State team is breaking new ground, using molecular methods only recently available to scientists to extract DNA from bacteria in the hopes of identifying what they are. "No one has done molecular work like this on bacteria in the Great Lakes," Meilander says.

Heath, a pioneer in these techniques, explains that microbial ecology is a field in its infancy. "Now molecular methods are available to answer questions we've asked before but have never been able to answer," he says.

The aim of the International Field Year on Lake Erie initiative is not only to understand the ecosystem, but ultimately to apply scientific understanding to develop tools and products useful to stewards of the lake's resources and, as National Oceanic and Atmospheric Administration administrator Dr. Stephen Brandt states, "refocus research capabilities for prediction rather than explanation." The Kent State team plans to release a full report, detailing its contributions to the initiative, in May 2006.

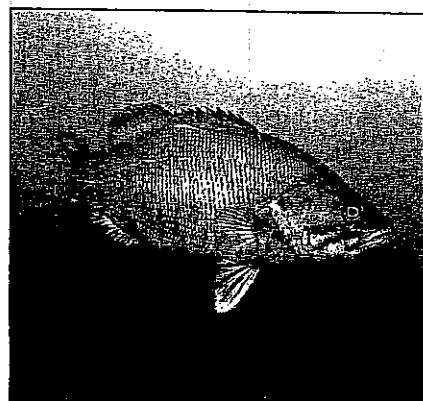


Once the ship arrives back in port and all passengers and their equipment have disembarked, the RV Lake Guardian continues on its way to Lake Superior for another research mission. *Photo by Bob Christy, '95*

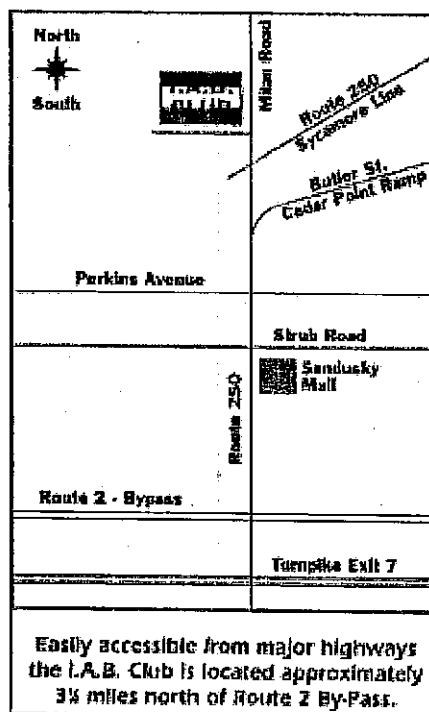
Inasmuch as Lake Erie is a bellwether, so too is the Great Lakes region, with its history of leading the nation in innovative science and management strategies. Scientists and others in lake communities hope the International Field Year initiative will represent another step forward toward preserving and improving the beauty and economic viability of one of the Earth's most precious natural resources.

At the heart of this decades-long quest remains the ecosystem.

"The ecosystem is not an entity out there that we can choose to protect or not," Heath says. "We are part of the ecosystem and have a strong vested interest in protecting its efficient operation. We have a stronger interest than our behavior would often indicate."



For More Information Contact:
Fred Snyder
 Sea Grant Extension Specialist
 Camp Perry, Bldg. 1
 Port Clinton, OH 43452
 (419) 635-1022 Email: snyder.8@osu.edu



All educational programs conducted by Ohio State University College of Food, Agricultural, and Environmental Sciences are available to clientele on a nondiscriminatory basis without regard to race, color, creed, religion, sexual orientation, national origin, gender, age, disability or Vietnam-era veteran status.

25th OHIO CHARTER CAPTAINS CONFERENCE



March 4, 2006
I.A.B. Club
Sandusky, Ohio

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OHIO SEA GRANT COLLEGE PROGRAM
 OHIO STATE UNIVERSITY EXTENSION
 OHIO DEPT. OF NATURAL RESOURCES
 LAKE ERIE CHARTER BOAT ASSOCIATION

1981-2006

25th ANNUAL OHIO CHARTER CAPTAINS CONFERENCE

March 4, 2006 I.A.B. Club Sandusky, Ohio

7:30 a.m. - REGISTRATION;
CONTINENTAL BREAKFAST
AND CONVERSATION

8:55 a.m. - Welcome
Capt. Bob Collins, President
Lake Erie Charter Boat Association



9:00 a.m. - Status of Lake Erie Fisheries
and 2005 Fishing Outlook
Mr. Jeff Tyson, Supervisor
Sandusky Fishery Research Unit
Ohio Division of Wildlife, ODNR

9:40 a.m. - Lake Erie Law
Enforcement Update
Mr. Kevin Ramsey, Supervisor
Lake Erie Law Enforcement Unit
Ohio Division of Wildlife, ODNR

10:00 a.m. - A Word With the Chief
Mr. Steve Gray, Chief
Ohio Division of Wildlife, ODNR



10:15 a.m. - Tackle & Equipment Updates
Presented by Conference Vendors

10:45 a.m. - REFRESHMENT BREAK,
DOOR PRIZES

11:00 a.m. - Gobbling Gobies and Slurping
Sea Lampreys: a Lake Erie Saga
Dr. Roy Stein
Aquatic Ecology Laboratory
The Ohio State University

11:30 a.m. - Tips on Radar and
Digital Fish Finders
Mr. Jeff Finke
Regional Sales Mgr., Raymarine

NOON - BUFFET LUNCH and
DOOR PRIZES



1:30 p.m. - Cormorants in the Great
Lakes - Will the Population
Continue to Increase?
Mr. Mike Bur, Supervisor
U.S. Geological Survey, GLSC-LEBS

2:00 p.m. - Marketing Tips that Find
New Clients
Capt. Darryl Blair
Capt'n D's Charters

2:30 p.m. - Precision Trolling
Mr. Mark Romanack
Precision Angling Specialists



3:00 p.m. - REFRESHMENT BREAK
AND DOOR PRIZES

3:10 p.m. - Tips and Tricks for 2006
Capt. Rich Stedke
Stedke Bros. Charter Service

3:40 p.m. - Drift Casting on Erie -
A New Day Ahead?
Mr. Fred L. Snyder
Ohio Sea Grant Extension

4:00 p.m. - LECBA Update
Capt. Bob Collins, President
Lake Erie Charter Boat Association

4:15 p.m. - FINAL DOOR PRIZES
AND ADJOURN



03.16.2006. "Something smells fishy by the lake." LORAIN MORNING JOURNAL

Something smells fishy by the lake
RON VIDIKA , Morning Journal Writer

LORAIN -- If you live or work near Lake Erie, you might want to start holding your breath until you get indoors.

A die-off of thousands of foraging fish about this time every year is a "typical, natural phenomenon," according to Dave Kelch, an extension specialist and associate professor with the Ohio State University Sea Grant program.

But when the fish, called gizzard shad, die, the stench left in their wake can be a problem for communities near the water.

"It's quite a stinky problem," said Kelch, who works out of the OSU Extension office in Elyria. "Usually, these fish end up floating around and sinking and becoming part of the organic matter in Lake Erie."

Shad are very sensitive to the slightest temperature change and often can fall victim to their low body fat, Kelch said. When the shad are low in body fat, their resistance gets lower and they end up getting sick and are a lot more susceptible to the sort of rapid temperature dips Northeast Ohio has seen lately.

"It has everything to do with their intolerance of temperature changes and their lack of fat reserves to get them through the winter," Kelch said. "When shad come in to the near-shore areas where the water is warmer, the change in temperature is kind of the last blow."

Die-offs can occur until the ambient lake water warms up "in another week or two," Kelch said.

The shad, typically 3 to 5 inches long, are foraging fish, meaning they are food for other fish.

"They're consumed by everything in Lake Erie, from perch to walleye to steelhead trout," Kelch said.

But they are not for human consumption, Kelch added.

"Shad don't bite on fish hooks, and you can't catch them on anything," he said. "They have a very high level of body oil and are extremely strong-tasting fish. They're also very bony."

Rick Novak, executive director of the Lorain Port Authority, said floating clumps of dead shad have been spotted along the Black River from the Harbor Walk project area, at Spitzer Marina and the Black River Landing site to Hot Waters near the Lake Erie shore.

As far as removing the dead shad, Novak said he plans to let nature take its course and let the smell dissipate on its own.

"Basically, we just let them go naturally," he said. "One year, I called up about getting them removed and it was extremely expensive. Generally, they end up going down to the bottom of the lake or just traveling out of the lake. It's a yearly occurrence."

DANGER IN THE AIR IN SANDUSKY COUNTY



SPECIAL TO THE BLADE/FRED SNYDER

A chemical reaction at a hazardous waste facility in Vickery, Ohio, forms a toxic cloud of nitrogen dioxide in eastern Sandusky County. The cloud was visible for miles yesterday but began to dissipate in the evening. No serious injuries were reported.

Toxic cloud from chemical plant forces dozens to evacuate homes

By **STEVE MURPHY**

BLADE STAFF WRITER

VICKERY, Ohio — A chemical reaction inside a holding tank at a hazardous waste facility spewed a cloud of toxic nitrogen dioxide over eastern Sandusky County yesterday, forcing dozens of residents to evacuate their homes for several hours.

Sheriff's deputies began knocking on doors in the area south of the Vickery Environmental Inc. plant on State Rt. 412 shortly after company officials notified authorities of the

WHAT IS NITROGEN DIOXIDE?

■ A red-brown gas that is toxic and can be fatal if inhaled. Contact can irritate the eyes, nose, and throat.

SOURCE: U.S. EPA

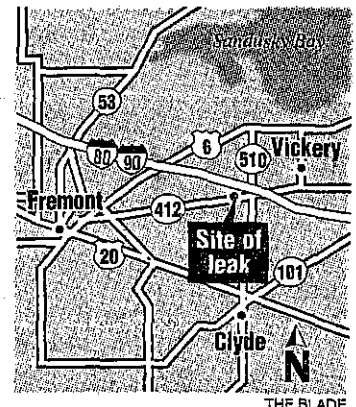
chemical release at 4:15 p.m., Sheriff David Gangwer said.

"It was very, very thick, and I had a great concern for the safety of those people," the sheriff said.

Nitrogen dioxide is a red-brown gas that is extremely toxic and can be fatal if inhaled, according to the U.S. Environmental Protection Agency. Contact with the chemical can irritate the eyes, nose, and throat.

No serious injuries were reported. Sheriff Gangwer said one person noted eye irritation.

Brad Lawrence, director of the Sandusky County Emergency Management Agency, said a lot of gas was released.



See **GAS LEAK**, Page 10

THE BLADE

Gas leak

Continued from Page 1

"It was bad," he said.

The plume was visible to rush-hour motorists on the Ohio Turnpike, which crosses Route 412 near the plant. The cloud traveled southwest toward Clyde, and Chief Deputy Bruce Hirt said the sheriff's office received a report that it passed over the city's Whirlpool plant.

Mr. Lawrence said authorities and Vickery Environmental officials were unsure what caused the reaction and how much nitrogen dioxide was released.

The Vickery plant takes in industrial coolants and other waste, he said.

The reaction occurred in one of the plant's six 200,000-gallon storage tanks, where liquid waste is held before being injected into the ground at depths of more than 2,000 feet, according to Mr. Lawrence and David Pollick, Sandusky County health commissioner.

They said it was unclear what was in the tank, which was filled to 92 percent of its capacity when the reaction occurred.

Authorities said the gas poured from the tank for about an hour, until the chemical reaction subsided, partially with the help of neutralizing agents pumped into the tank by the Sandusky County hazardous materials response team.

"There was some kind of reaction that caused pressure in the system," said Lynn Brown, spokesman with the plant's owner, Waste Management Inc., in Houston. "The system worked properly and released the gas so the tank doesn't rupture."

The reaction was unusual because it created such a large amount of nitrogen dioxide, which resulted in the huge cloud that could be seen for miles.

Steve Lonneman, the plant's general manager, said there are 29 people employed at the plant and 15 were on site yesterday when the reaction occurred.

He said no employees reported any problems; the plant will resume operation today.

Shortly before 7 p.m., wispy yellow puffs could still be seen rising from the plant, but Mr. Lawrence said that by then the chemical was dissipating.

About 50 residents of an area bounded by Route 412, State Rt. 510, County Road 229, and County Road 244 were evacuated from their homes until 8 p.m. Others returning from work found sheriff's deputies and Ohio Highway Patrol troopers blocking roads to their homes.

Among them was Bonnie Overmyer, who found her husband, Gary, at Route 412 and County Road 232, a mile south of the plant at 5:30 p.m. He and a handful of other residents milled around the intersection, which was barricaded by a highway patrol cruiser and two troopers.

"So we can't go home, huh?" she asked her husband, a Riley Township trustee, who shook his head.

Annette Guggisberg's home on County Road 232 was outside the evacuation zone, but she walked down to the corner to ask the troopers if she and her daughters should evacuate.

"It scares you. It really scares you," she said, looking in the direction of the plant. "We've seen blue clouds before, but nothing like this. It worries you. It's nothing to mess with."

She said the cloud "was blood/beet red, and then it went to the orange and to the yellow."

Fred Snyder and his son John, 20, were headed back to their Ballville Township home from a fishing trip in Lake Erie's tributaries when his son saw an orange cloud on the horizon to the southeast.

"I thought we would just swing that way and see what was going on," said Mr. Snyder, 57. "I'm the guy that has to get the pictures of the alligator close up."

So they pulled off onto State Rt. 510 and got as close as emergency crews would let them. He took a few photos, then backtracked, and pulled off Whitmore Road to take a few more.

"Just knowing they have had trouble in the past, I really took the pictures just thinking somebody should document this," said Mr. Snyder, a professor with Ohio State University's Sea Grant College Program.

He said he was not worried about the gas cloud because the winds were at his back, but his son wasn't as sure and wanted to head home.

The National Weather Service office in Cleveland said the winds were from the north at about 5 mph.

Besides the sheriff's office, fire departments from Clyde, Townsend Township, and Margaretta Township in Erie County responded. Ohio EPA and U.S. EPA were expected in the evening, Mr. Lawrence said.

"It was pretty much determined by the local authorities that there was no threat," said Jon Gulch, of the U.S. EPA office in Grosse Ile, Mich. A coordinator from his office went to Vickery.

"We'll definitely want to know why, and work to prevent that from happening again," said Mike Gerber, of the Ohio EPA's district office in Bowling Green.

Mr. Pollick said the company and state and federal officials would investigate the chemical reaction and release.

"They will get to the bottom of this so it doesn't happen again," he said.

The health commissioner is chairman of a citizens' committee that monitors the facility and meets every other month.

"This plant has a lot of oversight," Mr. Pollick said.

The facility began as Ohio Liquid Disposal, which in 1964 located on a 44-acre site on Route 412.

The facility was in the news often in the 1970s, '80s, and '90s as the facility sought — and neighbors objected to — permits to inject liquid chemical waste into wells 2,800 feet deep. The facility had stored chemical waste in open-air lagoons.

Twice within a week in 1984, residents reported breathing trouble, burning eyes, and skin rashes when multicolored chemical clouds rose from the facility. Chemical Waste Management agreed to pay penalties to the state and Sandusky County for violating regulations and to improve the facility, including by closing the open-air lagoons.

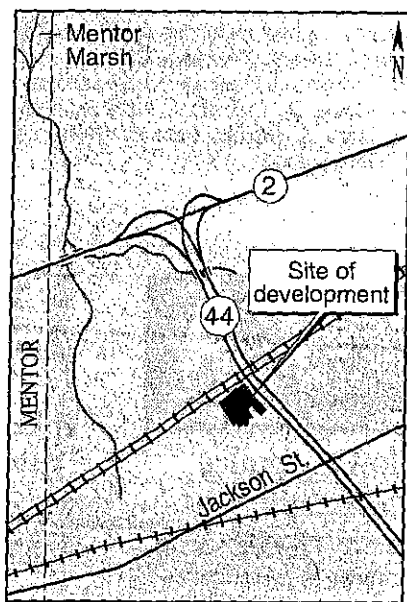
In the early 1990s, Chemical Waste Management agreed to pay more than \$6 million in damages to 5,000 people who lived within five miles of the facility.

The facility was fourth in Ohio for chemical releases during normal operations in 2003, the most recent year for records available under the U.S. EPA's Toxic Release Inventory.

Records show that the site released 12.6 million pounds of chemicals that year, trailing only the BP chemical plant in Lima — which also injects waste underground — and two of Ohio's largest coal-fired power plants.

Blade staff writers Meghan Gilbert, Mike Sigov, and Mark Zaborney contributed to this report.

Contact Steve Murphy at:
smurphy@theblade.com
or 419-724-6078.



Wetlands causing concern

Jonathan Tressler

JTressler@News-Herald.com

A dozen area residents met Wednesday for a public hearing at Painesville Township Hall to share their concerns on record about wetlands development in Painesville.

The hearing, hosted by two Ohio Environmental Protection Agency representatives, addressed a proposed commercial development of nearly 31 acres of Mentor Marsh watershed wetland.

Mentor-based LEIMCO Inc. has begun to disturb 28.72 acres of land just northwest of Jackson Street and Route 44 in Painesville, according to the Ohio EPA.

The firm had not obtained approval from the EPA or the U.S. Army Corps of Engineers, which also certifies water quality, the EPA reports.

Wednesday's hearing gave the EPA a chance to gather local opinions about whether to grant LEIMCO after-the-fact Clean Water Act, Section 401 Water Quality Certification, indicating compliance with state water quality.

LEIMCO would prefer to fill 30.69 acres of wetlands, 28.72 of which have already been filled without the permit, the agency reports. The LEIMCO-preferred plan also includes 11 access roads and seven cul de sacs; five commercial buildings; 171 cluster homes and 168 individual residences.

The developer proposed two alternatives with its application.

The first, LEIMCO's minimal degradation alternative, includes the already-filled acreage; 11 access roads and seven cul de sacs; five commercial buildings; 149 cluster homes and 168 individual residences.

The second alternative, the applicant's non-degradation alternative, proposes to restore the filled acreage; reduce the number of roads and cul de sacs proposed; 46 individual residences and a reduction in commercial space by 105,000 square feet.

See Wetlands, Page A5

Wetlands

From Page A1

Most who took the opportunity to speak on record Wednesday seemed to want the wetlands restored and undeveloped.

"The hydrology of the Mentor Marsh, the water quality of the Mentor Marsh ... will be adversely affected," said Mentor-on-the-Lake resident Frank Lichtkoppler, reading from a lengthy statement he prepared.

"Additional wetland destruction should be avoided."

Lichtkoppler, who is working with a number of area conservation efforts, said the proposed development in Painesville poses risks to much of the area's ecosystem.

"Wetlands serve many necessary functions," Lichtkoppler said. "They prevent flooding ... They are nature's filters. We urge the adoption of an alternative that would result in no (wetland) degradation. Protecting the wetlands is protecting Mentor Marsh. Protecting Mentor Marsh is protecting Lake Erie."

As part of a consent agreement and final order for LEIMCO after-the-fact impacts issued by the U.S. EPA in April, the developers must transfer a 340-acre mitigation site in Leroy Township to the Lake Metroparks, according to the Ohio EPA.

The agreement stipulates 68 acres of wetland restoration/creation; 70 acres of wetland enhancement/preservation, \$220 acres of upland preservation. The U.S. EPA also imposed a \$75,000 civil penalty related to the after-the-fact impacts, the Ohio EPA states. But with the affected wetlands in Painesville, some wonder what good land in Leroy Township will do for the Mentor Marsh.

"We have major concerns about this project," said Painesville resident Sue Kaufman, of the Mentor-based Blackbrook Audubon Society.

"It only allows for remedial mitigation and we are left with a 'what now?' situation. It does not address the issues."

Kaufman said developing the Painesville wetlands could negate much of the progress the Mentor

Marsh has made toward a more natural status, and wetland creation as far away as Leroy Township would do little to mitigate for the marsh.

Cynthia Paschke, of HCW Environmental Consultants, which represents LEIMCO, spoke on behalf of the Leroy Township mitigation project.

"There was extensive review of the mitigation options within the marsh," Paschke said.

She said the Leroy Township land presented the most viable option, however.

The Ohio EPA will now consider the comments from Wednesday's hearing, along with any written correspondence, which may be submitted through April 5.

The agency will then decide on LEIMCO's Section 401 application and forward its findings to the Corps of Engineers.

Those wishing to send comments for consideration to the Ohio EPA may mail them to Permits Processing Unit; P.O. Box 1049; Columbus, OH, 43216-1046. Please reference Ohio EPA ID 052389.

ULTRASOUND AND ALGAE TEAM UP TO CLEAN MERCURY FROM SEDIMENTS

-- Ultrasound and algae can be used together as tools to clean mercury from contaminated sediment, according to an Ohio State study.

The research could one day lead to a ship-borne device that cleans toxic metals from waterways without harming fish or other wildlife, said Linda K. Weavers, the John C. Geupel Chair in Civil Engineering at Ohio State.

Weavers' research group, that previously determined that ultrasonic vibrations can shake mercury loose from sediment, collaborated with a research group led by Richard Sayre, OSU professor of plant, cellular and molecular biology, that has genetically modified a species of algae to boost its natural ability to absorb heavy metals.

The research is sponsored by Ohio Sea Grant.

Coinsiding web site OSU research web site article:

ULTRASOUND AND ALGAE TEAM UP TO CLEAN MERCURY FROM SEDIMENTS

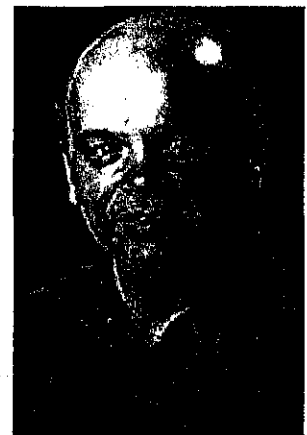
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Doctoral student Ziqi He described the group's latest results in a poster session March 27 at the American Chemical Society meeting in Atlanta.

Weavers' research group previously determined that ultrasonic vibrations can shake mercury loose from sediment.

"We found ultrasound to be very effective at getting mercury out of sediment and into water," He explained. "But then we needed a third party to get the mercury out of the water. That's how we got the idea to add a biological element to the treatment."



Linda Weavers
Richard Sayre

Weavers and He joined with Richard Sayre, professor of plant, cellular and molecular biology at Ohio State, and Surasak Siripornadulsil, a former graduate student in the university's biophysics program. Sayre's team has genetically modified a species of algae to boost its natural ability to absorb heavy metals.

In laboratory tests, student He vibrated an ultrasonic probe inside beakers containing water, sediment, and algae. The vibrations freed mercury from the sediment, and within seconds, the algae adsorbed up to 60 percent of the mercury from the water. The combined system of ultrasound and algae removed 30 percent of the mercury from sediment within the first few minutes.

There are alternative cleanup methods that also absorb a high percentage of metals, Sayre admitted, but they are less selective - they absorb all metals. His modified algae species absorbs five times the normal amount of a select group of toxic metals, including mercury, cadmium, copper, and zinc.

"Say you were trying to clean water that contained effluent with a lot of calcium or iron in it -- or seawater, which contains sodium," Sayre said. "If your algae aren't selective, they'll absorb those other metals and you'll recover less mercury. So the advantage of these modified algae is that other metals don't interfere with the cleanup."

Weavers envisions that boats could dredge sediments from contaminated waterways and clean them on board using ultrasonic equipment and algae-based filters. Then the clean sediment could be returned to its original location. Or, the equipment could be placed directly on sediment to treat it in place. Either procedure would leave wildlife unharmed, she said.

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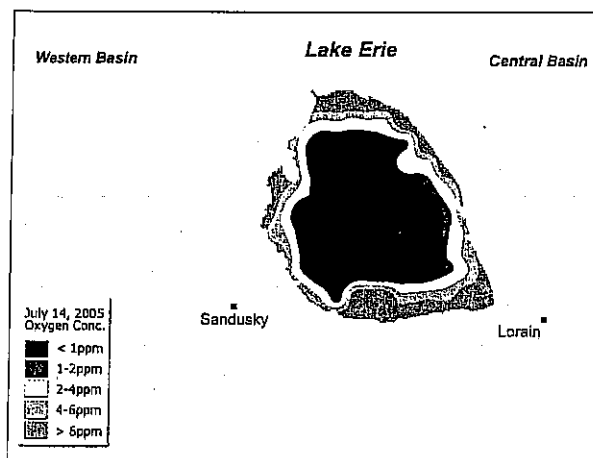
April

Dead Zone Expands

LORAIN, OH—Lake Erie's historically low summertime dissolved oxygen levels in its Central Basin (east of the Sandusky Sub-basin to Erie, Pennsylvania) are well known to fisheries biologists. However, from late June through mid-August 2005, biologists at Ohio State University were dealt a surprise when they found low dissolved oxygen in much of the water below 40 feet in the Sandusky Sub-basin—an area that hadn't been so plagued with such conditions since environmental regulations were enacted in the 1970s.

Scientists do not know the cause for low oxygen's return, but they do know the perch, walleyes and baitfish that typically cluster in the region will avoid the oxygen-depleted areas, holding higher in the water column or leaving the area entirely.

Low oxygen affects young fish even more because their invertebrate prey items, including mayfly larvae, cannot move and die as oxygen concentrations drop.—Joe Conroy, Ohio State University



This map shows the location of Lake Erie's Sandusky Sub-basin and depicts the zone of lowest oxygen in depths of 40 feet or more found during the summer of 2005. According to survey findings, fish avoid deep water in black and red areas; yellow areas represent the fringe of their tolerance.

WELCOME CAROL FERGUSON

Carol Ferguson is our newest board member. Carol has a background in hydrology and has worked for many government agencies both in natural resources and education. She currently wears many hats on the island including employment at Stone Laboratory, Put-in-Bay School, and volunteer work at St. Paul's



Episcopal Church. She has been enthusiastically working with our Nature Camp Program the last few years and is our best baker! We are all very lucky when she bakes the snacks for meetings! Welcome aboard, Carol.

THANK YOU, THANK YOU!!!

Special thanks go out to volunteer Kit Knaser and board member Valerie Mettler for their help in updating our mailing data bases and to Carol Ferguson, Lianne Genzmann, Kelly Faris, Valerie Mettler, John Ladd and Lisa Brohl for their help with recent mailings. Our exhibit looks great at events thanks to the efforts and photos of Debbie Woischke. Thanks to Debbie for getting the newsletter out this month as Linda Parker is on vacation. Linda and Debbie have done a wonderful job with the newsletter! We also have updated brochures thanks to Kendra Koehler, Kelly Faris, Lisa Brohl, and Carol Richardson.

We would also like to thank everyone who helped with resolutions and letters of support for our recent Clean Ohio Conservation Fund grant submission on March 30; Put-in-Bay Township Trustees, Ottawa County Commissioners, Maggie Beckford at the Put-in-Bay Chamber of Commerce, Susie Cooper at the Lake Erie Islands Historical Society, State Representative Chris Redfern, Representative Marcy Kaptur, the U. S. Fish and Wildlife Service, the Ohio Division of Wildlife, Audubon Ohio, Melinda Huntley of Lake Erie Coastal Ohio, Julie Shieldcastle of Black Swamp Bird Observatory, Kristin Stanford of Northern Illinois University, Jeff Reutter of Ohio Sea Grant/Stone Lab and Marlene Kromer with the Ohio Chapter of the Nature Conservancy.

News you need to know from PIB Senior Center (for people of all ages)

By Sue Duff

Ottawa County will be collecting old mercury thermometers at the Senior Center on April 29 from 10 a.m. to 2 p.m. Look for them now and bring them down to dispose of them properly.

Welcome to Brenda James who becomes our assistant site manager. She has many talents to bring us and will be helping with food prep, cleaning, ideas and activities. Her warm smile is a great boost to the day. She has been cleaning up a storm.

Did you enjoy the Fish Fry. Wasn't it great. There is nothing like the taste of Lake Erie Perch and Walleye. Thank you to Glenn Cooper, Matt Miller and Russ Brohl for all the cooking and prep work. Russ also made the German Potato Salad. Thank you to all the "seniors" and others who helped make it a tremendous success. Martha, Lisa B., Brenda, Scott M, Walt and Mary Ann M. - Thank you. Thanks also goes to Water Duff, Walter Duff, Jr. and John Hageman for the fish donations.

Join us for a trip to the Tiffany Exhibit at the Toledo Museum of Art on April 12. We have room for five people. Cost is \$10 and includes admission to the museum, transportation and lunch. Lunch will be at the Spaghetti Warehouse. A pasta dish, rolls and beverage will be served. RSVP at the Center. We will have a stand by list if the list fills up.

Water main extension hearing on May 2nd

Several major projects are proposed for construction on South Bass Island in 2006 and 2007 to enhance the village water treatment system and extend water mains into the township. The village is moving forward on the design and construction of a 500,000 gallon storage tank and a pumping station near the water plant. This project will be funded through a grant from the Ohio Public Works Commission (OPWC), a contribution from the Ohio Department of Natural Resources (ODNR) and revenues from water user charges and impact fees. The county is building a new water tower at the state park which will be funded entirely by the ODNR. The county is also constructing the Water Main Extension Project in the township that will be looped along Langram Road, Meechen Road and Catawba Avenue including Put-in-Bay Road to the Island Club. The water mains will be paid for by a federal grant obtained by the Put-in-Bay Township Port Authority, a grant from the OPWC, a contribution from the ODNR and special property assessments. The Ohio State University is proposing to extend water and sewer mains along Bayview Avenue (S.R. #357) to serve Gibraltar Island. Other smaller projects are in the preliminary discussion phase. The amount of the federal grant obtained by the Put-in-Bay Township Port Authority is \$1.2 million. The ODNR contribution is \$1.1 million. The OPWC grant is \$765,000.

The county will be funding the local share portion of the Water Main Extension Project by placing a special assessment on the benefited properties along the water mains in the township. Each property will be assessed a unit charge based on the use of the property. The unit charge for a single-family home is \$2,883.64. In addition, the assessment also includes a front-foot cost which is \$25.00 per lineal foot and an Impact Fee of \$1,872 for each unit charge. As an example, a single family home with 100 feet of frontage will be assessed a unit charge (\$2,883.64), a front footage fee (\$2,500) and an Impact Fee (\$1,872) for a total of \$7,255.64. Properties with multiple units, such as apartments and camp grounds, or differing lengths of frontage, will be assessed proportionately. The assessment may be paid in full or in part with the unpaid portion financed through the county for 20 years at the prevailing interest rate.

The county plans on mailing each affected property owner a notice with the information and a tentative assessment amount on April 7, 2006, which will be followed by a special assessment hearing at the village hall on May 2, 2006 at 2 p.m. Anyone who has questions regarding this project is encouraged to contact Kelly Frey, Ottawa County Sanitary Engineering Department, 419-734-6725.

AUGUST 22 (TUESDAY)

GIBRALTAR ISLAND AT PUT-IN-BAY

Challenge Level 3

A trip to OSU's Stone Laboratory: Travel from Columbus to Port Clinton where we will take the Jet Express to Put-in-Bay. Tour Perry Monument's Visitors Center and then travel by OSU Boat to Gibraltar Island. After lunch tour on the Research Boat, see the Island class rooms, and then return to Put-in-Bay for dinner (on your own) before returning to Columbus/

Depart: 8:30 a.m. from Fawcett Center

Return: 10:00 p.m.

Cost: \$75 (transportation, Jet Express, research boat ride, lunch) **Registration closes**

July 24

Arranger: Katy Rasor

Ohio's Comer is Conservation Leader

Every local PF chapter has them—dedicated chapter leaders that go above and beyond that make PF the most efficient conservation organization in the country. You will find one such member in Ohio. Gary Comer Jr. got his start with the Logan Co #285 chapter (check out his truck license plate in the photo) and has been involved since 1998.

Whether he is working with one of two chapters (he recently moved into another county), getting the annual state meeting organized or working on state conservation issues as a natural resource professional, he is always involved in everything. "Everyone needs that person behind you that keeps pushing to keep things going and coming up with new ideas," said Jim Inglis, Ohio's regional wildlife biologist. "I have great support from the Ohio State Council and Gary, serving as VP, is one guy that keeps push-

ing to make PF a stronger conservation organization at the local, state and national levels. Three years ago he suggested we hold a dog trial as a way to get more folks involved and have some fun. It worked!"

Gary has assisted in all aspects of the chapter, from banquet chairman to habitat work. The Logan Chapter boasts some top numbers with a high percentage of net to gross banquet dollars near \$15,000, with only about 130 folks in attendance. "He always looks at the numbers and new ways to maximize the profits, which ultimately puts money on the ground," Inglis said.

Before his involvement with the chapter, he spent a few years pursuing wildlife degrees and ended up in Arkansas and Texas. This gave him experience with different ecosystems and wildlife species. No matter where you go, you learn that habitat is key. Gary was one of the first PF chapter leaders to go through the Ohio



Gary Comer Jr. is one of Ohio's best PF chapter volunteer conservation leaders...and not a bad shot either!

Certified Prescribed Burn Manager course to assist in returning prescribed fire back as a tool for habitat management in Ohio. Professionally Gary works for the Ohio State University as an Extension Educator and is currently working as the Sea Grant College Program Coordinator on Lake Erie. Thanks for everything Gary!

Home

A nice catch: Yellow perch, walleye abundant this year
RON VIDIKA, Morning Journal Writer

If the experts are right, this fishing season on Lake Erie will be every angler's dream.

Yellow perch are thick and the walleye are wall-to-wall, say those in the know.

The year 2003 was a banner year for Lake Erie, when the pollution was down and its fish population began to take off.

But this year, the fruits of 2003 are paying off in terms of a harvest of Lake Erie's two most popular fish -- yellow perch and walleye, said **Dave Kelch of the Ohio Sea Grant** Cooperative at Oberlin's Ohio State Extension Service.

From temperature changes to the directions and strengths of wind and waves, it all came together in 2003, Kelch said.

"The year 2003 happened to be the year when environmental factors came together in Lake Erie that affected the spawning of fish," he said. "In 2002, the walleyes' spawn was not nearly as good. In 2006, anglers can expect to have an absolute heyday with the 2003 walleye."

He said 15-, 16- and 17-inch walleye from "the class of 2003" will be in abundance this year, which should please fresh-water fish lovers.

"Are they safe to eat? Yes, they're way under the 21-inch limit," said Kelch.

The Ohio Department of Natural Resources, Division of Wildlife, has even upped the catch for yellow perch on Lake Erie, said Kelch, from 30 to 40 per day. The walleye limit is three to four a day in the spring and six per day the rest of the season. In addition, ODNR has stocked Lake Erie with 400,000 steelhead trout.

"The steelhead trout are spawning and biting right now," he said. "When stocked, they are about six inches long. They are now about 16 to 18 inches long."

Russ Ardick, owner of Ardick Seafood Inc. in Lorain, said there's a lot of optimism this year after a down year in 2005.

"I hope this year will be a good one. Last year was such a bad one," he said. "The size of the walleyes was just under keeping size last year. This year, it's going to be a good walleye and perch season. There's a lot of perch out there now, too, but it pretty much all pertains to the weather."

Peter Meisenheimer, executive director, Ontario Commercial Fishermen's Association, said the perch and walleye fishing in the central basin of the lake, which encompasses Lorain, should be quite abundant this year.

"There are huge amounts of yellow perch in there," said Meisenheimer, adding that 173 samples are taken around the lake by his organization to more accurately identify the number and of type of fish.

"The older fish in particular are much more mobile and what you see is a pattern for perch distribution. By late summer and early autumn, there was a heavy contingent of yellow perch in the lake," he said.

And that's a good thing.

"Yellow perch is the money fish for us," said Meisenheimer.

As for pickerel or walleye, Meisenheimer said, "There's going to be a big mass of them out there."

But Kelch said the abundant harvest of fish comes with a downside -- mercury. There is currently a nationwide fish consumption advisory because of mercury pollution. The advisory suggests that fish measuring more than 16 inches not be eaten.

"For Lake Erie, some of the fish we hold in high reverence, like channel catfish, measuring 16 inches and longer, the advisory says do not eat them," said Kelch. "If they're under 16 inches, you can eat one as a meal every two months."

When it comes to other Lake Erie fish, such as small mouth bass, white bass, white perch, steelhead trout and fresh water drum (sheepshead), the advisory recommends one meal a month, said Kelch.

"Keep in mind there is a 10 percent margin of error in the advisory," he said. "But the health advisory is aimed at women who are pregnant or expect to become pregnant and also for young children."

One way to safely prepare a fish that's on the advisory list, said Kelch, is to cut away the fatty tissue where contaminants reside.

"You remove the belly and the dorsal and have yourself a skinny filet," he said

State: Sport fish value outstrips commercial

■ By at least a factor of 10, maybe 100, says state wildlife official.

By **TOM JACKSON**

tomjackson@sanduskyregister.com

SANDUSKY

The economic value of Ohio's sports fishing on Lake Erie vastly outweighs the value of Ohio's commercial fishing operations, says a state official who has studied both industries.

Commercial fishing produces tens of millions of dollars of value at most, while sports fishing produces hundreds of millions of dollars, said Roger Knight, Lake Erie program administrator for the Sandusky Division of Wildlife office in the Ohio Department of Natural Resources.

Knight said the state estimates the value of the fish hauled out of Lake Erie

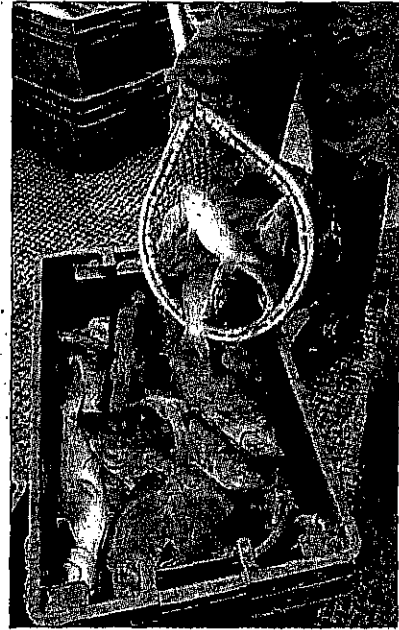
by commercial fishermen in 2005 at \$4.2 million. Dating back to the 1980s, that's the highest number recorded. When the figure is multiplied to take into account wholesalers and fish processors, the commercial industry likely amounts to tens of millions of dollars, he said.

Economic studies of the value of sports fishing vary widely, depending upon the assumptions used, but it's clearly a much bigger industry, Knight said.

He said the U.S. Fish and Wildlife Service estimated in 2001 that fishing trip and equipment expenditures in Ohio for "Great Lakes fishing" were \$145 million.

The American Sportfishing Association estimated the economic value of Great Lakes sport fishing in Ohio in 2001 was about \$679 million.

Dean Koch, a Sandusky commercial



Register file photo

Fresh-caught fish are unloaded for sale at New Shoreline Fish Co. in Sandusky. A state wildlife official says sport fishermen's catch is 10 to 100 times as valuable as the total commercial catch in Ohio.

■ See **FISH**, Page A2

FISH

■ FROM PAGE A1

fisherman and the president of the Ohio Fish Producers Association, could not be reached for comment Wednesday. On Tuesday, he said the Division of Wildlife is biased against commercial fishermen and has underestimated the value of the industry.

State Rep. Jim McGregor, R-Gahanna, is drafting a bill which proposes to end commercial fishing in Ohio by buying out the state's commercial fishing licenses. McGregor contends the move would be a boon to the more valuable sports fishing industry.

Yellow perch is considered the most valuable edible fish in Lake Erie. Quotas for how many fish can be caught are set by the Great Lakes Fishery Commission, which includes officials from Canada and several U.S.

states. In 2005, Ohio was allocated 52 percent in the western basin and 43 percent in the central basin, said Fred Snyder, a Sea Grant extension specialist at Camp Perry.

Ohio allows 60 percent of its quota of yellow perch to be caught by sports fishermen, while commercial fishers take 40 percent, Knight said.

The yellow perch population in Lake Erie reached a low point in the early 1990s but has rebounded, Snyder said. He noted that the daily bag limit for sports fishermen for yellow perch was raised this year from 30 to 40 fish.

Yellow perch is valuable because it is considered the tastiest fish in Lake Erie, Snyder said.

"People like a fish that is white fleshed, flaky, lean and mild. The perch is just the epitome of all of that. Their larger cousin, the walleye, comes in at a very close second," Snyder said.

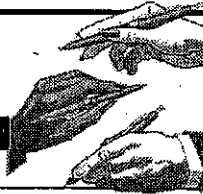
Stone Laboratory offers

By State Representative Bob Latta

Despite the cold and snow, many people, including students, are already thinking ahead to warmer weather and the summer months. However, as students start planning how to spend their summer break, they should consider gaining additional college credit while spending time in Ohio's backyard. The Stone Laboratory on Lake Erie has a variety of educational opportunities for students, teachers and the public throughout the spring and summer months.

I believe this program provides an outstanding opportunity and encourage all eligible students and educators to participate. A strong science background is an important part of a student's education, especially as they head to college and prepare to join Ohio's workforce. Governor Taft has called for high school courses to become more rigorous in order to better prepare students for college, and programs such

Guest Editorial



as those offered at Stone Laboratory provide students with the broadened skills and knowledge necessary to help in their future endeavors.

Stone Laboratory is the oldest freshwater biological field station in the United States. Each year, more than 70 scientists, graduate students and technicians use the laboratory as the base for their research, continuing a long history of accomplishments by those who have previously worked and studied there.

Teachers, college students, and selected high school students can take advantage of numerous courses available on a variety of topics. Introductory

many educational programs

courses concentrate on physical and biological sciences, while advanced courses focus on subjects ranging from aquatics to ecology to biology and natural resources. Teachers can combine science content with innovative teaching methods to better incorporate the natural environment into the classroom. Classes last from one day to five weeks and earn participants one to five quarter-credits.

Younger students and the public can also take advantage of the programs at Stone Laboratory. Field trips allow groups to collect and identify specimens, study water samples, and take a bird walk among other activities. Non-credit workshops are also open to the public and tours of the laboratory facilities are available to groups.

Summer programs for college credit run from June 11 to August 19, and workshops and field trips run from mid-April to the end of October. Applications for all programs are available through the Stone Laboratory Web site at www.ohioseagrant.osu.edu

or by calling (614) 292-8949.

My office has sent information packets regarding the available programs to area high schools. If you have any questions please feel free to contact my office at by mail at 77 South High Street, District 6, Columbus, Ohio 43215, phone at (614) 466-8104 or e-mail at district06@oh.state.oh.us.

'Frankenfish' to take

Kate Lising, left, and Ken Wieland of the North Coast Theatre salute Nora Warejo, in the fish costume, during rehearsal for 'Erie Invaders.' The trilogy of environmentally themed plays will be performed at the University of Toledo today for EarthFest, a warm-up for Earth Day. The festival will include more serious discussion and music.



THE BLADE/LORI KING

bow at UT's EarthFest

Play among trilogy on Great Lakes ecology

By **TOM HENRY**
BLADE STAFF WRITER

Listen to a zebra mussel's plight in song:

See its chief predator, the round goby, suit up in a lab coat and lay down the law.

But watch out for those pesky northern snakeheads, not just because they're flesh-eating creatures dubbed Frankenfish that emerge from water and crawl on land, but because they can hold their own with quick-lipped car salesmen.

Above all, you'll need to suspend reality and let your imagination wander if you're on the University of Toledo's campus

at 5 p.m. today, when the North Coast Theatre presents a trilogy of environmentally themed plays called *Erie Invaders*.

The plays are part of the UT Society for Environmental Education's annual EarthFest, the group's annual warm-up for Earth Day. The nation observes the latter on Saturday.

The festival will be on UT's Centennial Mall near the Student Union, weather permitting. In the event of rain, it'll be held in the Ingman Room on the second floor of UT's Student Union.

Written by Toledo playwright Christine Child, the three plays will be performed in sequence

for the first time by six members of the North Coast Theatre — an acting troupe founded in 1994 to bring new and experimental theater to Toledo.

David Jex, a University of Toledo music professor and a Toledo Jazz Society board member, scored the music for the trilogy.

The 45-minute trilogy will be preceded and followed by a lineup of more serious and traditional offerings, including:

● **Noon:** a discussion about global warming by Marisa Rinkus of the National Wildlife Federation's Great Lakes office

See **ECOLOGY**, Page 2

Ecology

Continued from Page 1

in Ann Arbor. The speech will be followed by a performance art show featuring graphics and talks by a group from Maine called the Beehive Design Collective.

● **5 p.m.:** performance of *Erie Invaders*.

● **6 p.m.:** environmental poetry reading.

● **7 p.m.:** Afro-Caribbean drum and dance show.

● **8 p.m.:** two hours of live music.

Zebra mussels, round gobies, and northern snakeheads are among dozens of nonnative species and plants that have gotten into the Great Lakes. Such

invaders wreak havoc upon its food chain for native fish.

The northern snakeheads are among the latest of the unwelcome guests, showing up in Lake Michigan near Chicago in October, 2004.

Ms. Child is almost apologetic when she confesses that her intruders are "quite likeable."

But like all good comedy, there's an element of truth in what she's written. Many people might be surprised to learn, for example, that northern snakeheads are ugly meat-eaters, the largest species of which has shown it is capable of attacking humans.

Ms. Child said she was inspired to write the first play of her trilogy, called *Song of the Zebra Mussel*, nearly a decade ago after reading newspaper articles

about a junked 1969 Volkswagen Beetle lowered into Lake Erie in the summer of 1996.

The American Museum of Natural History paid Ohio Sea Grant to do that, and then subsequently lift the car out of the water several months later, so the museum could get a good visual for its upcoming exhibit about invasive species.

The museum got what it wanted: Mussels stuck all over the car.

Ms. Child said that made an impression on her about how many mussels are in the Great Lakes. They were discovered in Lake St. Clair in 1988, after being transported to North America from Europe in the ballast tanks of oceanic vessels.

She said she finished her play in 1997. She has since directed

numerous performances across the region at area high schools, the defunct First Night Toledo, the Toledo Museum of Art, the Crosby Festival of the Arts, various branches of the Toledo-Lucas County Public Library, and a previous EarthFest at UT.

Round Goby Rules, the second part of her trilogy, was written in 1999. *Frankenfish*, the third part, was finished more recently.

Linda L. Smith, faculty liaison for the UT student group behind EarthFest, said the festival is always the Monday before April 22 so that it can help get the campus thinking about Earth Day.

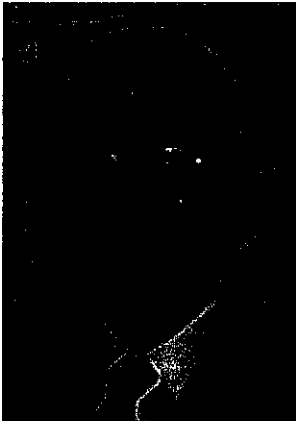
The first Earth Day was on April 22, 1970. This year will be the first it will be held since its founder, the late Wisconsin Gov. and former U.S. Sen. Gaylord

Nelson (D., Wis.) died last summer.

Numerous other events throughout the region will be held on Saturday in recognition of Earth Day, including ones at the Toledo Zoo, Toledo Area Metroparks, and area shopping malls.

At Bowling Green State University, the campus will have an inaugural go-kart race on Saturday called the Grand Prix of BGSU. The race will be in conjunction with Earth Day, to help promote clean-burning ethanol fuel. It begins at 12:30 p.m. Saturday in Lot N, near BGSU's Anderson Arena. BGSU officials today are to reveal more details at a media event.

Contact Tom Henry at:
therry@theblade.com
or 419-724-6079.



Loren Smith Putnam, 92, of Fort Collins, passed away peacefully, under Hospice Care at a local care center, on April 19, 2006. Known to many as "Puttie", he was born in Morrisison, Illinois, on October 24, 1913.

He graduated from Murray State University in Kentucky in 1935, and was a high school science and music teacher before returning to school to work on advanced degrees. In 1947, he was awarded a doctorate in Zoology from Ohio State University (OSU), and in 1948 became an assistant professor at that institution. He retired as a full professor from OSU in 1984.

From 1955-1973 he was director of the OSU Franz Theodore Stone Laboratory of Hydrobiology on Lake Erie. He was also a past president of the Organization of Inland Biological Field Stations, and was a member of the Ohio Academy of Sciences.

In retirement Puttie and Millie enjoyed travel and spending many summers on Lake Erie without having to work! Puttie also returned to his musical roots and played the violin in groups ranging from a community orchestra to duets. He also loved to entertain on the piano and organ.

He is survived by his wife of 66 years Mildred "Millie" Putnam, his son Steve Putnam and his wife Judith, all of Fort Collins, Colorado. Private services will be scheduled at a later date.

In lieu of flowers, the family requests memorial contributions to the Nature Conservancy or to Hospice of Larimer County.



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In lieu of flowers, the family requests memorial contributions to the Nature Conservancy or to Hospice of Larimer County.

Please visit www.allnutt.com to view the online obituary, sign the family guestbook and send condolences.

Originally published April 21, 2006

Water crisis on tap for BG forum

By JENISE FOUTS
Sentinel Staff Writer

It is blue gold.

In a world where continents' rivers, lakes and aquifers are drying up, including America's heartland, water is proving to be almost more important — and lucrative — than black gold refined for fuel.

As water sources dry up because they are being diverted for agriculture and power, or pumped out of the ground faster than they can be replaced with precipitation, gigantic transnational companies are finding

gold in their coffers as they attempt to privatize more of the world's water.

To educate residents about the growing world water crisis, the League of Women Voters is sponsoring its annual open forum on the topic Thursday. The event, which is free and open to the public, will begin at 7 p.m. in the BGSU Miletic Alumni Center on Mercer Road.

Panel members include June Kaltenbach, a chemist at the Bowling Green water pollution control facility; Steve Long, logistics planner at Clean Water 'U in Franklin, Tenn.; Jeffrey Reutter, Ph.D., Ohio State University,

director of four Lake Erie programs; and Eddie Ricard, a Bowling Green High School senior who took first place in the Governor's Award for Excellence in water resources research.

"We were explosive with it," explained forum planner Elaine Spritzer as to why the world water crisis was chosen for the topic. Previous topics have included local concerns about terrorism, the role of immigrants in Northwest Ohio and last year's forum on alternative energy sources.

(See WATER on 5)

(Continued from 1)

"(The) privatization of water — what's to say we won't get in that ball of wax? ... It's a worldwide kind of thing. ... This will never go away," she said. "People don't really realize how overwhelming it is in our own communities."

"A lot of people are concerned about the big dairies moving in," added Dortha Barker, also on the planning committee. "Those (sewage) lagoons don't have liners," resulting in possible contamination of local water sources.

She expressed a personal concern about water in the U.S. being diverted to other countries, similar to what is happening in Latin America.

International financial institutions there are imposing water privatization on governments as a condition for continued debt relief and loans.

Barker noted with the U.S. borrowing billions of dollars from overseas, "What do we do if they say, 'Give us your water or we don't give you any more money,'?"

In developing countries with water privatization, the urban poor are paying up to 50 percent of their household income to buy water. Forum planner Betty Laukuf said the world water crisis was a concern of justice to her.

Other concerns among the forum planners included society instilling in people that water isn't safe to drink (it has

to be purchased bottled or from special retail dispensers); how many times local drinking water can go through Lake Erie and not have some ill effects; pesticide run-off affecting local water sources; and chemicals in drinking water reacting with medicines people take.

Laukuf and Spritzer stressed the need for high school students to attend the forum. "Things like this need to be enlightened at an early age, ... people who will take an interest in this," said Spritzer. "We really want (teens) to be there."

Posters advertising the forum announce, "This will not be a boring, wasted evening. The students will go home with visions on the future of water."

Panel speaker Kaltenbach

has Class 3 licenses in water and wastewater from the Ohio EPA and a Lab Analyst 3 license from the Ohio WEA. She has worked in both the city's water and wastewater treatment plants.

Reutter is a prolific author who lectures frequently on issues related to the changing Lake Erie ecosystem, aquatic invasive species, coastal economic development, artificial reefs and Great Lakes research needs and priorities.

Long is a former instructor at BGSU with a master's degree in applied statistics. He is currently coordinating the Clean Water Project for the Cincinnati Presbytery which has a partnership with a presbytery in Guatemala.

04.24.2006. "Summer classes available at Stone Lab." OSU TODAY

SUMMER CLASSES AVAILABLE AT LAKE ERIE'S STONE LAB

-- More than 30 science and education courses are offered summer quarter at Stone Laboratory, Ohio State's island campus on Lake Erie.

Courses range from oceanography to marine education and can be taken in one- or five-week periods. View an educational and promotional presentation online at: <http://www.stonelab.osu.edu/promo>

04.27.2006. "OSU has classes on how to fish on Lake Erie" DAYTON DAILY NEWS

Dayton Daily News (OH)

April 27, 2006

Author: OUTDOORS JIM MORRIS

For the second year, Ohio State University is offering a threecredit course on how to fish on Lake Erie, but this year there's an added attraction. For those who aren't interested in the one-week course, OSU is offering a noncredit three-day sport fishing workshop, July 21-23.

The workshop, like the credit course, will be conducted out of the F.T. Stone Laboratory at Put-in-Bay.

The cost is \$350 and the workshop is open to high school graduates, 18 and older. Included are two nights lodging and meals.

The week-long credit course is scheduled for June 11-17. It is an in-depth class primarily for individuals with fishing experience, although experience is not required. It includes lectures and hands-on activities.

For more information on the workshop or the credit course, contact **Fred Snyder** at (419) 635-1022.

May

Nature Camp registration time is here!

The Lake Erie Islands Chapter of the Black Swamp Conservancy (LEIC-BSC) has been hard at work planning this summer's adventures for Nature Camp at the Bay 2006. We will be working with the Lake Erie Islands Historical Society (LEIHS) and the Lake Erie Islands State Parks, with partial funding from the Put-in-Bay Recreation Committee. Some funding is still needed to keep the camps affordable for everyone. There is a line for tax-deductible donations to the program on the registration form. Bats, Bees, and Bubbles will keep the Nature Camp kids busy. Environmental Adventure Camp will include an overnight camp out, kayaking and a possible trip to North Bass. New this year is a preschool program for 4-5 year olds complete with nature stories, crafts, and games. Camp dates have been set as follows. Preschool Nature Camp at the Bay, June 12-14 10-11 a.m. - ages 4 & 5; Nature Camp at the Bay, July 17-20 10 a.m. to Noon, or 1 to 3 p.m. - ages 6-8; and Environmental Adventure Camp July 24-27 ages 9 and older - 1 to 4 p.m., July 26 and 27 Camp Out

Registration Forms can be picked up at the Lake Erie Island Historical Society, downloaded off the LEIC-BSC website, or received by calling 419-285-5811 or e-mailing leic_bsc@cros.net. The cost for the Preschool Nature Camp program is \$15.00/child, Nature Camp \$30/camper, and Environmental Adventure Camp \$50/camper.

We are limiting registration to 20 campers per each session. REMEMBER THAT REGISTRATION IS ON A FIRST COME FIRST SERVE BASIS AND SPACES FILL QUICKLY. If you are interested in having your child participate in this year's Nature Camp programs, please complete the registration and permission forms and mail with your check to: Lake Erie Islands Chapter Black Swamp Conservancy, P. O. Box 155, Put-in-Bay, Ohio 43456

Questions, please contact us at leic_bsc@cros.net or 419-285-5811. A full schedule and more information on the Camp will be mailed to you upon receipt of registration.

New courses at Stone Lab for 2006

For more than 100 years, Stone Laboratory on Gibraltar Island has offered unique, cutting-edge science courses for its students and educators. Summer 2006 is no different with new courses in zoology, natural history, and ecology, as well as a new three-day fishing workshop.

For more information about these and Stone Lab's other 27 summer courses and workshops, contact Stone Lab's office at (614) 292-8949, or visit the Stone Lab website at www.stonelab.osu.edu.

Birding on South Bass Island

The following birding programs will take place on the island this coming month and are open to the public.

May 8-10, 2006

The Lake Erie Islands Chapter of the Black Swamp Conservancy will host bird programs and activities for the Elderhostel program sponsored by the Lake Erie Islands Historical Society. Some of the events will be open to the public and all are welcome to attend the following:

Monday, May 8

7:30 a.m. - Bird Walk with Dr. Brad Titchener, Island Resident and Birder Extraordinaire (meet at the Bay Lodging parking lot, will carpool to site.)*

Monday, May 8

7 p.m. - Birds of South Bass Island, Slide Talk with Dr. Brad Titchener (Put-in-Bay Town Hall.)

Tuesday, May 9

7:30 a.m. Bird Walk with Dr. Brad Titchener and Lisa Brohl, (Meet at the Bay Lodging parking lot and car pool.)*

Tuesday, May 9

7 p.m. - Spring Warbler ID, Slide Talk with Tom Bartlett, Master Bander for the USGS and certified bander/trainer for the North American Banding Council, (Put-in-Bay Town Hall.)

Wednesday, May 10

7:30 a.m. - Bird Banding with Tom Bartlett, (meet at the LEIHS Museum to carpool to site.)*

Wednesday May 10

3:30 p.m. - Mona Rutger from Back to the Wild, a wildlife rehab and educational facility, will give an educational program on native wildlife and have a live bald eagle, hawks, owls and many other animals at the Put-in-Bay Town Hall. Sponsored by the PIB Recreation Committee.

Wednesday, May 10

7 p.m. - Neotropical Birds: Ohio's Transglobal Wanderers, Slide talk by Jim McCormac, Birds of Ohio author, Ohio Ornithological Society president. (Put-in-Bay Town Hall.)

Other Nature Programs in May open to the public

Wednesday, May 3

1:30 p.m. - Aquatic Insects for Fisherman, Talk by Dr. Carmen Trisler, Wittenberg University, (Put-in-Bay Town Hall.)

Tuesday, May 16

7 p.m. - Snakes of South Bass Island by Kristin Stanford, the Snake Lady from Northern Illinois University (Put-in-Bay Town Hall.)

*Please RSVP for these programs by phone or at leic_bsc@cros.net. Questions? Call the Lake Erie Islands Chapter of the Black Swamp Conservancy at 419-285-5811 or the Lake Erie Islands Historical Society at 419-285-2804.

OSU at PIB offering classes on how to fish on Lake Erie

This year, The Ohio State University is again offering a three-credit course on how to fish on Lake Erie. This year there is an added attraction. For those who aren't interested in the one-week course, OSU is offering a noncredit three-day sport fishing workshop, July 21-23.

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Put-in-Bay Gazette May 2006 Page 6

Milestones

OBITUARY

Loren Smith Putnam

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Sciences. In retirement, Puttie and Millie enjoyed travel and spending many summers on Lake Erie without having to work! Puttie also returned to his musical roots and played the violin in groups ranging from a community orchestra to duets. He also loved to entertain on the piano and organ. He is survived by his wife of 66 years, Mildred "Millie" Putnam, his son, Steve Putnam and his wife Judith, all of Fort Collins. Private services will be scheduled at a later date. In lieu of flowers, the family requests memorial contributions to the Nature Conservancy or to Hospice of Larimer County. Please visit www.allnutt.com to view the online obituary, sign the family guestbook and send condolences.

Filleting with Electricity

by John Hageman

I never thought I'd resort to it, but one winter night a few years ago, while looking at a pile of 80 walleyes to clean, and hoping to get to bed at a decent hour in order to try our luck the following day, I decided it was time to force myself to learn to use my unused electric fillet knife, still in its original package, for cleaning this imposing pile of fish.

I had won the knife, a Mister Twister Electric Fisherman, donated by Turtle Creek Marina, years earlier at the first Erie-Ottawa County Pheasants Forever banquet, but was so used to producing a quick, clean fillet with my arsenal of other knives I resisted the urge to "go electric," as my first attempt years ago using my cousin's electric knife resulted in wasted, shredded, embarrassing-looking pieces of precious walleye meat.

The problem with the other knives is they get dull cutting through the rough scales of a large walleye, and even though I have 15 or so knives enabling me to keep switching to a sharp one as soon as one gets too dull to still safely cut, eventually they all end up needing sharpening. Some people sharpen their knives after every fish or 2, but I tend to just keep switching to another knife, and after several days of good fishing, I was down to my last one!

So, after swearing off electric knives after my poor experience years ago, I had painted myself into a corner with a bunch of dull knives and a pile of dead fish and had to belly up to the table and give it another try. The first one ended up being a test case, as I cut through the backbone before I got to the tail and had to clean it up with my regular knife; but after the second one I found my groove and the rest, you may say, is history!

After cleaning a couple of thousand more walleyes since then with the electric knife, I wouldn't think of ever going back to the old-fashioned way! It is a little bit different than using a regular knife, but ultimately quicker, because the high-quality, dual, stainless steel blades can clean hundreds of fish before they need sharpening. Even when I only have a couple of fish to clean, I now prefer the ease of the electric filleting technique.

Here's how I do it: I have a strong, spring-loaded fillet board clamp I attached to an old oak tabletop. I put the nose of the walleye in, to give me, in effect, 3 hands. Begin the first cut downward, just behind the gills, cutting down to the backbone, then aim the blades to follow the backbone toward the rear of the fish, cutting through the rib cage and continuing until the fillet ends at the base of the tail.

*Beginners should at this point cut the un-skinned fillet off the fish, flip the fish over and repeat the process on the other side. This will give you 2 fillets that now need to be skinned.

Again, with the clamp

tightly holding the tail end of the fillet, it's a simple process to use the electric knife to separate the skin from the fillet. The next step is to cut under the rib cage to remove the stout ribs. This can be done with the electric or regular knife. It's also a good idea in the bigger fillets to remove the "zipper" from the center of the fish, removing a "V" shaped cut from the now totally boneless walleye meat. I always do this last step with my regular knife as less waste will occur, because I can get in tighter to the offending bones with a single blade, sparing more of the fillet for the table.

*After some practice, it will be possible to, instead of cutting off the fillet before skinning, skip this step and skin the fish while the skin is still attached to the base of the tail. It is a time-saver when you have many to do. Using this technique, my filleting time for a walleye falls short of a minute apiece, including the trimming (a little more if I take the time to scoop out the cheeks...)

In addition to the Electric Fisherman, introduced in 1986 that comes in both 7- and 9- inch blade lengths, Mister Twister now has a new heavier-duty knife called the Piranha that has an 8-inch blade, 25% more torque and 15% more speed than their original electric knife. I had hoped to try it out by now, but with no ice as of the end of January it is still in the package. I am convinced this is going to be the right knife to better get through large winter fish, especially those that are still a little frozen from laying on the ice for a few hours.

There are other brands, such as Rapala, Angler's Best, American Angler, etc., some of which have clamps for attaching to a 12-volt battery, and others that are equipped with a rechargeable battery for small jobs available from Bass Pro Shops, Cabela's and many local tackle shops. The 12-volt units seem to hold up well, but the rechargeable ones lose their power within a half hour.

Now everyone get ready to fill your freezers with some walleye this season!

A Flagship for the Islands

By Kristin Stanford "The Island Snakelady"

Wildlife conservation often focuses on large, highly charismatic, well-liked animals such as Giant Pandas, African Elephants, and Sea Turtles; or alternatively, as I like to say, the "cute and fuzzies". Although many conservation campaigns focus on these animals (e.g. Save the Whales!), often the actual act of "saving" them also protects their habitat and all of the other species that thrive within.

These animals are known as *flagship species*; a concept that many conservation organizations strongly support. The World Wildlife Fund, for example, has been actively involved in the conservation of the Giant Panda and has used one as its logo since its inception in 1961. In their drive to "Save the Panda", they have diligently worked with the Chinese government to set up over 50 panda reserves, thereby protecting more than 10,400 km² of mountain forests and countless numbers of other species living there.¹ Truly a victory for conservation, as well as a great example that the island community, can surely follow!

No, that was not a typo.

Now, I know we don't have Pandas, and we may not really even have any large, highly charismatic, well-liked mammals (besides Pat Daily) that can act as our ambassador of island conservation. However, we do have an animal that fits most of the descriptions associated with a typical flagship species. The Lake Erie Watersnake!

No, that was not a typo either!

Now before you call me crazy, let's run through some additional facts concerning flagship species.

Fact 1: Flagship species are typically on endangered lists, such as the Giant Panda, The African Elephant and the Lake Erie Watersnake which is listed as endangered in Canada and the state of Ohio, and threatened under the US Endangered Species Act.

Fact 2: Flagship species usually have a strong public outreach component to their conservation such as the "Save the Whales" campaign of the Humpback Whale, and the strikingly similar LEWS catchphrases "Save our Snakes" and "Water Snakes Welcome Here".

Fact 3: Because of their vulnerability, flagship species often provide a means for obtaining grant monies in order to protect the areas they inhabit. For example, the WWF and the Chinese government worked together to set aside thousands of acres of reserve for the Giant Pandas, and similarly the Lake Erie Islands Chapter of the Black Swamp Conservancy and the Division of Wildlife have been working to set up conservation agreements with island landowners to protect LEWS habitat. So maybe I'm not so crazy after all.

However, I have admittedly avoided something that was originally mentioned as an important characteristic of flagship species; the fact that people really like them. And that's because I feel it should be the least important. Surely something doesn't need to be "cute and fuzzy" in order for us to appreciate and conserve it. Does it? It's true that the Lake Erie Watersnake may not be the most charismatic of creatures we might choose as our ambassador of conservation. I suppose the fact that most people don't like snakes at all doesn't help the argument much either. But the bottom line is: *this animal is a unique part of the island ecosystem found no where else on earth*, and with that comes an intense drive to try and protect it. If we know that (see Flagship, page 2)

(Flagship, cont. from page 1)

embracing the conservation of this one animal can thereby conserve a little more of the natural island areas for our future generations to enjoy, we would do it. Wouldn't we? Isn't this exactly the kind of flagship we want to pave the way for the conservation of *all* the species we care for, regardless of whether it is "cute" or not?

I see it as a choice. When you're hiring for an important job, should you automatically choose the applicant that

is just a pretty face? Or do you go with the one who can get the job done?

Saving what open space is left on our islands is *our* job, and although an uncommon flagship, the Lake Erie Watersnake is the one animal we have that can help us do that. It may not be cute, and it's definitely not fuzzy, but it has all the right credentials to get the job done.

And in my opinion, that's what really counts!

¹ World Wildlife Fund website: www.panda.org

New Lake Erie Watersnake Research Projects

Researchers have recently begun two new research projects on the Lake Erie Watersnake. The first project focuses on the effect of human construction activities on watersnake habitat use and hibernation sites. Planned modifications of the marina area of Middle Bass Island State Park (under review by the U.S. Fish and Wildlife Service) provide an opportunity to assess potential impacts of such activities on Lake Erie Watersnakes. Radio transmitters are being surgically implanted into 10 adult watersnakes. Kristin Stanford and her assistants will monitor the movements of these snakes before and during construction activities. In addition, an artificial hibernation site is being created outside of the construction area and monitored for use by snakes. Questions addressed by this research include the following:

1. Can watersnakes find new hibernation sites if they are prevented from returning to a hibernation site they used previously?
2. Will watersnakes voluntarily use artificial hibernation sites?
3. Can watersnakes be encouraged to use an artificial hibernation site by placing them within a temporary snake-proof fence around the site?

The results of this project should aid in minimizing the impact of future projects on Lake Erie Watersnake populations.

The second project focuses on the impacts round gobies are having on Lake Erie Watersnakes and vice versa. Round gobies, an invasive fish from eastern Europe, have achieved astounding population sizes in western Lake Erie (9.9 billion by one recent estimate) and have become the predominant food of Lake Erie Watersnakes. What is not known is just how many round gobies watersnakes are consuming and whether predation by watersnakes might help limit round goby populations. Peter Jones, a graduate student at Northern Illinois University, will be spending much of the summer at the F. T. Stone Laboratory conducting experiments to answer these questions. Using snakes captured in the wild and held temporarily in captivity, Peter will determine how quickly watersnakes can digest round gobies and how many gobies a watersnake will eat. Pilot experiments conducted by undergraduates at the F. T. Stone Laboratory in 2005 suggest that digestive rates are high—round gobies were more than 50% digested in just 8 hours. In addition, watersnakes can eat a lot of gobies—two snakes, each weighing about 325 g, both consumed 8

round gobies totaling nearly 75 g in just 3.5 hours. That's like a 150 lb human eating 35 lbs of food in an afternoon! Peter will be repeating these experiments with snakes of different sizes and at different temperatures. He will then combine his results with information on watersnake population numbers to estimate the impact that watersnake may be having on round goby populations.

Because the density of watersnakes varies dramatically from location to location within the island region, researchers are also interested in whether the density of watersnakes is greater in locations where round goby density is high. Furthermore, because many watersnakes have been individually marked and captured year after year, it is possible to ask whether watersnake growth rate is greater where round goby density is high.

The answers to these questions have implications not only for management of Lake Erie Watersnakes, but for conservation biology (e.g., the problems posed by invasive species) more generally.

Richard B. King
Northern Illinois University

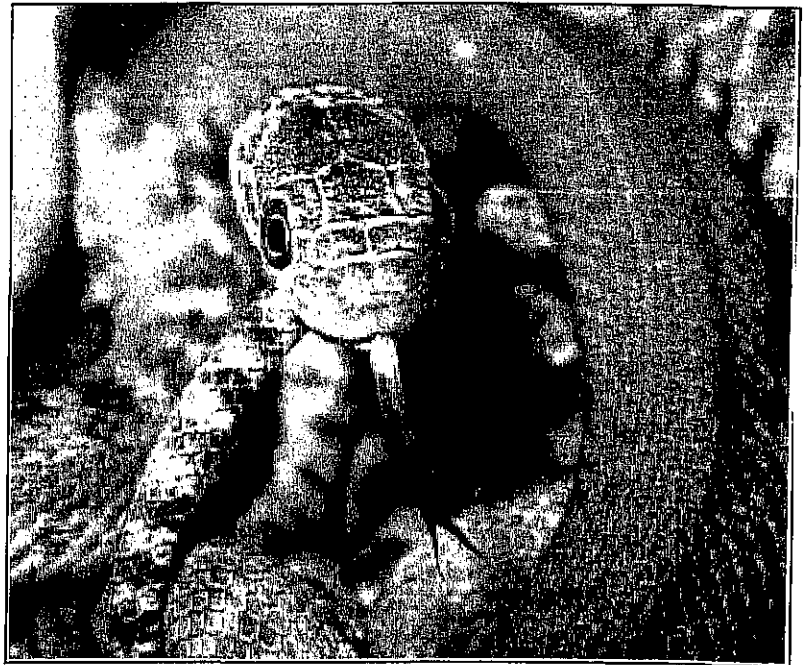
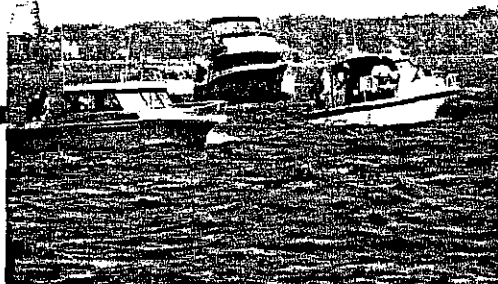


Photo: Kristin Stanford

travel lake erie islands

Angling for Some Fun

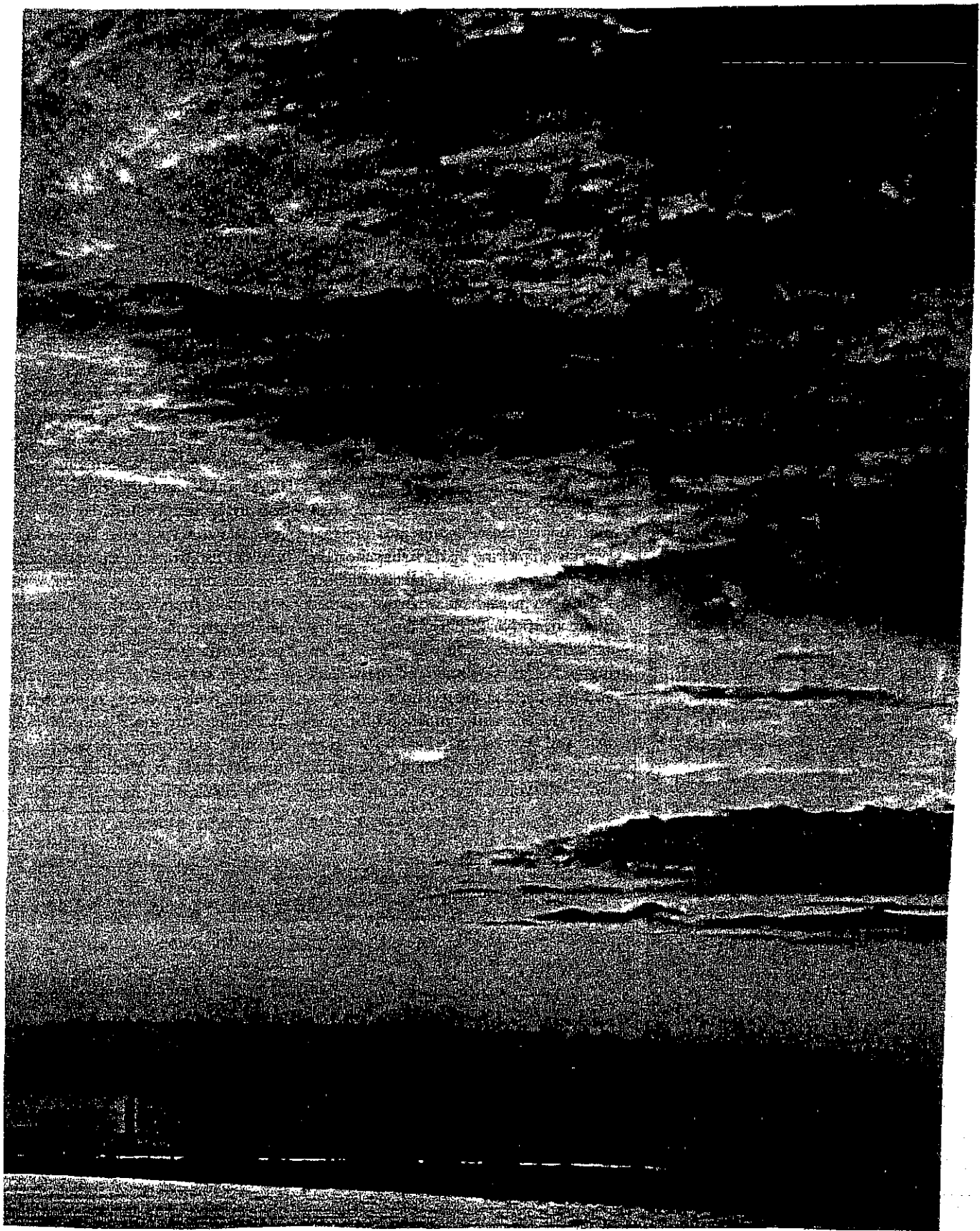
Walleye, smallmouth, yellow perch — they're waiting to take the bait in the waters surrounding the Lake Erie islands. **BY RANDALL EDWARDS**



A perfect summer afternoon:
waiting for the fish to bite
in Lake Erie.

There isn't much that can wipe the look of sullen disdain off the face of a teen-age boy, especially one who has been dragged out of bed before dawn and packed into a car for a two-hour trip to a boat dock. But if anything can turn an adolescent scowl into a grin, it's the unmistakable pull of a fish on the line. We watched it happen, my brother and I, to our two teen boys a couple of years ago on an early-summer walleye excursion to the waters surrounding the islands of western Lake Erie.

It was a measure of Captain Frank Drudi's wisdom that, rather than push the boys overboard for having an attitude, he found them fish instead. We boarded *Miss Chelsea*, a 30-foot



Sportcraft, at a dock in a marina just west of Port Clinton — the self-proclaimed "Walleye Capital of Ohio." The docks were crowded with charter boats, all bristling with loaded rods and carrying coolers filled with ice to keep the day's catch fresh.

The day was overcast with a slight breeze, enough to provide a comfortable break from the day's heat but not enough to whip up the waves. While "Captain Dru" piloted the boat past a large village of lakeshore condominiums and into open water, first mate Mike Sabo explained the basics of trolling for walleye. Teaching the boys how to use the downriggers to set a series of lines in the water proved to be a successful strategy for keeping them engaged in the process long before the fish started to strike. They learned to use the counter reel to set the line at the right depth, and how to set the hook once they spied the rod tip bending toward the water.

Before long, we had the opportunity to put these lessons into practice. We started picking up dark shapes on the fish finder just beyond Green Island, but the action picked up when we reached the reefs off North Bass Island. Soon the captain's shouts of "fish on!" were coming as fast as we could land the walleye and toss them in the fish hold.

As the cheerful competition for most fish and biggest fish began, the boys began to smile. And while it wasn't a day when everyone caught his limit, the trip

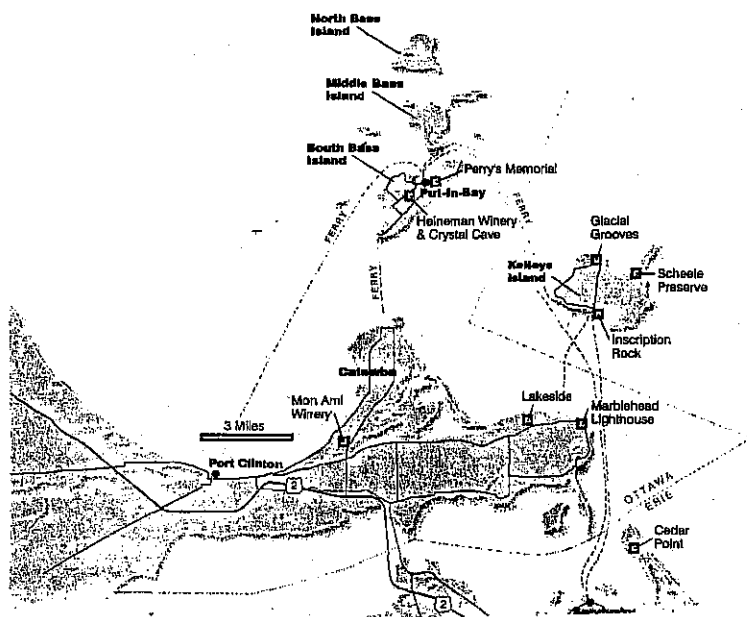
was declared a success even before the fish were breaded, fried and on our plates back in Columbus.

Lots of Lake Erie fishers will be smiling this summer if the biologists' predictions turn out to be true. Exceptional hatches of young walleye between the years 2000 and 2003 have grown into an abundance of large fish. "It's an exciting time to be fishing in Lake Erie," said John Hageman, manager of Ohio State University's Stone Laboratory on Gibraltar Island. "This summer is predicted to be the best fishing in 15 years."

Walleye is the most popular fish caught around the islands, with yellow perch a close second and smallmouth bass third. All three species are abundant in the relatively shallow waters surrounding the Lake Erie islands. In fact, the rocky limestone reefs and islands of the western basin are among the most productive fishing grounds in all of the Great Lakes, and the opportunities to fish are almost endless. For the cost of a license and your own bait and tackle, you can fish from the shore from dozens of docks, piers and breakwaters, or gather a group of friends and pay more to hire an executive charter that often includes your lunch and your beverages.

Most seasons of the year, anglers seeking walleye need to do it from a boat. There are more than 800 licensed charter captains on Lake Erie. Their services can be divided into two types:

■ "Walk-on" charters, which often





are known as "head boats" because they charge by the individual angler. They range in price from \$25 to \$30 per head for a trip that generally lasts six hours. Many require that the clients bring their own bait and tackle. Despite the name, reservations are recommended for walk-on charters, especially on weekends or if you're coming from a distance to fish.

■ Charters such as the *Miss Chelsea*, which hold six or fewer clients (sometimes called six-pack charters) usually charge by the boat, so the cost-per-client varies depending on how many friends

you can get to go fishing. The charter captains we talked with ranged in price from \$375 to \$525 for an eight-hour wall-eye charter, which generally includes ice, bait and tackle, but not the fish cleaning, which is extra. Some services also include "executive charters" for another \$100 to \$200 that can include everything from lunch and beer to photographs of fishermen with their catches.

Hiring a charter is helpful for several reasons. For those who get up to the lake only occasionally, it makes more sense to let a charter captain invest in the boat, the tackle and specialty equipment, such

Fishing FYI

Don't forget the paperwork: Anglers 16 years or older must have an Ohio fishing license — \$19 and available at more than 1,300 outlets throughout the state. Discounts are available for seniors and others.

Know the rules: Fishing regulations, including minimum size restrictions and catch limits, are subject to change each year and vary from one location to another. The daily catch limit for yellow perch on Lake Erie, for example, has increased to 40 fish this year. On the other hand, it's illegal to possess bass caught from Lake Erie between May 1 and June 23 (an effort to combat the effects of predation by an invasive species, the round goby).

To find a license outlet near you, to obtain a pamphlet detailing Ohio sport fishing regulations or a copy of the Division of Wildlife's "Lake Erie Fishing Guide" call 800/WILDLIFE (945-3543). To buy a license online, visit www.ohiodnr.com/wildlife.

For a copy of the brochure "Booking a Lake Erie Charter Fishing Trip," contact Ohio Sea Grant: 1314 Kinnear Rd., Columbus, OH 43212, or call 614/292-4364. You can find more specific information about charter boat captains at North Coast Charter Boat Association, www.northcoast-charter.com/ports.html, or West Sister Charter Boat Association, www.wscba.com.

For additional information about lodging and dining in the islands region, contact the Ottawa County Visitors Bureau at 800/441-1271 or by e-mail at tourism@lake-erie.com. The bureau also operates the Lake Erie Islands Regional Welcome Center at 770 S.E. Catawba Rd. in Port Clinton. Read more online at www.lake-erie.com.

The Division of Wildlife operates a toll-free, recorded line for up-to-date Lake Erie fishing information: 888/HOOKFISH.

as fish finders and GPS units. But it's not just a question of gear, says Hageman. Knowledge of Lake Erie, its fish and their feeding habits is a good guide's most valuable asset. "The spots where the fish are biting change daily, depending on wind direction, recent storm activity and other conditions. [The charter captain] knows the water temperature and the water clarity, and what it means for the fish. And the charter captains are always talking to each other over the radios, telling each other where the fishing has been successful."

The Ohio Sea Grant Extension Program publishes a pamphlet, "Booking a Lake Erie charter fishing trip," filled with ideas about finding a guide for a safe and exciting fishing trip. From the pamphlet and interviews with guides and other experts, we compiled a list of questions to ask when selecting a fishing charter:

What method will we use to fish, for which species? Trolling or drift-and-cast? Walleye or smallmouth? If the walleye aren't biting, is the boat equipped to switch to another species? Different boats are geared to different styles of fishing. Make sure the captain and the members of your party are on the same page.

What are the charter details? Make sure everything is understood before the boat leaves the dock, or before a contract

is signed, says Luther A. Norman, captain of Four Queens Charter in Cleveland. "You need to know things like how long you're going to be on the water, and how long it takes to get to the place where the fish are likely to be that time of year," he adds. Make sure to ask what is provided — rods and reels, bait, lures, ice? Will the captain be willing to add extra time to the charter if the fishing is slow? If so, how much will that cost?

How much is the deposit and under what circumstances will it be refunded? Ask specifics about the deposit, says Chris Sutton, of A-Lure Charters. "You need to find out if they are going to return your deposit on a blow day (when the weather is too bad to fish safely), or if they keep it. Some of the captains won't refund your deposit but they'll promise you another booking. But some are so busy, you won't be able to find a date that works for you for the rest of the year."

Does the charter end when you catch your limit? If you want to spend eight hours on the water, regardless of the fishing, let the captain know. Some head for the dock if everyone has caught the legal limit of walleye, even though it might be possible to switch to another type of fish.

How much instruction or assistance will the captain provide? If your party includes children or other inexperienced

Cooking Your Catch

When asked for their favorite recipes for preparing fish, Lake Erie charter captains tend toward the rudimentary, as if too much preparation will mar the delicate flesh of their hard-earned catch. Or, perhaps more likely, fancy cooking requires too much time, and steals precious hours from time spent on the water. Whatever the reason, the recipes the fishermen offered were quick and easy, emphasizing a bare minimum of ingredients. For more elaborate fish recipes, try the Ohio Division of Wildlife's web site at <http://ohiodnr.com/wildlife/Fishing/recipes/frecipe.htm>

• **Jerry Abele** (Headhunter Fishing Adventures) — Marinate fillets in Italian dressing, wrap them in aluminum foil and cook on an outdoor grill.

• **Chris Sutton** (A-Lure Charters) — Dip fillets into flour and then egg

wash, coat them with panko bread crumbs. Fry in hot oil.

• **Luther Norman** (Four Queens Charter Fishing) — Crush saltine crackers but leave some big pieces. Dip perch fillets into milk and egg mixture, then roll them in the cracker crumbs. Fry them in hot oil. "Then look out. You'll be sticking them in your mouth so fast, you'll be slapping yourself in the face."

• **Fred Snyder** (OSU Extension and Sea Grant) — Take a large serving size and put it on a glass plate. Cover it with something you like — Italian dressing, or butter and garlic powder, or sprinkle on Cajun seasoning — and put it in the microwave for 2 to 2 1/2 minutes. Eat it right off the plate.

• **John Hageman** (Stone Lab) — "I put Frying Magic on wet fillets and deep fry them. It's as simple as that."

travel lake erie islands



Fishing from shore can yield smallmouth bass and yellow perch.

anglers, the charter captain should be willing to help teach the proper techniques.

If the guide is knowledgeable, professional and helpful, a tip is appropriate even if everyone doesn't catch his or her

limit. Charter captains can do everything possible to catch fish, but as every angler knows, sometimes the fish just won't bite. About \$10 a client is a typical tip, or somewhere around \$50 for the boat.

Of course, not everyone fishes from boats, and the western basin's many miles of shoreline are also a very popular place from which to wet a line. While walleye aren't likely to be caught from shore, smallmouth bass can be found among the submerged rocks and pilings, and yellow perch often can be found in shallow waters, although always near the lake's bottom. Catfish and panfish can be found near shore as well.

Fishing from the shore is available on the islands and nearby areas from the following locations:

■ South Bass Island: South Bass Island State Park (on the southwest corner of the island), the breakwall at Perry's Monument, and the dock at the Aquatic Visitors Center (the former state fish hatchery, west of downtown Put-In-Bay).

■ Kelleys Island, from the breakwall at Kelleys Island State Park, on the northern tip of the island.

■ On the Marblehead Peninsula/Catawba Island: from the pier at Catawba State Park; or the Mazurik launch ramp (on Northshore Boulevard, 8.5 miles east of Port Clinton off St. Rte. 163).

There are many more shoreline locations for fishing. Find a list of them, along with some recommendations for bait and equipment, in the Lake Erie Fishing Guide published by the ODNR Division of Wildlife.

Shoreline fishing is an excellent way to introduce children to fishing, as it isn't as expensive as commissioning a charter boat and it's easier to accommodate short attention spans. Nothing ruins a child's appreciation for fishing more than hours of unsuccessful angling.

Whatever the method or the type of fish sought, fishing is an excellent family activity and the Lake Erie islands offer the best in Ohio. ●

The Toledo Local Government Leadership Academy

A partnership was developed through Ohio State University Extension and Ohio State University Sea Grant College Program with the Toledo Area Chamber of Commerce. The educator and Chamber of Commerce representatives talked about local programming, outreach efforts and the needs of the community. Sea Grant Extension offered the idea of a ten-week leadership development programming/outreach effort for local elected and appointed officials, as well as those serving on boards and commissions by appointment or volunteer basis. The proposal from the extension educator was accepted to partner with the Toledo Area Chamber of Commerce and the Leadership Fund to develop a "Local Government Leadership Academy" with a focus to encourage, support and promote good government through a curriculum geared towards leadership and decision making skills as it relates to interaction in the public sector. To date there are ninety-two graduates and we have some really good data from the surveys. Class number six begins in January 2007.



Community Development / Sea Grant Extension Educator Joe Lucente offers instruction to a class on local government leadership development.

Toledo Local Government Leadership Academy Curriculum:

- Public Officials and Public Service
- Conducting Effective Meetings
- Communicating and Working with the Media
- Communicating and Working with Citizens
- Building Sustainable Communities
- Team Building
- Leadership Skills and Styles and Effective Decision Making
- Conflict Management and Dispute Resolution
- Intergovernmental Relations
- Technology in Local Government

Toledo Local Government Leadership Academy- Program Evaluation

In five years, retrospective pre/post test surveys from 2002-2006 indicated a combined **85% overall increase in knowledge gained** from ninety-two participants of the ten-week Toledo Local Government Leadership Academy. All participants received two professional certificates of completion in Local Government Training for their efforts from Sea Grant Extension and the Toledo Area Chamber of Commerce. The program itself is totally self sustaining and is conducted utilizing a mix of state extension faculty and staff, State of Ohio organizations and local level officials. For more information or to get this program started in your area, contact Joe Lucente, lucente@postoffice.ag.ohio-state.edu OSU Sea Grant Extension, Lucas County.

Ohio Township Leadership Academy

The Ohio Township Association (OTA), in conjunction with the Ohio State University Extension Services and Miami University Center for Public Management and Regional Affairs developed and implemented a Leadership Academy for township officials. The purpose is to provide useful programs that will enhance the leadership and decision-making skills of the township leadership team. Classes are available during the OTA's summer and winter conferences. More than 55 classes have already been offered.

Lake Erie Islands

A fascinating past, wonderful present, promising future

By Art Weber
Special to The Press

Best guess is there's something like 35,000 islands in all the Great Lakes combined.

That includes dots that are not much more than a pile of boulders up to the largest island in any freshwater lake in the world — Manitoulin Island.

Most of those islands are concentrated in Lake Huron's Georgian Bay while the Thousand Islands between New York and Ontario account for another 1,500 or so.

But lots of people think the best islands are right here in Lake Erie's Western Basin.

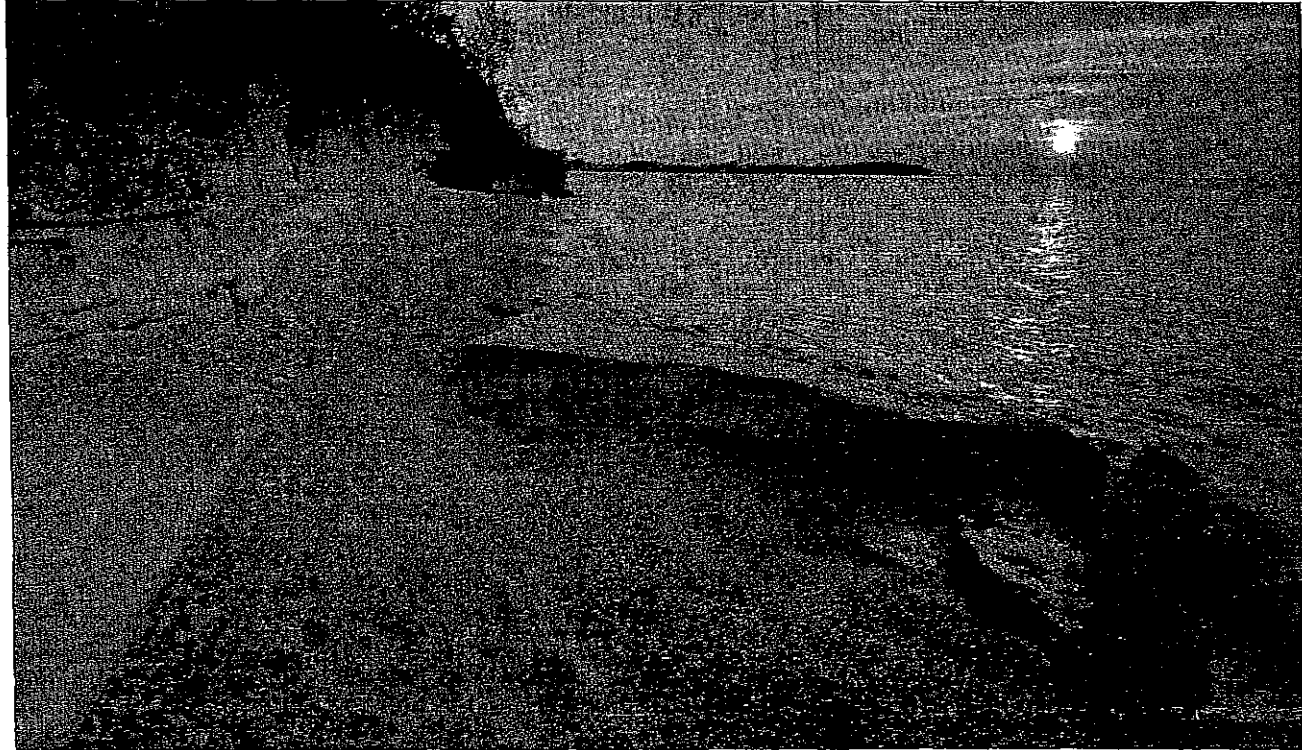
Not that they're fancy places, mind you, just great places.

Best known is South Bass Island, obviously the southernmost of the three Bass Islands.

Ever since Commodore Oliver Hazard Perry used the protected water's of South Bass's Put-in-Bay to anchor his fleet during the War of 1812, Put-in-Bay has been a boater's destination.

It was a wild place when Perry was there, now on many summer weekends it's just plain wild.

South Bass is the most developed of the Erie islands. In warm weather months downtown Put-in-Bay is alive. Storefronts and speakeasies beckon tourist business, much of it provided by the bay's ever-present summertime flotilla of visiting sail and pleasure boats, and the cottages of all shapes and sizes that crowd island avenues



The Lake Erie Islands have a fascinating past to ponder, a wonderful present to enjoy, and a promising future as a tourist destination. (Photo by Art Weber)

Nature has taken a back seat on this third largest of the Lake Erie islands, but you can find it at South Bass Island State Park, Victory Woods, Duff Woods, West Shore Cove, Lighthouse Woods, East Point, Perry Cave, Crystal Cave, and Terwilliger's Pond are all noteworthy islands of nature.

Symbolic of the island's natural riches is the renowned Franz Theodore Stone Laboratory, the biological field laboratory of The Ohio State University and the oldest freshwater lab in the United States. Its offices are on the island at Peach Point, but the lab itself is a stone's throw across Put-in-Bay on Gibraltar Island. The lab's research vessels ply the surrounding waters of Lake Erie researching everything from alien invaders to mayflies and gamefish.

Like the other islands, the natural history of South Bass starts with the rocks and works its way up.

South Bass – or Put-in-Bay as so many people use interchangeably as the island's name – is dominated by dolomite, various Silurian age rock layers that are older than the Devonian limestones of Pelee and Kelleys islands. With the upheaval of the Cincinnati Arch the layers fractured and contact areas between them weakened allowing water to enter and dissolve the minerals, forming caves. Geologists say that most of these domed caves are small and many have collapsed. The largest is Perry's

Cave, the only one of 25 such caves open to the public. Located in the center of the island near Heineman Winery and Crystal Cave, Perry's is 52 feet below the island's surface, as much as 164 feet wide, 280 feet long, and nine feet high. Inside the cave is a pool that rises and falls with the lake levels.

Crystal Cave, also open to the public, isn't a cave at all but a giant geode discovered in 1897 while drilling a 40-foot well. It's reported that the cave's clearance was originally only three feet, but that some crystals were removed for passageways and sold to be used in the manufacture of fireworks.

Though the largest of the Erie Islands on the U.S. side, Kelleys Island is a really cool place, naturally. And compared to the raucous goings-on at Put-in-Bay, Kelleys Island remains a refreshingly relaxed getaway any time of year.

The island's roots in pit mining are still readily apparent, both in active and abandoned quarries. It's even earlier roots in grapes and wine-making are manifested in the fine Victorian-style homes concentrated in what serves as the modest downtown on this largest of Ohio's Erie Islands.

Residents and visitors alike never tire of the great lake views and stunning sunrises and sunsets. Cedar Point Amusement Park is easily seen on the southeast horizon, the Perry Monument on South Bass Island to the northwest.

The real estate may be expensive, but the island's natural treasures are priceless.

Fortunately some of the best features

on the island – locals refer to them as the seven natural treasures – are owned by various state agencies, the Ohio Chapter of The Nature Conservancy, and the Cleveland Museum of Natural History. The list is impressive. Scheele Preserve, Inscription Rock, East Quarry – what the state calls Horseshoe Lake, the North Shore Alvar, the North Shore Loop Trail,

“
The grooves are the
biggest in the world,
and are known
world-wide.
”

North Pond, and, of course, the Glacial Grooves.

The Grooves are the biggest in the world, and are known world-wide. The other areas are real discoveries for most visitors.

It doesn't take a trained naturalist to appreciate the natural beauty on Kelleys Island, especially where the island's rocky coast meets the forces of Lake Erie.

That's true of the other islands, too.

Middle Bass and, to a much larger extent, North Bass enjoy simpler lifestyles than their more southern cousin.

South Bass is like the big city, Middle Bass the smaller sleepy suburban area,

and North Bass a still smaller holdout where isolated and rural America still lingers.

But, with Ohio's acquisition of Lonz Winery on Middle Bass and 602 acres on North Bass Island, everyone now has an important stake on each of the Bass Islands.

Middle Bass, at 813 acres, is fourth largest of the Erie Islands.

The State of Ohio kicked off the 21st century in grand style with the purchase of the 124-acre Lonz Winery and marina complex. Now Middle Bass Island State Park, the castle and the marina are the landmarks, but the real treasures are the natural areas, which include all of the above features as well as nearly a mile of Lake Erie shoreline.

Water-loving reptiles thrive on Middle Bass, with the area along the shoreline important for the Lake Erie water snake and what's said to be the state's highest concentration of fox snakes, a harmless and beautiful species. Records say that the timber rattlesnake was once on the island, but disappeared long ago.

All the Bass Islands and Kelleys are right on busy routes for migrating songbirds so, especially in spring; they're excellent stops for both birds and birders.

All the islands – and there are a host of others including Green, Rattlesnake, West Sister, Starve and Ballast – have a fascinating past to ponder, a wonderful present to enjoy, and a promising future as a tourist destination.

Marion Star, The (OH)
May 4, 2006

Hooks & Bullets:

Ohio hunters harvested 3,058 bearded wild turkeys on the first day of the spring season, up 8 percent over last year's opening day harvest of 2,824 turkeys. "An increase in turkey abundance coupled with nice weather resulted in a higher number of turkeys harvested during both the youth season and opening day of the spring turkey season," said wild turkey project leader Dave Swanson. Top counties for wild turkeys killed were Athens (144), Guernsey (120), Meigs (116) and Ashtabula (114). In our area, Marion County hunters bagged three gobblers, Delaware five, Wyandot five, Morrow 42 and Hardin County gunners five.

People wishing to become certified hunter education instructors are invited to attend a two-day training workshop May 20 and 21 at the Wildlife District One office in Columbus. Individuals must complete a volunteer instructor training workshop in order to become a certified hunter education instructor. They must be at least 18 years of age and have successfully completed a hunter education course. Ohio currently has 1,700 volunteer instructors who train hunters to be safe and responsible in the field. For registration materials, call 1-800 -WILDLIFE.

Have a question about Lake Erie? Ohio Sea Grant has seen the writing on the Web wall, and has formed a discussion board at www.ohioseagrant.osu.edu/discuss, which is a venue for fishermen, boaters and others with technical questions. "This differs from e-mail in that instead of responding to one person, it shares the answer with everyone," said Fred Snyder, program co-leader for Ohio Sea Grant. Today, the board is OSG's most frequently accessed page with at least 11,000 hits each month.

Dick Martin is an outdoors columnist for The Marion Star.

Page: B6

Index Terms: Local Sports

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Record Number: mri24054543

05.06.2006. "Dead fish piling up" PORT CLINTON NEWS HERALD

Dead fish piling up on shore

By KRISTINA SMITH *E-mail Kristina Smith at mksmith@fremont.gannett.com.*

CATAWBA ISLAND -- When Bob Gedert went out to the beach by his Sand Road home Friday morning, he saw more than a hundred dead fish.

Gedert, 80, and his wife buried at least 40 fish found on their land in their backyard Friday to keep maggots and flies from infesting their property.

The Gederts neighbor, Roger Akins, 57, said he also buried at least 40, but has been finding dozens of dead fish on his property regularly in the past two weeks.

"They're big fish -- sheephead, carp, some walleye," Gedert said. "We don't know what's going on. This is the worst I've ever seen, and I've been around the lake all my life."

In the past two weeks, scores of dead fish have been washing up on Catawba Island and Port Clinton. For the past few days, there seem to have been large numbers of sheephead, a large species that is not considered a prized sport fish, dominating the rotting piles, said **Fred Snyder, Ohio State University Sea Grant specialist.**

"That seems to have generated a lot of excitement over the past couple days," said Snyder, whose office is at Camp Perry in Erie Township.

The high amount of dead fish and concerned residents' reports prompted the Ohio Department of Natural Resources, Division of Wildlife, to send some of the fish to a U.S. Fish and Wildlife lab in Wisconsin to be analyzed for potential viruses or bacteria.

Despite locals' worry, Snyder said the fish die-offs are not unusual. And whether the lab shows what is killing the fish or not, there may not be anything biologists can do to stop it, Snyder said.

"We get this every year," he said. "Fish get stressed through the winter. They're resistance gets down, just like people."

In 2002, sheephead, known to fish biologists as freshwater drums, were found washed up on Catawba Island in mass quantities as well, he said.

Earlier this year, bass and bluegill were turning up dead.

The amount of dead fish tends to vary annually.

"We often see after mild winters a larger number dies off," he said. "Why that is, we're not sure."

It is likely a virus or bacteria has infected the sheephead and caused the kills, he said. Dying fish probably are weakened or have some type of physical strain, such as low body fat, he said.

"Whatever the disease pathogen out there is, it does recur," he said. "It's just always happened and ~~pathogen out the~~ always will happen. The lake would be flowing with (dead) fish if they were all being killed!" ~~The lake would be~~
Biologists at the Division of Wildlife Fish Research Station in Sandusky were not available for comment.

05.06.2006. "Dead fish piling up" NEWS MESSENGER

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05.06.2006. "Dead fish." WTVG TV

SHOW: News 5:00 PM ABC

June 5, 2006 Monday

LENGTH: 58 words

STATION: 13 WTVG
Toledo, OH

BODY:

Dead fish washing up along the shore in Port Clinton at Lake Erie. F: of the lake. I: Kim Johnson, Port Clinton beach goer. F: of the beach and dead fish. I: Kim Leonard, visiting from Ypsilanti. Ohio Dept of Natural Resources has testing done to determine why. I: Fred Snyder, Ohio State Extension Specialist. I: Mayor Tom Brown, City of Port Clinton.

LOAD-DATE: June 7, 2006

05.08.2006. "Dead fish." WTOL TV

SHOW: News 5:00 AM CBS

May 8, 2006 Monday

LENGTH: 36 words

STATION: 11 WTOL
Toledo, OH

BODY:

Thousands of dead fish are washing up on the shore of Lake Erie near Sandusky, Cataba Island, and Port Clinton. Wildlife officials are not sure why. I; **Fred Snyder**, Ohio State University. List of possibilities of reasons.

LOAD-DATE: May 10, 2006

05.08.2006. "Bullying fish invading Lake Erie." COLUMBUS DISPATCH

Bullying fish invading Lake Erie

May 8, 2006 - COLUMBUS, Ohio (AP) - A study shows one of the most popular sports fish in Lake Erie is being threatened by a foreign bully that hitchhiked on ships from the Black Sea.

The round goby has gotten a reputation for wiping out the popular smallmouth bass.

A study from Bowling Green State University shows the goby not only eats smallmouth eggs, but also chases young fish away from the insects that both species eat.

A Bowling Green biologist says that slows the smallmouths' growth, making them easy targets for bigger fish.

Because of the problem, the state has put restrictions on smallmouth fishing. Any smallmouth caught from now to June 23rd must be thrown back.

But the smallmouth does have one weapon: once they grow to two inches, they eat the gobies.

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SECTION: NEWS; Pg. 01A

LENGTH: 519 words

HEADLINE: LAKE ERIE'S GOBIES;

Foreign fish is stifling smallmouth bass in Ohio

BYLINE: Spencer Hunt, THE COLUMBUS DISPATCH

An ugly little bottom dweller from the Black Sea has been a bully since it moved into the Great Lakes.

The round goby, a 6-inch-long fish that reached the Great Lakes in the ballast of foreign ships several years ago, has developed a reputation for wiping out the smallmouth bass, one of the most popular sports fish in Lake Erie.

It had been thought that the goby simply ate smallmouth eggs, killing off the fish before they had a chance. But a new Bowling Green State University study shows the goby carries a one-two punch.

Gobies also chase young smallmouths away from rocky bottom areas and the insects that both species eat. This slows the smallmouths' growth and makes them easy prey for bigger fish, said Chris Winslow, a Bowling Green biologist.

"Basically, it's a competition for prime eating areas," Winslow said. "The goby is very aggressive."

How bad is the problem? In 2003, the state restricted smallmouth fishing.

Smallmouth bass are the third most popular sports fish among Lake Erie anglers, behind walleye and yellow perch, said Jeff Tyson, supervisor for the Ohio Department of Natural Resources' Sandusky Fisheries Research Unit.

The agency recently named Lake Erie as Ohio's top spot for catching smallmouth bass.

But any smallmouth caught from now through June 23 must be released to help adult fish guard their nests, Tyson said. State biologists think gobies raid unguarded nests to dine on the eggs.

The state hopes the restriction will help the smallmouth rebound. In the 1990s, anglers could catch about one smallmouth per hour. Today, it takes about two hours.

The Bowling Green study shows that the goby makes life hard for smallmouth hatchlings. The hatchlings typically spend their first summer feeding on aquatic insects until they grow to about 2 inches.

Young smallmouths that shared mesh cages with gobies in Lake Erie grew as much as 65 percent slower than smallmouths in cages with no gobies, Winslow found.

Gobies lose their advantage when smallmouths grow. Once the fish reach 2 inches, they eat the gobies.

With as many as 10 gobies per square meter, the eating is good, Winslow said.

"The smallmouth that do live grow to be huge because there is so much food for them," he said.

Groups that represent anglers said the study emphasizes the need for stronger protections for the Great Lakes. A new rule requiring that ships dump foreign ballast water in the Atlantic instead of the Lakes isn't working, said Larry Mitchell, president of the League of Ohio Sportsmen.

Mitchell said the water that ships dump in the Great Lakes still contains sediment and muck that hold seeds and eggs of foreign plants and fish.

Brian Preston of the National Wildlife Federation, an avid Lake Erie bass angler, said Ohio might want to ban all smallmouth fishing during spawning season.

"It may be necessary to remove a month's worth of fishing to protect this resource," Preston said.

Tyson said he hopes that the catch-and-release restriction will work.

"(Smallmouth) don't get big enough to catch and keep until they are about 4 years old," he said. "We're about two years into this program."

shunt@dispatch.com

LOAD-DATE: May 8, 2006

05.11.2006. "Stone Lab, Sea Grant awards scholarships." OSU TODAY

STONE LAB, SEA GRANT AWARD SCHOLARSHIPS

-- The Friends of Stone Laboratory and the Ohio Sea Grant College Program reviewed outstanding science projects from participants at the Ohio Academy of Science's State Science Day, held Saturday (5/6) on the OSU campus, and awarded scholarships to seven outstanding high school students. The scholarships cover the cost of room and meals in a one-week introductory course taught at Stone Lab. The scholarship program was initiated as part of the 100th Anniversary Celebration for Stone Laboratory in 1996. The seven scholarships awarded this year brings the total number awarded since 1996 to 70.

-- > CONTACT: <mailto:reutter.1@osu.edu>

-- > SEE: <http://www.sg.ohio-state.edu/>

Bigmouth gobies vs. smallmouth bass

Egg-eating pests linked with cutting the size of Erie's popular sportfish

The problem with smallmouth bass in Lake Erie is that they are just too good and too popular a gamefish.

The problem with smallmouth bass in Lake Erie is the round goby.

Take your pick of the foregoing statements, but they will take you to the same place, for they are intertwined.

Gobies are the olive-green, bug-eyed, pesky little pest-fish that were carelessly, thoughtlessly dumped in Lake Erie by international shipping's ballast water, thanks to continuing federal laxity in regard to Great Lakes protection. Their populations have exploded.

It is well established that gobies, an invasive forage species from Eurasia, are egg-eaters extraordinaire which will devour the spawn in unguarded smallmouth nests in short order. Which is why the Ohio Division of Wildlife, wary about wavering smallmouth production and rising sport-fishing pressure, opted for the catch-and-release-only rules during spawning time, May 1 through late June, two years ago.

The reasoning is that allowing a smallmouth guard-male to return quickly to its territory after being caught, will help protect the nest. The release-rule, along with reduced daily creel limits, five instead of eight, and a higher minimum keeper length, 14 inches instead of 12, have helped. So has the growing voluntary no-keep practice of many sport-anglers. Many fishermen call it CPR - catch, photograph, release - and they do so always, not just in May and June.

But fisheries researchers still struggle with finding a viable method to sample a given year's production in a more timely way. As it stands now, biologists do not know how well a given smallmouth year-class really is doing until four, five years down the road. This stands in contrast to easier-to-sample walleye and yellow perch, spawning success of which can be told by fairly straightforward annual trawling surveys in open water. It is a management dilemma.

Now comes research from a Bowling Green State University doctoral candidate that shows gobies are worse than just nest-robbers. They are bullies with young-of-year smallmouth.

Chris Winslow, a BGSU biology instructor working on a Ph.D. in aquatic ecology, has spent the last two summers measuring the impact on the growth rates and survival of young smallmouth - less than two inches - in work partly funded by the Ohio Sea Grant program.

Both young gobies and young smallmouth prefer rock, rubble, gravel, and sandy bottoms over open water. But the goby's aggressive, competitive nature intimidates young smallmouth, Winslow found. Using scuba gear, he placed mesh cages at the bottom of the lake to observe goby-smallmouth interaction.

When young smallies are left alone they preferred the bottom of the cage, close to food and cover. When gobies were present they drove the young smallmouth to the top of the cage. As a result, smallmouth in cages with gobies were just half the size of those in cages with no gobies.

Not only did gobies force young smallmouth to feed in the higher, less food-rich water column, their aggression exposed the young bass to greater predation.

"I'm showing a lot of stress when you're a little bass," said Winslow. "But Jeff Steinhart is showing that you can grow well [as a bass] if you can make it to 45 mm [about two inches]."

At two inches, young smallmouth switch from small bottom creatures called macroinvertebrates - larval insects - to small fish. Like gobies. "As soon as you can switch to fish, life is grand," says Winslow. Steinhart, now at Cornell University, conducted his smallmouth-goby research while at Ohio State University. His work showed that smallmouth growth rates took off once they reach 1 1/2 to two inches.

So early on smallmouth must make it past two goby hurdles - egg predation on the nest, and territorial intimidation until they grow big enough to turn the tables.

The story is muddled as it often is with exotics," said Jeff Tyson, Lake Erie fisheries research supervisor for the state. "Gobies may have a negative impact early and a positive impact later." But from the standpoint of a fisheries manager, Tyson adds, "any exotic is going to have a negative impact because of the uncertainty it introduces into the system."

He added that biologists will not be able to fully assess the impact of the catch-and-release season for another two years. He noted that the fishery "still has a lot of older, bigger fish," and creel surveys in 2005 indicated that a lot of anglers released "throwbacks," that is, bass under the 14-inch keep length. The presence of such sub-legal fish is a good sign, looking backward at previous hatches. Last year some young-of-year bass turned up incidentally in yellow perch survey-trawls. But Tyson points out that those simply are anecdotal, not scientifically grounded, indicators of good things. Winslow at the same time notes: "You could potentially see some huge trophy bass because of gobies [as a food-source]. Insects are just not as energy-rewarding as fish. The question is going to be whether you see the numbers [of bass]."

Another concern surrounds contamination of smallmouth bass by gobies when bass are used as food for human consumption. That is because gobies are "bio-concentrators" of nasty chemical contaminants.

Another infamous character in the Rogues Gallery of invasive species, the zebra mussel, concentrates PCBs from the water and sediments by their filter-feeding. In turn, gobies eat zebra mussels and further concentrate PCB levels in their flesh. Smallmouth feeding on gobies thus get a megadose of PCBs that eventually could put some of them into the do-not-eat category for humans. That will mean nothing to catch-and-release anglers. But it will to catch-and-eat folks. (An aside to anglers: Find baits that mimic gobies in size and color and make them "swim" like gobies to boost your success.)

Gobies, of course, are not the be-all and end-all of smallmouth production considerations. Prolonged storm events at the wrong time (during spawning and nesting) can wreak their own havoc, for example.

But a big remaining question for more goby research is how well young smallmouth survive beyond that critical two-inch size. Sums Winslow: "There is still a whole can of worms to be opened."

Contact Steve Pollick at: spollick@theblade.com or 419-724-6068.

Steve Pollick is The Blade's outdoor writer

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» Read more Steve Pollick columns at www.toledoblade.com/pollick

Normally, phosphorus in the lake would bind to a solid, sink to the bottom and be buried under the mud, said Dave Culver, a professor of biological sciences at Ohio State University and part of the research team.

But the mussels eat the algae and secrete nitrogen in the form of ammonia and phosphorus in the form of phosphate. That keeps the phosphorus re-circulating.

It's also bad news because the mussels are a source of ammonia and phosphates that Lake Erie did not have before, Culver said.

"We're a lot better off than we were 30 years ago," he said. "But it appears to be getting worse. A lot of convenient things [that] we can fix have been fixed. That's why I'm concerned."

During the 1970s and 1980s, state and local governments spent billions of dollars to improve sewage treatment plants, which were the No. 1 source of phosphorus in the Great Lakes. Phosphates were removed from detergents.

By the mid-1980s, Lake Erie phosphorus had been cut to 12,100 tons yearly, which was believed to be an acceptable level.

Then the zebra mussel arrived. Since then, phosphorus levels have gone up.

Zebra and quagga mussels have disrupted the food web as well.

Tiny phytoplankton, the start of the food chain that once hung in the water column, are being removed by the mussels. That allows sunlight to penetrate deeper, stimulating growth near the bottom.

More of the aquatic life in Lake Erie has moved to the lake bottom, where the mussels are, research has proven.

"Clear water where you can see real deep does not necessarily mean things are better," Matisoff said.

Researchers estimate that two-thirds or more of the phosphorus entering Lake Erie comes from runoff during storms.

"We will need to focus some of our land management issues toward trying to keep the soil on the land and the nutrients on the land," Matisoff said.

The team of 27 government and academic researchers has written more than 20 papers on their work, which started in 2003.

They will be published in the Journal of Great Lakes Research in June, he said.

To reach this Plain Dealer reporter: jkuehner@plaind.com, 216-999-5325

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Research Says Sound Waves Could Remove Lake Erie Sediment

COLUMBUS, OH-New Ohio Sea Grant research has found that ultrasound might remove contaminants like polychlorinated biphenyls (PCBs) and heavy metals from Lake Erie sediment quicker and cheaper than any current remediation options.

The technology uses alternating compression and expansion cycles of ultrasound waves that create millions of tiny bubbles. These bubbles expand, contract and then collapse to generate pressures up to several thousand pounds per square inch and temperatures as hot as the surface of the sun.

Researchers say within the first 15 minutes of the ultrasonic process, less than two-thirds of PCBs remained in the water and sediment. After 50 minutes of ultrasound, more than 95 percent of the PCBs had been separated and degraded from the particles. Researchers are also testing the technology's effectiveness on the polluting trace metals nickel, chromium and mercury. They say the hope is that a specialized system attached to a ship could treat the sediment without harming wildlife and fish.

MAY 26, 2006

Government inaction

Two quarters won't stretch very far financially these days, and side by side they go only a couple of inches.

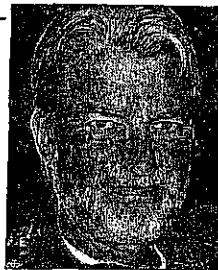
But two inches is a lot more important than the equivalent of half a buck if you are a young-of-year Lake Erie smallmouth bass. It may mean life itself. It may be about finding a good dinner and not being a dinner.

Ongoing research into the role of the round goby in the life of the smallmouth suggests that making it to a length of two inches or so – actually, the size at which a young smallmouth switches from being an aquatic bug-eater to a fish-eater – is critical in a smallmouth's long-term survival.

The goby, of course, is that pesky, bug-eyed Eurasian pest-fish that was unceremoniously dumped into the Great Lakes by federal and international laxity in controlling ballast water in overseas shipping. (In case you haven't noticed, Washington does not give the Great Lakes region, the North Coast, home to the world's largest pool of precious fresh water, anywhere near the respect it should. It just does not seem to be as politically sexy as the saltwater coasts.)

Well, then: Chris Winslow, a biology instructor at Bowling Green State University, recently did some bass-goby research partly funded by the Ohio Sea Grant program. He donned scuba gear and took mesh cages to the lake bottom. He found that very small young smallmouth did just fine when left alone in a cage, hugging the protection and enjoying the rich food-pickings of the rock, gravel, and sandy bottom

OPEN SEASON



BY STEVE POLLICK

But when gobies were mixed in with the bass in the cages, they drove the less aggressive smallmouth upward in the water-column, hogging the food-rich haven for themselves and driving the bass into the predator's no-man's-land of the open upper water-column, with its slimmer food pickings and heightened danger of being eaten. Winslow found, moreover, that young smallmouth growth rates in the gobies' presence were half those of goby-free smallmouth.

Researcher Jeff Stinehart, however, found that once smallmouth reached about two inches in length, they switched

exposes fragile Great Lakes

from bottom bugs to small fish, such as young of year gobies. The switch to fish-food greatly boosted smallmouth growth and survival. Stinehart, now at Cornell University, did his work while at Ohio State University.

So, the trick for smallmouth is make it past the goby gauntlet. Gobies are notorious egg-gobblers infamous for their robbery of unguarded smallmouth nests. That is one of the main reasons the DNR Division of Wildlife two years ago closed the smallmouth possession season May 1 until the third Saturday in June. The idea is to allow even guard-

males pulled off nests by sport fishermen to quickly return to goby surveillance.

Unfortunately, that is not the end of the smallmouth-goby saga. Though gobies are prime bass-fattening food, they may be bringing along an unsavory side-dish, chemical contamination.

Along with smallmouth eggs, gobies among other morsels feed on zebra mussels, another infamous invasive pest, thank you very much. Turns out that the mussels, which are filter-feeders that can siphon a quart of water a day, each, strain out contaminated sediments and micromorsels containing PCBs and other persistent chemicals. The contaminants are leftovers from the era of environmental ignorance and irresponsibility; some of them still are dumped or fall on the Great Lakes as toxic rain. In any case, zebra mussels "bioconcentrate" PCB levels in their tissue.

In turn, gobies eat mussels and further concentrate the contaminants. Smallmouth that eat gobies may be getting a food-chain megadose of PCBs

or other contaminants. It remains to be shown whether the contaminants will reach human health-threatening levels in at least some larger bass.

The contaminant issue, of course, means nothing to the pure catch-and-release angler, of which there are many, at least according to what so many anglers claim. However, a large body of anglers also is catch-and-eat types. They need to pay attention to the annual health advisories on fish consumption issued by the Ohio Department of Health. A link can be reached by visiting the state web site, www.ohiodnr.com.

Sadly, little can be done to halt the goby explosion now. It can only be hoped that through a combination of conservative fishing regulations, successful hatches, more insightful research, and some good luck that the smallmouth will remain a strong play on the lake's sport fishing scene. With invasive species, the solution is prevention, not the equivalent of slamming the barn door after the horse has run away.

The tale of the smallmouth and the goby, with a rogue supporting role by the zebra mussel, is yet another chapter in the ugly book on invasive species allowed into the Great Lakes by federal and international inaction, by a lack of swift movement to strong protections. Most of the efforts so far have been painfully slow, too slow and incompetent to achieve the goal of conserving native lake species.

Oh, and in case you weren't looking, the New Zealand mudsnail, another invasive species, was documented recently in Duluth-Superior harbor in western Lake Superior. The habitat-wrecking, food-hogging bighead carp lurks in the Chicago Ship Canal, 25 miles from potential devastation of Lake Michigan (and then the rest of the lakes). Uh huh.

To paraphrase a famous old saying, while the Great Lakes (Rome) burn, Washington (Nero) fiddles.

Experts say Lake Erie fishing is safe

May 29, 2006 - Memorial Day weekend marks the beginning of the Lake Erie fishing season. Experts say despite recent scares, fish test "ok"

CLEVELAND - - The holiday weekend marks the traditional start of the Lake Erie fishing season, and wildlife experts say the fishing is safe despite recent scares involving a virus affecting sheepshead and a die-off of perch.

"I don't see any problem with touching or handling or being exposed to any of those fish," said John Hageman, laboratory manager and Ohio Sea Grant extension agent at Put-in-Bay in the Lake Erie resort islands near Sandusky.

The biggest issue for people who want to enjoy Lake Erie would be rotting fish that could make the lakeshore smell and raise bacteria levels in near the shore, Hageman said. "The sheer numbers (of dead fish) are going to cause problems as they decay," according to Hageman.

Last year Ohio sold 872,000 fishing licenses. This year's sales through April, at 272,600, were up more than 10 percent over last year.

The traditional start of the season comes after back-to-back scares involving sheepshead, also called freshwater drum, and yellow perch, a Lake Erie favorite. Yellow perch have been dying off in Lake Erie's Central Basin area near Cleveland, but appear to be OK in the Sandusky area's Western Basin.

Kevin Kayle, a state fish biology supervisor at Fairport Harbor northeast of Cleveland, said officials are observing from 50 to 500 dead yellow perch when they examine shores from the Vermilion-Lorain area extending east to Pennsylvania. Most are in the 5- to 8-inch range, indicating they are likely in their first spawning cycle and hatched three years ago.

Yellow perch are the most valuable commercial fish harvested from Lake Erie and generally are rated the tastiest by anglers in Ohio. If properly cleaned and prepared, the perch remain safe to eat, Kayle said.

Officials had initially suspected a virus was to blame for the deaths but some now believe they may have died in commercial trap nets. "We had our pilots fly over offshore waters to see if there was a perch kill related to commercial trap nets," said Gary Isbell, head of fisheries management for the Ohio Division of Wildlife. "They spotted plumes of dead perch coming from the side of the commercial fishing boats as they pulled their trap nets a few miles north of Lorain."

Perch caught in deep-water nets and hauled to the surface can be harmed by a change in pressure. Fisheries experts say perch could also be stressed from being crowded in the trap nets. But fisheries biologist Chris Vandergoot in Sandusky said the perch deaths should not be blamed solely on commercial fishing. "Dead yellow perch have been reported in the Fairport Harbor and Conneaut areas, far east of where commercial nets have been set," he said.

Perch sent to the U.S. Fish and Wildlife Service laboratories in La Crosse, Wisconsin, for testing showed no signs of a virus.

Fish experts tracking the yellow perch problems have identified a virus as the cause of an earlier die-off of the less-desirable sheepshead in the Sandusky-Huron area. The virus appears to have run its course, and the sheepshead population seems to be strong, biologists said.

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05.27.2006. "Experts: fishing safe despite sheepshead virus, perch die-off." SYRACUSE POST STANDARD (NY)

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05.28.2006. "Fishing in Lake Erie is safe despite scares, experts say." CINCINNATI ENQUIRER

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POSTED: 10:33 am EDT May 28, 2006

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05.29.2006. "Experts: Lake Erie fishing safe despite virus, perch die-off" Fort Wayne News Sentinel

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Associated Press

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05.30.2006. "Lake Erie fishing safe." VINDY.COM KNOXVILLE TN

REGION

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June

SEA GRANT

Ohio Sea Grant conducted its second successful Great Lakes Fishery Leadership Institute with 11 participants June 2-4, 2006. Nine of nine evaluation respondents plan on sharing the information they learned with others. Post program evaluation scores were very positive and ranged from 4.6 to 5.0 on a 5 point scale indicating that participants felt they had learned new knowledge about fisheries management, Lake Erie issues and other topics.

The Fairport Rod and Reel Association for the 13th time donated \$250 for a student scholarship to OSU Stone Lab.

SEA GRANT

The ODNR Division of Wildlife, Fairport and Sandusky Fisheries research stations have added five economic items to the shoreline creel survey begun May 2006. These items will allow Ohio Sea Grant investigators to estimate the economic value and fiscal impact of the Lake Erie shoreline fishery. This type of fish creel is conducted only once every 10 to 12 years.

EPA Administrator Stephen L. Johnson joined Ohio Governor

Bob Taft, U.S. Rep. Steven C. LaTourette, other government officials and local partners in Ashtabula, Ohio, to celebrate the beginning of a \$50 million project to clean up contaminated sediment from the Ashtabula River, a tributary to Lake Erie. The federal-state-local cleanup project will be carried out under the Great Lakes legacy Act of 2002, a special initiative aimed at cleaning up 31 toxic hot spots known as "areas of concern"

around the Great Lakes. The Ashtabula River cleanup is Ohio's first legacy Act project.

Leroy Hushak and Frank Lichtkoppler were awarded a \$10,000 Lake Erie Protection Fund small grant to begin the estimation of the economic benefits of the Ashtabula River cleanup dredging.



4-H Sea Camp Charter
June, 29, 2006

Ohio's 23rd 4-H Sea Camp took place on Kelleys Island from June 26 to June 30 this year.

LEBA sends a special thanks to Ohio Sea Grant and all the LECBA charter Captains who participated!

There were a total of 90 kids, ages 13-17, enrolled for the five day camp. The idea behind 4-H Sea Camp is to get kids outside and exploring recreational opportunities on the water.

All of the kids participated in activities such as lure-making, kayaking, snorkeling, jet skiing, and sailing. As usual, the highlight of the week was the Lake Erie charter fishing trip.

Fifteen charter boats converged at the Kelleys Island Seaway Marina to pick up the eager young anglers. When all of the boats had returned at the end of the day, nearly 400 walleye and 40 yellow perch were caught. It was another great year at Sea Camp!



Kids caught ,em

Kelly Riesen
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Firewood with risk of Emerald Ash Borers not welcome to the islands

by John Hageman

There's a killer being seen with increasing frequency in Southeast Michigan and several locations in Ohio and, without intervention, it could visit the Islands this summer. It's the Emerald Ash Borer, an insect that carries a death sentence for every ash tree in its path. Their feeding habits effectively girdle the area under the bark of living ash trees, killing them within five years. There is no known antidote or medicine that has been proven effective to reverse the insects effect.

The islands are home to several Ash tree species-white, green, blue and red to be exact. In general, they are tolerant of low wet soil types, but can survive in higher, dryer areas as well. They are a widely used, fast-growing shade tree

and a valuable, durable tree species used for wood products such as baseball bats, tool handles, and firewood due to its short seasoning time and high heat output.

Ever since the emerald ash borer was discovered in Southeast Michigan, it has been spreading both slowly and quickly -slowly under its own power, but quickly and much less predictably, with the help of people illegally moving ash tree nursery transplants, logs, firewood or wood chips. It spread on its own throughout Southeast Michigan, across the international and state borders into Ontario and Ohio, then was transported by someone that infected Auglaize, Delaware, Ottawa, Erie and Lorain Counties. Because of the widespread range of the insect in Erie, Ottawa and counties to the west, movement of firewood within these counties is not prohibited, EXCEPT TO THE LAKE ERIE ISLANDS.

Due to the recent cool, wet stretch during May, June will likely see the peak emergence of mature, emerald ash borers from infected Ash trees and cut ash tree logs and firewood from the areas with known infestations. For this reason, June is a critical month to be extra diligent in keeping all freshly cut firewood from coming over to the islands.

The Miller Boat Line has the unfortunate distinction of being the funnel for nearly all of the likely pieces of firewood that will ever get to the other Islands, not including Kelleys, as the only carrier of vehicles headed for the campgrounds on South Bass and Middle Bass and as, at least, a connecting leg for the journey to the smaller, privately owned Islands.

With homeland security a much greater issue to deal with than insects, firewood detection is low on the boat line's priority list, but hopefully, people will notice the sign that is posted at the entrance to the Catawba dock that warns that "firewood is illegal to transport to the Islands-punishable with a fine of up to \$4,000."

The Miller Boat Line and the Put-in-Bay Chamber of Commerce are posting a link on their web sites to the Ohio Department of Agriculture Firewood Alert www.ohioagriculture.gov/eab/ in an attempt to provide education to would-be firewood carriers. All island businesses that host campers or allow campfires are urged to follow suit. To our Island guests, if you accidentally brought ash firewood to the Islands, do us all a favor and burn every piece of it before you leave!

Cormorant cull (kill) finished for 2006

by John Hageman

The Ohio Department of Natural Resources, Division of Wildlife, has completed the first of what may be an annual thinning of double-crested cormorants off the Ohio Lake Erie Islands. Since it is a migratory bird, afforded protection in Canada, the U.S. and Mexico by treaty from unregulated shooting, permission had to be granted from the U.S. Fish and Wildlife Service to conduct this controlled kill. Their tool was a silenced and scoped .22 caliber rifle.

The purpose of this cull is to protect the native woody vegetation, reduce competition for nesting space with other colonial wading birds such as common (great) egrets, great blue herons, black-crowned night herons and other rarer birds that rely on the secluded island wildlife sanctuaries of West Sister, Green and Turning Point (in the Sandusky Bay) Islands and also to prevent Cormorants from beginning new colonies on any other Ohio Islands. The highly acidic droppings cause the defoliation of the trees, which eventually die, and eliminate potential nesting sites for the other birds, who are quite picky about where they are willing to nest.

For humanitarian reasons, only birds that were in the process of nesting, but without newly hatched young, were targeted. This gave the biologists only about a 2-3 week window of opportunity, but despite less than ideal weather, they virtually met their maximum approved numbers on each island.

On West Sister, their maximum allowed number they had permission to kill was 4,626 and they killed 4,320. On Green Island, they were allowed 1,714 and took 1,468 and took 80 of the 80 allowed on Turning Point Island, leaving approximately 400 nesting pairs there. Unfortunately, their goal of eliminating all nesting pairs from Green Island wasn't achieved, as leaf cover hid birds and reduced a thorough kill, and some are successfully nesting there.

They will repeat the process next year, and hopefully eventually get the birds down to a tolerable population level.

A Flagship for the Islands

By Kristin Stanford "the island snakelady"

Wildlife conservation often focuses on large, highly charismatic, well-liked animals such as Giant Pandas, African Elephants, and Sea Turtles; or alternatively, as I like to say, the "cute and fuzzies". Although many conservation campaigns focus on these animals (e.g. Save the Whales!), often the actual act of "saving" them also protects their habitat and all of the other species that thrive within.

These animals are known as flagship species; a concept many conservation organizations strongly support. The World Wildlife Fund, for example, has been actively involved in the conservation of the Giant Panda and has used one as its logo since its inception in 1961. In their drive to "Save the Panda," they have diligently worked with the Chinese government to set up over 50 panda reserves, thereby protecting more than 10,400 km² of mountain forests and countless numbers of other species living there. It's truly a victory for conservation, as well as a great example of what the island community can surely follow!

No, that was not a typo.

Now, I know we don't have Pandas, and we may not really even have any large, highly charismatic, well-liked mammals (besides Pat Daily) that can act as our ambassador of island conservation. However, we do have an animal that fits most of the descriptions associated with a typical flagship species. The Lake Erie water snake!

No, that was not a typo either!

Now before you call me crazy, let's run through some additional facts concerning flagship species.

Fact 1: Flagship species are typically on endangered lists, such as the Giant Panda, The African Elephant and the Lake Erie water snake which is listed as endangered in Canada and the state of Ohio, and threatened under the US Endangered Species Act.

Fact 2: Flagship species usually have a strong public outreach component to their conservation such as the "Save the Whales" campaign of the Humpback Whale, and the strikingly similar LEWS catch phrases "Save our Snakes" and "Water Snakes Welcome Here."

Fact 3: Because of their vulnerability, flagship species often provide a means for obtaining grant monies in order to protect the areas they inhabit. For example, the WWF and the Chinese government worked together to set aside thousands of acres of reserve for the Giant Pandas, and similarly the Lake Erie Islands Chapter of the Black Swamp Conservancy and the Division of Wildlife has been working to set up conservation agreements with island landowners to protect LEWS habitat.

So maybe I'm not so crazy after all.

However, I have admittedly avoided something originally mentioned as an important characteristic of flagship species; the fact people really like them. And that's because I feel it should be the least important. Surely something doesn't need to be "cute and fuzzy" in order for us to appreciate and conserve it. Does it? It's true the Lake Erie water snake may not be the most charismatic of creatures we might choose as our ambassador of conservation. I suppose the fact most people don't like snakes at all doesn't help the argument much either. But the bottom line is: this animal is a unique part of the island ecosystem found nowhere else on earth, and with that comes an intense drive to try to protect it. If we know embracing the conservation of this one animal can thereby conserve a little more of the natural island areas for our future generations to enjoy, we would do it. Wouldn't we? Isn't this exactly the kind of flagship we want to pave the way for the conservation of all the species we care for, regardless of whether it is "cute" or not?

I see it as a choice. When you're hiring for an important job, should you automatically choose the applicant that is just a pretty face? Or do you go with the one who can get the job done?

Saving what open space is left on our islands is our job, and although an uncommon flagship, the Lake Erie water snake is the one animal we have that can help us do that. It may not be cute, and it's definitely not fuzzy, but it has all the right credentials to get the job done.

And in my opinion, that's what really counts!

Questions, Comments, Concerns?
theislandsnakelady@yahoo.com.

Underwater Preserve

Compiled from information from a *Toledo Blade* story by Steve Murphy

State officials, lake historians and underwater archeologists have revamped the underwater preserve proposal they made a couple of years ago. The former proposal had upset island residents as it had included the entire island in a map of the proposed preserve. The new version includes an area of Lake Erie just east of the island and three other areas within the lake, as a shipwreck trail that would highlight information on the particular wrecks within those areas, as well as others.

The routes would be mapped out in brochures and online that would guide divers to historic submerged structures and provide online information to anyone interested.

There are at least three well-known wrecks immediately off the coast of Kelleys. The other areas would include a section between Vermilion and Lorain, an area off Cleveland, and off Fairport Harbor in Lake County.

ODNR has asked for a three-year \$220,000 grant from the National Oceanic and Atmospheric Administration to help fund the first phase of the trailways plan. The state will chip in \$63,000 if the grant application is successful.

The state hopes this new plan will educate an interested public, preserve the wrecks allowing for safe diving and not make nearby residents uncomfortable. A state representative pointed out that the

re-emerges as Shipwreck Trail

boxes highlighting shipwrecks are not boundaries but a trailway leading from one shipwreck to the next. Dave Kelch, an associate professor and district specialist with Ohio State University's Sea Grant Extension program, is the lead planner on the project, which includes the Great Lakes Historical Society in Vermilion, Ohio.

If NOAA approves the grant application, Mr. Kelch plans to publish a 16 to 20-page, four-color brochure with information about shipwrecks in all four zones, including photographs, historical information, and global-positioning satellite coordinates that divers can use to locate the sites.

There are over 1500 known shipwrecks in Lake Erie, with about 600 of them in

Ohio waters. The collaborative effort hopes to bring information and near virtual dive experiences to all interested.

Much of the shipwreck exploration and documentation in the state's Lake Erie waters is being done by ODNR's Division of Geological Survey and the Maritime Archeological Survey Team, a nonprofit corporation associated with the Great Lakes Historical Society.

Wisconsin began a similar program in 1996 mooring wreck sites, with 19 now marked. Their program has been very popular. The marking of the sites makes them easy to locate and makes a safer anchor point to prevent damage to the wrecks and safety for divers.



COSEE instructor Helen Domske (New York Sea Grant) lectures on invasive species aboard the Lake Guardian Lake Erie course for teachers

the teachers from four Great Lake states a chance to work with scientists to collect and analyze data about water quality and organisms in Lake Erie as they traveled from the shallowest to the deepest parts of the lake. The participants also learned about navigation and shipping on the lakes, music and literature of the inland seas, curricula for teaching, and shoreline activities that affect lake conditions.

Days were spent on the water cruising between sampling stations, while evenings were opportunities to visit special habitats and informal learning sites on shore near ports of call on the Lake.

To share the workshop experience with others, the participants created blogs online while the course was underway. To read the blogs and to see photos from the workshop, go to: <http://coseegreatlakes.blogspot.com>.

Each summer for the next four years, the COSEE Great Lakes program and GLNPO will support another Shipboard and Shoreline Science workshop. In 2007 the voyage will be on Lake Ontario, and following summers will include Lakes Superior, Huron and Michigan. A Great Lakes Education Summit

in 2010 will bring these and other COSEE Great Lakes efforts into focus for their impact on science literacy in the Great Lakes region.

COSEE Great Lakes, formed by a grant from the National Science Foundation and NOAA-National Sea Grant, is the tenth center in a nationwide network. COSEE Great Lakes is expected to create dynamic connections between Great Lakes and ocean research and education with the goal of enhancing scientific literacy and environmental stewardship.

(Contacts: Beth Hinchey Malloy, 312-886-3451, hinchey.elizabeth@epa.gov; Jackie Adams, 312-353-7203, adams.jacqueline@epa.gov; or Paul Horvatin, 312-353-3612, horvatin.paul@epa.gov)

Lake Erie Floating Classroom

Sixteen teachers from around the Great Lakes Basin representing grades 4 through 10 set sail from Cleveland, Ohio on June 18th as participants in the first annual Center for Ocean Sciences Education Excellence (COSEE) Great Lakes Shipboard and Shoreline Science workshop. The teachers will travel to ports throughout Ohio's Lake Erie coastline while learning about the Great Lakes through classroom instruction and hands-on experiences on shore and aboard GLNPO's 180-foot research ship, *R/V Lake Guardian*.

Also offered as an Ohio State University Stone Laboratory course, the workshop gave

Thank you Elderhostel Volunteers

The Lake Erie Islands Historical Society just finished three weeks of Elderhostel programs and would like to thank all who helped. This museum could not offer the Elderhostel program without the wonderful support of the volunteers and local business community.

All three weeks used the **Bay Lodging** for rooms, breakfast and golf cart rental. Owner **Fred Berry** landscaped his new flagpole project while overseeing his guests along with his excellent manager **Rebecca Dages** and her great crew..

The **Crew's Nest** provided lunch and dinner for the three weeks. **Melinda Urge** and her manager **Rudy Cooks** along with their talented team of chef **Alyssa Rose** and assistant **Courtney Drake**, handled the administrative, menus and preparation while the friendly wait-staff attended the group.

The new Fishing Elderhostel began April 30th. Captain **Pat Chrysler** generously agreed a year earlier to make this fishing-based Elderhostel a reality. Pat took the 17 anglers out each morning and educated them on the art of Perch and Walleye fishing. They enjoyed fishing with Capt. Chrysler so much, four signed on for the 2007 expanded Fishing Elderhostel.

Bob and Dianne Smith not only attend other Elderhostel programs but are volunteers for past LEIHS Elderhostel weeks. For 2006 they agreed to take the role of dual-coordinators for the fishing week. Bob was aboard the boat in the morning as Capt. Chrysler's assistant and then the couple led the group through the afternoon and evening activities. The Smith's have generously agreed to run the week again in 2007.

The Elderhostel group couldn't get enough of the excellent fish-related lectures given by **Carmen Trisler** of Wittenberg University & Stone Lab, **Fred Snyder** and **Kelly Riesen** of Ohio Sea Grant and Stone Lab, and Stone Lab manager **John Hagamon**.

Event Details

Women's Fishing Day and Fun Tournament on Lake Erie Fishing/Boating Event

Description:

Take a day off of work and find adventure on the high seas of Lake Erie! Discover more about our Great Lake and learn the tricks and techniques from experts on how to catch yellow perch, walleye, and bass. Prizes will be awarded for the largest overall fish in each category, including largest bass, walleye, yellow perch, and sheephead. The cost for the day is \$40.00. This flat fee includes your charter for the day, ice, bait, fishing equipment, and a fish fry after the charter. All charter boats will leave out of East Harbor State Park Marina, 1169 N. Buck Road, Lakeside-Marblehead, Ohio 43440. Registration and pre-payment are required, and space is limited, so do not delay! Please call Kelly Riesen 440/808-5627 for more details and to register.

Start Date:

8/4/2006 12:00 AM

End Date:

8/4/2006 12:00 AM

Location:

of East Harbor State Park Marina
Lakeside-Marblehead, OH

Other Sponsors:

Lake Erie Charter Boat Association, Ohio Sea Grant, and the Ohio Department of Natural Resources Division of Wildlife

Contact Info:

Kelly Riesen

riesen.4@osu.edu

440/808-5627

06.08.2006. "Summer highlights outdoors women." CLEVELAND PLAIN DEALER

Summer highlights outdoors women

Thursday, June 08, 2006 D'Arcy Egan Plain Dealer Columnist

Women are the fastest-growing segment of the angling, hunting and shooting world.

Fueling the jump in active outdoors women are the many classes held throughout the year to teach them to cast and shoot.

"Outdoor classes for women had been long overdue," said Rob Keck, the head of the National Wild Turkey Federation (NWTF) in Edgefield, S.C., who makes the journey to Ohio each spring to hunt wild turkeys. "Our mission has been to provide hands-on outdoor education. The Women in the Outdoors program is in its eighth year and has more than 43,000 members."

Teaching a newcomer outdoor skills is often best left to the experts, said Jay Reda, outdoor skills specialist for the ODNR Division of Wildlife. The stress level is much lower when women get together to learn from people who have outdoor skills and teaching experience.

Five of the NWTF's Women in the Outdoors events are being held in the area this summer:

The Ashland Lake Gun Club has a long list of classes at its West Salem grounds on June 17;

the Black River Chapter returns to the South Cuyahoga Sportsmen's Association grounds in Chatham on June 24;

the Sippo Valley Chapter has its event on June 24 at the North Industry Sportsman's Club in Navarre;

the Medina County Chapter takes over Medina's Hill'n Dale shooting club on July 29;

and the Northcoast Limbhangars Chapter has a fishing version of the course on Aug. 19 at Grand River Marina in Grand River, which includes a yellow perch fishing trip.

For information contact Renee O'Brokta, 216-362-1072 or visit www.ohionwtf.org.

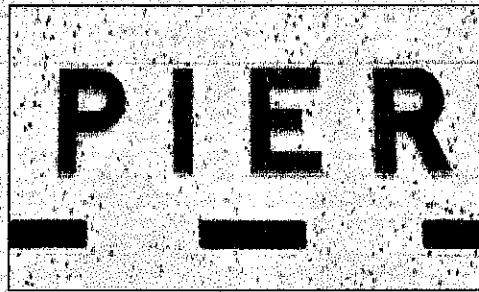
A Women's Fishing Day and Fun Tournament is Aug. 4 at East Harbor State Park Marina. There are sessions on fishing tackle and techniques and an afternoon tournament with prizes for big walleye, bass, yellow perch and sheepshead, and the fee is only \$40. The event hosts are the Lake Erie Charter Boat Association, Ohio Sea Grant and the DOW. Call Kelly Riesen of Ohio Sea Grant, 440-808-5627.

The popular "Becoming an Outdoors Woman Workshop" developed by state wildlife officials is Sept. 29-Oct. 1 at Recreation Unlimited in Delaware County. The weekend event includes overnight accommodations and meals. Call 1-800-WILDLIFE or visit www.ohiodnr.com/wildlife.

To reach this Plain Dealer reporter:

degan@plaind.com, 216-999-5158

Early return of mayflies leaves some folks bug-eyed No unusual infestations are foreseen



By JC REINDL
BLADE STAFF WRITER

Becky Haverstock of Toledo's Point Place neighborhood woke up last week and found some early guests in her above-ground swimming pool. Not people. Mayflies.

Mayflies gather on the door of a firehouse in Luna Pier, Mich. The insects tend to be attracted to light-colored objects.

(THE BLADE/ALLAN DETRICH)

The pesky bugs with the short life span usually don't arrive in this area until mid-June, though they can appear as early as late May.

Their arrival this year left her anxious about the possibility of a heavy mayfly migration inland, disrupting life for residents near the Lake Erie shoreline even more than usual.

"If they are out this early, I don't know. Maybe it will be really bad," said Mrs. Haverstock, 34, whose house is on the narrow peninsula between the Ottawa River and Maumee Bay.

Many residents of Point Place, Port Clinton, Luna Pier, Mich., and other lakefront communities said clusters of mayflies have been the norm since the middle of last week. These sightings represent a head start for the bugs' annual migration, which traditionally peaks the third week of the month and lasts through the second week of July.

Dick Spicer, president of Port Clinton's Chamber of Commerce, said his office has been receiving a steady stream of inquiries from anxious callers wondering whether it is time to begin bracing for the menacing insects.

"They all complain about them, but there's not much you can do about it," Mr. Spicer said. "It's like getting eight inches of snow in the winter - it's gonna come every year."

While early June sightings are unusual, area mayfly experts said that doesn't necessarily indicate an especially heavy infestation ahead.

The area's mayfly population appears to have been stable in recent years, and the number of mayflies that land on shore largely depends on the direction of winds across Lake Erie, said **Fred Snyder, an agent with Ohio State University's Sea Grant outreach program.** A westward-blowing wind can push the newly hatched insects to a Toledo landing, but a northward gust can scatter them to Canada, he said. The mayflies' early emergence this year could be caused by warmer weather during their nearly two-year underwater gestation period, Mr. Snyder said. The warmer air temperatures translate to warmer water, which could speed the hatching process by a week or so.

Mayflies - also known to some as "June bugs," "salmon flies," or "Canadian soldiers" - live for about a day, during which the quarter-inch to two-inch-long insects molt, mate, and lay thousands of eggs over the lake.

Mayfly season has become one of summer's great nuisances for Amy Abbott, 38, another Point Place resident.

Because the Maumee and Ottawa rivers flank each side of the peninsula, she said, the mayflies "just sweep right through."

When the season is at its peak, the bugs seem to be everywhere - swarming in the air and landing on buildings, vehicles, streets, and sidewalks.

Road crews have been known to clear layers of them from streets with snowplows, leaving behind a stench like dead fish.

Miss Abbott said she uses a leaf blower to remove the mayflies that cling to the sides of her white house and then sweeps them into a trash bag.

Some of her neighbors use a garden hose for the job, although Miss Abbott said she has found this strategy can leave a nasty stench surrounding the house. Despite their inconvenience to shoreline residents, a large mayfly population is a sign of good lake ecological health, said Kenneth Krieger, senior research scientist at the National Center for Water Quality Research at Heidelberg College in Tiffin.

Mayflies disappeared in this area from about the mid-1950s to the early 1990s because of lake pollution from farm fertilizer and other sources of phosphorus, Mr. Krieger said. The phosphorus provides food for oxygen-consuming bacteria that can limit growth of insect larvae, he said. They reappeared with the enactment of tighter restrictions on phosphorus-containing products such as laundry detergents, as well as improved containment methods for raw sewage. While serving drinks this week inside the Ottawa River Yacht Club near the western shore of Point Place, Cindy Zunk, 44, noted that the best - or perhaps worst - time to witness mayflies once their season hits full-swing is evening. The bugs are notorious for nocturnal activity and are attracted to lights and lighter-colored surfaces.

"Come at night time when they're thick. You'll see white cars that look black," said Mrs. Zunk, cracking a smile. "I have a white house, too."

Contact JC Reindl at:
jreindl@theblade.com or
419-724-6050.

Wipe out

Surfers can hang 10 on a 32-foot-by-40-foot surf simulator aboard the Freedom of the Seas cruise ship | H3

Travel

The Columbus Dispatch

SUNDAY | H

JUNE 11, 2006

WWW.DISPATCH.COM

SEEING THE LIGHT

By Steve Stephens
THE COLUMBUS DISPATCH

Ohio's historic beacons have kept mariners safe for more than 180 years

F AIRPORT, Ohio — The fog was as thick as soup — and since this was Ohio, probably Campbell's Cream of Mushroom.

Not far away, I heard the low croak of the lighthouse foghorn. I was making dead for it, a perilous course.

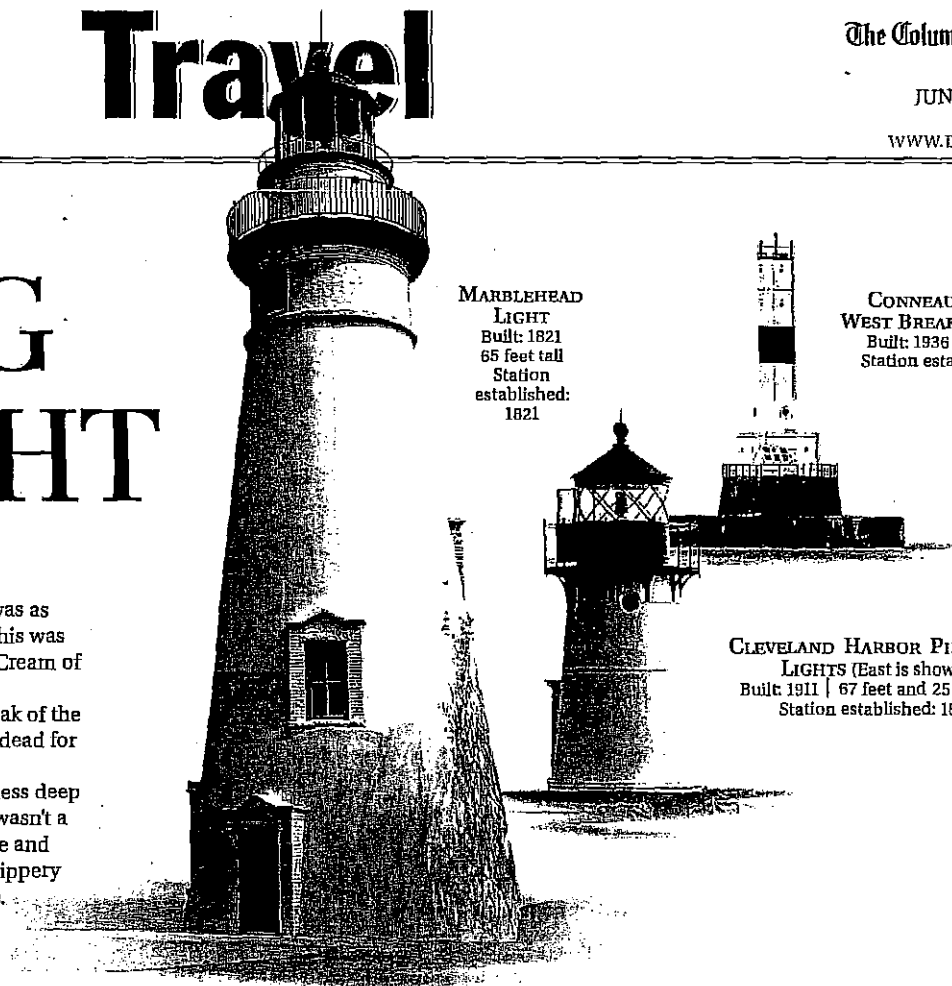
But I was on land, not the brineless deep of Lake Erie. And my biggest fear wasn't a watery grave but twisting my ankle and flopping around on the uneven, slippery breakwater like a beached walleye.

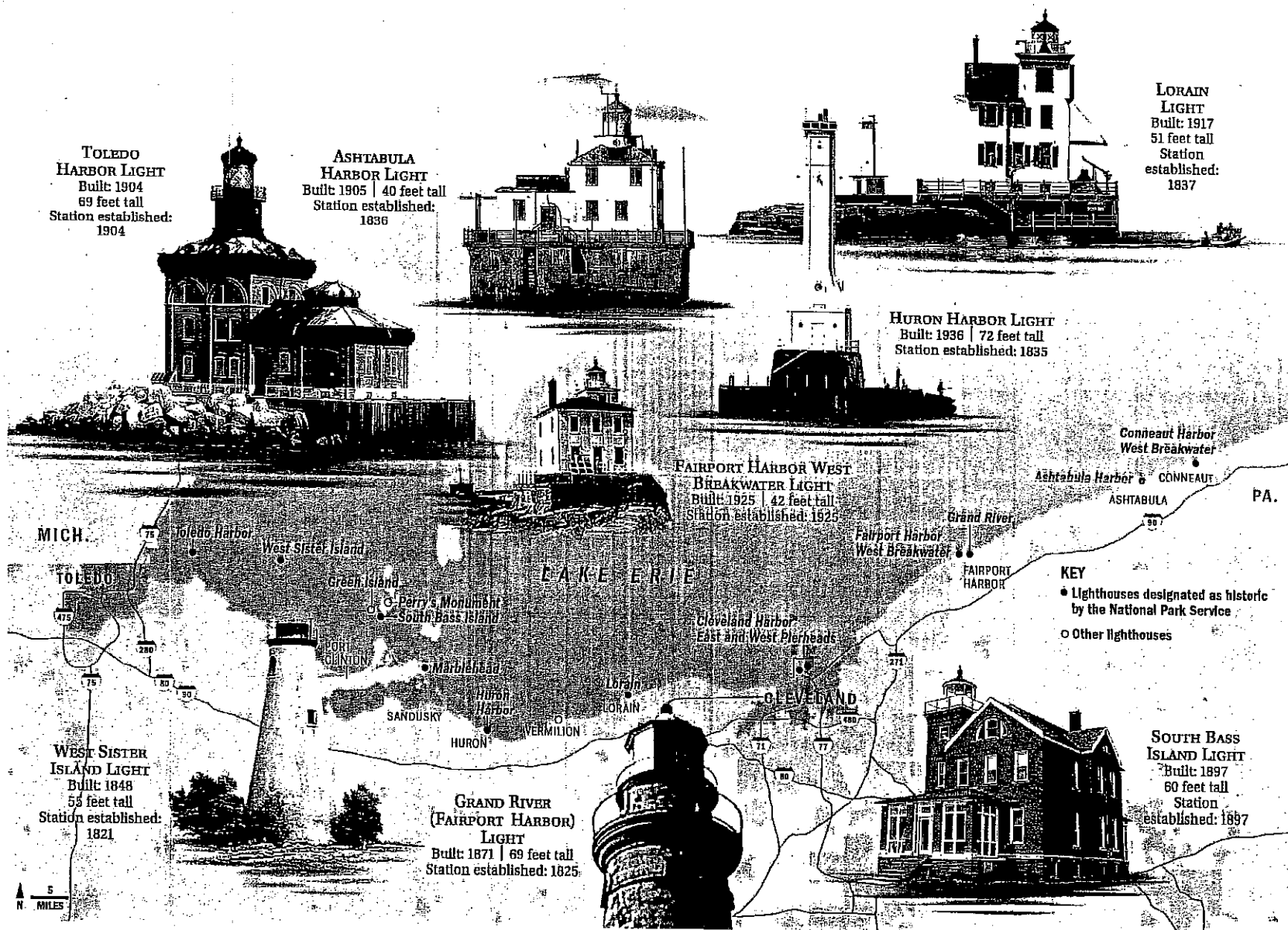
See **LIGHTHOUSES** Page H2

MARBLEHEAD
LIGHT
Built: 1821
65 feet tall
Station
established:
1821

CONNEAUT HARBOR
WEST BREAKWATER LIGHT
Built: 1936 | 60 feet tall
Station established: 1835

CLEVELAND HARBOR PIERHEAD
LIGHTS (East is shown)
Built: 1911 | 67 feet and 25 feet tall
Station established: 1831





TOM BAKER, STEVE STEPHENS, CHARLIE ZIMKUS | DISPATCH

LIGHTHOUSE

FROM PAGE H1

I had come to the lake to see the historic lighthouses that dot the Ohio shore. That I would need the services of a navigational beacon never crossed my mind.

This particular morning, I was in search of the Fairport Harbor West Breakwater Light, built in 1925 to replace the Grand River Lighthouse that still stands at the mouth of the Grand River north of Painesville. The older lighthouse, a 69-foot-high beauty built in 1871, no longer operates.

I had made my way through the fog to Headlands Beach State Park to search for the "new" light.

Headlands is a popular day-use park with the longest beach in the state. The park also hosts the northern terminus of the Buckeye Trail, the cross-state hiking trail, and borders Headlands Dunes State Nature Preserve, one of the few places in Ohio where Atlantic Coastal Plain species such as sea rocket, beach pea, seaside spurge and purple sand grass can be seen (when the fog lifts).

But I wasn't there for the flora.

I knew that the lighthouse was at the mouth of the Grand River at the eastern end of the park, which was hosting a kite-flying festival. A few actually had their kites in the air. Or maybe they were just holding up stiff strings. In the fog, it was impossible to tell.

Soon I found myself on the old breakwater, with only faith and the sound of the foghorn assuring me that I was on the right path. Slowly I made my way onto Lake Erie. Looming out of the murk came the old steel lighthouse, looking not a little like the summer home of a mad scientist.

Erie felt eerie, indeed, until a couple of slicker-clad fishermen came trotting in from the direction of the lake. Obviously a trip onto Fairport Breakwater wasn't the dangerous but romantic journey my imagination had conjured.

Still, I had accomplished my objective. Like many of the old lighthouses, the Fairport Breakwater Light is operational and closed to the public.

Standing at the base of the fog-en-shrouded lighthouse, even a landlubber such as me became aware of the utility of these beautiful old structures.

Back in Fairport, the old Grand River Lighthouse was much easier to find — and had much better parking than your average lighthouse. In fact, visitors can drive right up to the old structure, located on a hill in the middle of the village.

The well-preserved 135-year-old lighthouse and the attached lightkeeper's house serve as the Fairport Harbor Marine Museum.

The people of Fairport showed remarkable foresight in preserving the lighthouse and setting up the museum in 1945. The institution claims to be the oldest Great Lakes lighthouse museum in the United States.

The lighthouse is a showpiece, with a classic unpainted tapering sandstone



The replica Vermilion Lighthouse looms above the pilot house of the ore carrier Canopus, both now at the Inland Seas Maritime Museum in Vermilion. STEVE STEPHENS | DISPATCH

tower, the kind depicted in souvenir snow globes. The rolling fog added the perfect touch of atmosphere. But I had a lot of lighthouses to see.

Lorain

By the time I had driven 45 miles west, the fog had lifted, which was fortunate because I might never have found the 1917 Lorain Harbor West Breakwater Light without good visibility, foghorn or no.

The three-story concrete light and keeper's house sits far out in Lorain Harbor, but an intrepid lighthouse buff can get a good view from the boat ramps and piers behind the water-treatment plant on the lake in downtown Lorain.

The lighthouse, which was saved from the wrecking ball by preservationists in 1965, isn't open to the public. But the Port of Lorain Foundation hopes to raise \$3 million to complete restoration, improve a dock and build an onshore visitor's center.

Vermilion

My next stop was a 35-foot-tall 1877 lighthouse — actually a replica built in 1992 as a tourist attraction. The older lighthouse still stands, but not in Vermilion. It was relocated in 1935 to a site on Lake Ontario.

The replica is beautiful, but the best reason for a lighthouse buff to stop in Vermilion is the attached Inland Seas Maritime Museum, one of the finest small museums I've visited.

Exhibits cover everything from the history of commercial shipping to the art of decoy carving to, of course, the lighthouses of the Great Lakes. The

museum holds one of the world's most extensive collections of Great Lakes marine artifacts, according to Executive Director Christopher Gillcrist.

Because of a lack of space, the museum is planning a move to a new building in Lorain, Gillcrist said.

"Our intention is to build the finest Great Lakes museum anywhere — the one people go to if they want to see the whole story" of the lakes.

Huron

Just a few miles west of Vermilion is one of my favorite lights, the relatively modern station at Huron Harbor at the end of a mile-long fishing pier.

Fortunately, the pier was much less treacherous than the one in Fairport.

The steel structure built in 1936 looks like a watchtower that Capt. Nemo might have built before he tackled the Nautilus. It has round nautical windows, flattened metal corners and a curved-bottomed tower jutting up 72 feet.

The tower, which still operates and is closed to the public, has a near-twin at Conneaut Harbor, but the Conneaut West Breakwater Light, also built in 1936, is much less accessible.

Marblehead

Perhaps the gem among Great Lakes lighthouses — and probably the most photographed — is the Marblehead Lighthouse, built in 1821 and in continuous operation since. The lighthouse and restored fieldstone keeper's house sit in Marblehead Lighthouse State Park on Marblehead Peninsula across Sandusky Bay from the roller coasters of Cedar Point.

Marblehead Lighthouse is a 65-foot, 185-year-old limestone wonder, poised at the edge of a flat rocky shelf jutting into the lake. Tours of the old lighthouse are limited to weekdays from 1 to 4:45 p.m. and a few selected weekends. But visitors can visit during any daylight hours to picnic, stroll or just gawk at the magnificent old tower.

A museum in the keeper's house is open during tour hours.

South Bass Island

I couldn't make a trip to Lake Erie without visiting Put-in-Bay. Fortunately, the South Bass Island Lighthouse gave me a good excuse. The lighthouse is no longer in service — a beacon flashes from a steel skeleton tower built next door. But the lighthouse, built in 1897, is well-preserved.

Visitors who come across on the Miller Boat Line ferry will get a good view of the lighthouse as they approach the Lime Kiln docks. Visitors can walk down the road a short distance from the docks for a better view.

The building is owned by Ohio State University and accessible to the public only during the Stone Laboratory open house in late summer.

The structure resembles a modest brick two-story farmhouse with a brick light tower appended.

Back at the docks, I found a cabbie to take me into town. But when she heard about my lighthouse quest, she made a quick detour to the westernmost point of the island so I could look out across the channel to Green Island, where another old lighthouse was once located. Deactivated in 1939, the structure was burned by vandals, leaving only its limestone shell. The area, a wildlife refuge, is closed to the public.

When I got into Put-in-Bay, I visited the most iconic structure on Lake Erie.

Not the Roundhouse Bar — I'm talking about Perry's Victory and International Peace Memorial, aka Perry's Monument, which wasn't built as a lighthouse but is topped by a beacon light. The monument, some sources say, is the tallest navigational aid in the United States. The Doric column rises 352 feet above Lake Erie. And there is no better place than the Perry's Monument Visitors Center, operated by the National Park Service, to learn about the naval history of the lake.

Even more

Other historic lighthouses can be found in Ashtabula, where the old keeper's house serves as the Great Lakes Marine and Coast Guard Memorial Museum; in Toledo Harbor, with an annual lighthouse festival, which includes boat tours around the light, that will take place at Maumee Bay State Park July 8-9; on West Sister Island, which is a state wildlife refuge and accessible only by boat and with permission; and on the Cleveland Harbor breakwaters, which are best seen by tour boat from the Cleveland lakefront.

Ohio's historic Lake Erie lighthouses make a fascinating, romantic destination, fog or no.

sstephens@dispatch.com

Lake Erie's lighthouses

The maritime history of Lake Erie is full of derring-do, heroics and shipwrecks. But there would have been a lot more if not for the lake's historic lighthouses.

BEACONS OF OLD

► Eleven historic lighthouses dot the shores of the lake.

Information on them can be found on the park service Web site www.cr.nps.org.gov/Maritime/light.oh.htm.

► Another great source of information on lighthouses is a Web site maintained by the University of North Carolina and Ross Rowlett, director of the university's Center for Mathematics and Science Education.

Visit www.unc.edu/~rowlett/light-house/oh.htm.

► For information on the Fairport Harbor Marine Museum and Lighthouse, visit www.ncweb.com/org/fhlh or call 440-354-4825. The museum has a number of exhibits about life on the Great Lakes.

► Information on the Great Lakes Marine and Coast Guard Memorial Museum in Ashtabula can be found at www.ashtcoh.com/ashmus.html or call 440-964-6847.

► Information on the history of the Lorain Lighthouse and the efforts to preserve the latest version, built in 1917, can be found at www.loraincityhistory.org/lighthouse_ront.html.

► The Inland Seas Maritime Museum is operated by the Great Lakes Historical Society. Information can be found at www.inlandseas.org or call 1-800-893-1485.

The museum also contains the Peachman Lake Erie Shipwreck Research Center, open to researchers, students and anyone with an interest in shipwrecks and other maritime topics.

► Perry's Victory and International Peace Memorial, not built as a lighthouse, does contain a navigational beacon light. For information, call 419-285-2184 or visit www.nps.gov/pevi.

► Toledo Harbor Lighthouse Preservation Society maintains information about the lighthouse at www.toledoharborlighthouse.org. The lighthouse celebrated its 102nd anniversary May 23.

► The Huron Light sits at the end of a mile-long fishing pier. For information, visit www.huronparks.org/pier-light-house.htm.

► Tours of Marblehead Lighthouse are offered on weekday afternoons from 1 to 4:45 p.m. weekdays through Sept. 3 and on the second Saturday of the month from through October. For more information on the lighthouse or Marblehead Lighthouse State Park, call 419-734-4424 or visit www.dnr.state.oh.us/parks/parks/marblehead.htm.

06.15.2006. "Stone Lab lecture series continues June 22." OSU TODAY

STONE LAB LECTURE SERIES CONTINUES JUNE 22

-- The Stone Laboratory summer lecture series continues Thursday (6/22) as lecturers Elena Irwin and Jeff Reutter of Ohio State will discuss "Farms, Factories, Fish and Sprawl: A Recent History of Land Use and Water Quality in the Lake Erie Region," from 7:45-9 p.m. on Gibraltar Island in Lake Erie. A short lecture on current research will take place at 7 p.m. and both lectures are broadcast live into 244 Kottman Hall on the Columbus campus. A schedule of the summer lectures is available online at: <http://ohioseagrant.osu.edu/>

Roadside weeds are wildlife needs

John Hageman, legislative liaison for the Ohio Council of Pheasants Forever, was treated to quite a wildlife sighting a week ago.

No, it was not a newborn fawn, a bald eagle, a wild turkey, a badger, or even a coyote. It was a wild hen pheasant.

Pheasants once ruled the roost hereabouts. No more. Seeing a wild one is news. Hageman saw the bird winging across a stretch of U.S. 6 just east of I-75 outside Bowling Green in Wood County. It is a stretch where, through years of stewardship and good conservation sense, the roadsides are treated right.

They are planted with native grasses and wildflowers, and best of all, they are not mowed to death.

"It reminded me of what a great patch on non-mowed highway right-of-way is," Hageman stated. Contrast that, he added, with much of the U.S. 23 corridor to Columbus. Hageman, who manages Ohio State University's Stone Laboratory at Put-in-Bay, makes frequent trips down 23 to Columbus. "In Marion County U.S. 23 is absolutely mowed from pavement edges to fenceline. You can tell right where the county line is, north and south." Same for Delaware County and some state routes in Seneca County.

The U.S. 23 experience is being repeated right now on too many county and township roads across the region as well. The ones around my country place in western Sandusky County already have received the summer's first buzz-cut.

They look soooo neat, so proper, so clean and tidy. Any grassland songbirds, rabbits, pheasants, or nowadays even wild turkeys unlucky enough to have been nesting there also are dead - just like the mangled hen-pheasant carcass I found a year ago 100 yards from my driveway. The cutting also has eliminated acres of milkweed for monarch butterflies and other plants for different species of butterflies.

Mind you, no one is arguing about the need to mow at dangerous curves or intersections where a full view of oncoming traffic is critical. But so much of the mowing is simply mercenary - mow it all, let God sort it out.

The state noxious weed law, moreover, is archaic. If it is all that stands between the corn or bean crop and "death by thistle," something is badly wrong.

At least engage in the practice of spot-mowing instead of slashing everything; if you can run a blade, you can learn to ID noxious weeds. Frankly, in this day of modern herbicides, the whole thing should be irrelevant.

By Bob Hecker Contributing Writer

Columbus The 2007 federal budget will likely include another \$500,000 for an Ohio State University study of an oxygen-depleted dead zone in the Gulf of Mexico.

OSU scientists familiar with the project say the research could also be applied to resolving the problem of the well-known dead zone in the central basin of Lake Erie.

On May 5, Congresswoman Deborah Pryce announced the inclusion of the \$500,000 in the House Fiscal Year 2007 Interior Appropriations Bill, which has been approved by the U.S. House and is headed for the Senate.

The bill has cleared the biggest obstacle it faces, and were very confident it will move through the Senate OK, said Rob Nichols, a spokesman for Pryce's office, who noted that this is second-year funding. Pryce also secured \$500,000 for the project in the 2006 spending bill.

The money would go once again to Ohio State's Olentangy River Wetlands Research Park, a 30-acre wetland and aquatic science laboratory at OSU where researchers study processes in rivers and wetlands to determine how these areas can be restored for habitat enhancement, flood control, and water quality improvement.

The first round of funding for the ORWRP was announced last August, shortly after the House of Representatives passed the 2005 Water Resources Development Act. That measure includes a provision for a partnership among the ORWRP, Louisiana State University, and the U.S. Army Corps of Engineers to assess the dead zone in the Gulf.

This funding will allow OSU to dedicate its researchers and facilities to solving one of our hemispheres most pressing environmental problems, Pryce said, referring to deep-water regions plagued by hypoxia, or low-oxygen areas that are harmful to aquatic life and pose a serious threat to commercial fishing, recreation industries and, ultimately, the livelihoods of people in communities that depend on these ecosystems.

The hypoxic dead zone in the Gulf of Mexico is an area along the Louisiana-Texas coastline about the size of New Jersey.

Jeff Reutter, an OSU researcher who directs the Ohio Sea Grant and College Program and the Stone Laboratory on Gibraltar Island in Lake Erie, said the dead zones in the Gulf and Lake Erie are similar because they are both caused by excessive nutrients flowing into those waters that trigger large algae blooms.

However, Reutter said, The essential nutrients causing the problems are different for each body of water.

In the salt water of the Gulf, the problem nutrient is nitrogen, stemming largely from farmland

fertilizers that wash in from the upper Mississippi River basin.

In the fresh water of Lake Erie, the problem nutrient is phosphorus entering from sewage treatment plants, agricultural fields and invasive aquatic species such as zebra mussels and quagga mussels that emit phosphorus as waste.

David Culver, an aquatics biologist and professor in the OSU College of Biological Sciences who conducts research on Lake Erie and at state fish hatcheries, said Ohio and other states contribute to the Gulf dead zone because nitrogen runoff from fertilized farmland flows down the Ohio, Missouri, and Mississippi rivers into the Gulf.

This leads to intensive algae growth. When the algae dies, or when it is eaten and excreted by aquatic wildlife, it sinks to the bottom where oxygen levels are already low and is decomposed by bacteria, a process that further consumes oxygen, Culver said.

To compound the problem, the stratification of freshwater from the Mississippi River and the saltwater of the Gulf thwarts the mixing of high-oxygen water from the surface with oxygen-depleted water of lower depths, helping to sustain the hypoxic zone.

All of that nitrogen getting into the Gulf of Mexico is causing big problems, Culver said. People down south at the bottom of the continent do care very much about what were doing up here, since our fertilizers are contributing to the situation.

Wildlife officials say fish and other aquatic species in oxygen-depleted zones must move to other areas that are less than ideal for them. Species that cannot easily move away usually die.

Reutter and Culver say research leading to wetland restoration can help control the flow of excessive nutrients into both the Gulf and Lake Erie.

Wetlands are a good thing because they can naturally remove some of the problem nutrients from waters draining into the lake or the Gulf, Reutter said.

ORWRP Director Bill Mitsh, a professor of natural resources and environmental science at OSU, said the research will help restore Ohios rivers and wetlands, including those feeding into Lake Erie.

This funding will also be used to educate students across Ohio about the use of wetlands in solving such an important environmental challenge, he said.

06.22.2006. "Stone Lab lectures series continues." OSU TODAY

STONE LAB LECTURE SERIES CONTINUES JUNE 29

-- The Stone Laboratory summer lecture series continues Thursday (6/29) as Harvey Shear, University of Toronto, delivers "The Great Lakes Water Quality Agreement 35 Years Later - Success or Failure. Using Indicators to Assess the State of the Great Lakes," from 7:45-9 p.m. on Gibraltar Island in Lake Erie. The lecture will be broadcast live in 244 Kottman Hall on the Columbus campus. A schedule of the summer lectures is available online at: <http://ohioseagrant.osu.edu/>



Western Basin Sportfishing Association

WBSA Newsletter

June
26,
2006

OSU/Sea Grant Trolling Day

Matt Davis, Mike Justus, Travis Hartman, Steve Carlson and myself spent June 15th with 11 teens that were taking a special OSU course on Lake Erie Fishing at the Sea Grant lab on Stone Island. Our job was to introduce the students to Lake Erie trolling techniques and the day went quite well with all boats getting limits and at least a few Fish Ohio Walleyes caught off the reef by North Bass Island. I think I speak for everyone that the day was enjoyed by all that partook of the opportunity. I know I thoroughly enjoyed the role of instructor and had 2 great kids to work with. A zillion questions were asked and I just hope I got a few of the answers right

Family Fishing Day and Great Goby Grab

Instructor: Kelly Riesen, Ohio Sea Grant Fisheries Coordinator

Saturday, August 19

1 - 4 p.m.

Fee: \$15 per child



Moms and Dads, are your kids itching to go fishing, but you're not sure where to start? Let Ohio Sea Grant and Lake Erie Nature & Science Center help you learn. Bring the kids and join us for a parent-child fishing day. While the kids practice their casting on the front lawn, parents will spend an hour learning about basic fishing equipment, knot tying, and safety. Then we'll all go to Huntington Beach and have a fishing derby. There will be prizes for the biggest fish, the biggest goby, and the most fish caught. An adult with a current Ohio fishing license must accompany all children. For information about acquiring a fishing license, call Kelly at 440-808-5627. This event is recommended for children ages 7 and older. Registration is required, and because of limited space and safety reasons, please leave younger siblings at home.

Stone Lab Family Adventure

Saturday, July 29; 8 a.m. - 6 p.m.

Leaders: Kelly Riesen, Ohio Sea Grant Fisheries Coordinator; Jennifer Breehl; Prudy Hock

*Fee: \$80 per person, all ages

Ages 9 and up (no exceptions)**

WITH AT LEAST ONE ADULT COMPANION

This summer, Lake Erie Nature & Science Center will offer its very first Stone Lab Family Adventure! Join us as we visit one of the best-kept secrets in Lake Erie - Gibraltar Island! Often called the "Gem of Lake Erie," this charming 6.5-acre island is located in Put-in-Bay harbor and is home to The Ohio State University's Island Campus and to F.T. Stone Laboratory, the nation's oldest freshwater biological field station and research laboratory. Since Stone Laboratory's establishment in 1895, scientists and students alike have been busy conducting significant research on the biological and physical characteristics of Lake Erie and learning about what makes the Great Lakes so great! With the help of a Stone Laboratory resident scientist, we will step into the shoes of a Great Lakes researcher and participate in a variety of hands-on lessons and activities that apply basic science concepts to Lake Erie ecology.

We will begin our day of exploration by boarding one of the Stone Laboratory research vessels for a scenic and educational Science Cruise. While on the water, we will participate in the studies of water quality, plankton, and fish using the very same equipment that many of the researchers use! Following our cruise, we will take a seat in one of the Stone Laboratory labs to examine and identify what we found using microscopes. Our island adventure will also include an Invertebrate Walk to see what other creatures call the waters of Lake Erie home. To wrap-up our day of fun, we will take a tour of the Ohio Division of Wildlife's Aquatic Visitor Center. This former historic state fish hatchery houses live fish displays and hands-on educational exhibits highlighting Ohio's fishing resources.

What better way to spend a summer day than on an island -no airplane reservation needed!

*The Stone Lab Family Adventure fee includes Jet Express transportation to Put-In-Bay and lunch on the island.

**Due to the nature of this adventure and safety considerations, we cannot accommodate infants and younger siblings under any circumstances.

Junior Naturalist Camp

Monday – Saturday, July 10 - 15

Instructor: Prudy Hock, assisted by Jenn Breehl and Kelly Riesen, Ohio Sea Grant Fisheries Coordinator
10 a.m. - 4 p.m. Monday through Thursday

7:30 p.m. Friday through 9 a.m. Saturday

For children who have completed Grade 5 - 7 AND are ages 10 - 13 years
Fee: \$410; members \$380*

Life is about "survival of the fittest."

How fit are you? By the end of this camp you should be better prepared to survive, enjoy and appreciate the naturalist's world. We'll be up close and personal with some of the Center's wildlife, and explore the good, the bad, and the ugly of animals and plants on our creek walk. We'll spend a morning birding with a local expert, trying our hand at building a shelter and learning how to mark a trail. For the first time, we'll be spending a fun-packed day at Stone Lab! This facility is run by The Ohio State University, and is located on Gibraltar Island in beautiful Put-In-Bay Harbor. Our activities that Thursday will include a BioLab boat ride on their education trawler, an examination of the lake's invertebrate life, and a tour of a local fish hatchery museum. Our Stone Lab trip guide will be Kelly Riesen, our Ohio Sea Grant Fisheries Coordinator. The week of adventure will culminate with an overnight at the Center that will include games, pizza, a planetarium program, a night hike and a movie. Join us and be prepared to have fun, learn, and make new friends!

*Prices reflect the van ride, ferry ride and additional fees for our very special day at Stone Lab!

Fishing Friends Kindercamp

Instructors: Kelly Riesen, Ohio Sea Grant Fisheries Coordinator, and Bev Walborn

Tuesday – Thursday, August 1 - 3
10:30 a.m. - 2:30 p.m.

Calling all Fishing Friends! Join us at the Lake Erie Nature & Science Center pond and Lake Erie for lots of fishing fun. We'll explore the life of a fish, and then everyone will get to try his or her hand at fishing down at Huntington Beach. Join us as we learn how to cast our poles and how to choose the right bait to use while we practice catch and release. We will play fishing games and do fish crafts. We'll supply the fishing rods (for you to keep!) for lots of Lake Erie Fishing Fun!

Lake Erie Fishing Adventure Camp

Instructors: Kelly Riesen, Ohio Sea Grant Fisheries Coordinator, and Jennifer Breehl

Wednesday – Thursday, August 9 - 10
10:30 a.m. - 2:30 p.m.

For children who have completed Grade 1 or 2 AND are ages 6 - 8 years
***Special 2-day Fee: \$100;
\$80 members

There's something FISHY about this camp! Come on a quest with Lake Erie Nature & Science Center and Ohio Sea Grant to find out where the fish are hiding, what they eat, and how to catch them! We'll trek down to Huntington Beach and try our hand at catching these fishy creatures.

Please bring a swimsuit, a towel, and water shoes each day.

Camp Wet & Wild!

Instructor: Jennifer Breehl, assisted by Prudy Hock, and Ohio Sea Grant Fisheries Coordinator, Kelly Riesen

Tuesday – Friday, August 15 - 18
10:30 a.m. - 2:30 p.m.

For children who have completed Grade 3 or 4 AND are ages 8 - 10 years
Fee: \$210; members \$175

From fresh to salty, aquatic habitats provide water, food, and/or shelter for a wide variety of animals. Join us as we explore some of the wet and wild places found here in Huntington Reservation. On one of the days, special guest Kelly Riesen, our Sea Grant Fisheries Coordinator, will help us explore the waters of Lake Erie, teach us about the fish found swimming around, and then show us how to catch and release them! In addition to fishing, during our week of fun, we will sample and seine for living organisms in Lake Erie and Porter Creek, examine what and who we find with scientific tools, go on scavenger hunts, meet some of our Center's resident wildlife, do arts and crafts, and play games. It will be one wet and wild time!

Please bring a swimsuit, a towel, and water shoes each day.

City acquires portion of Morton Salt property with grant money

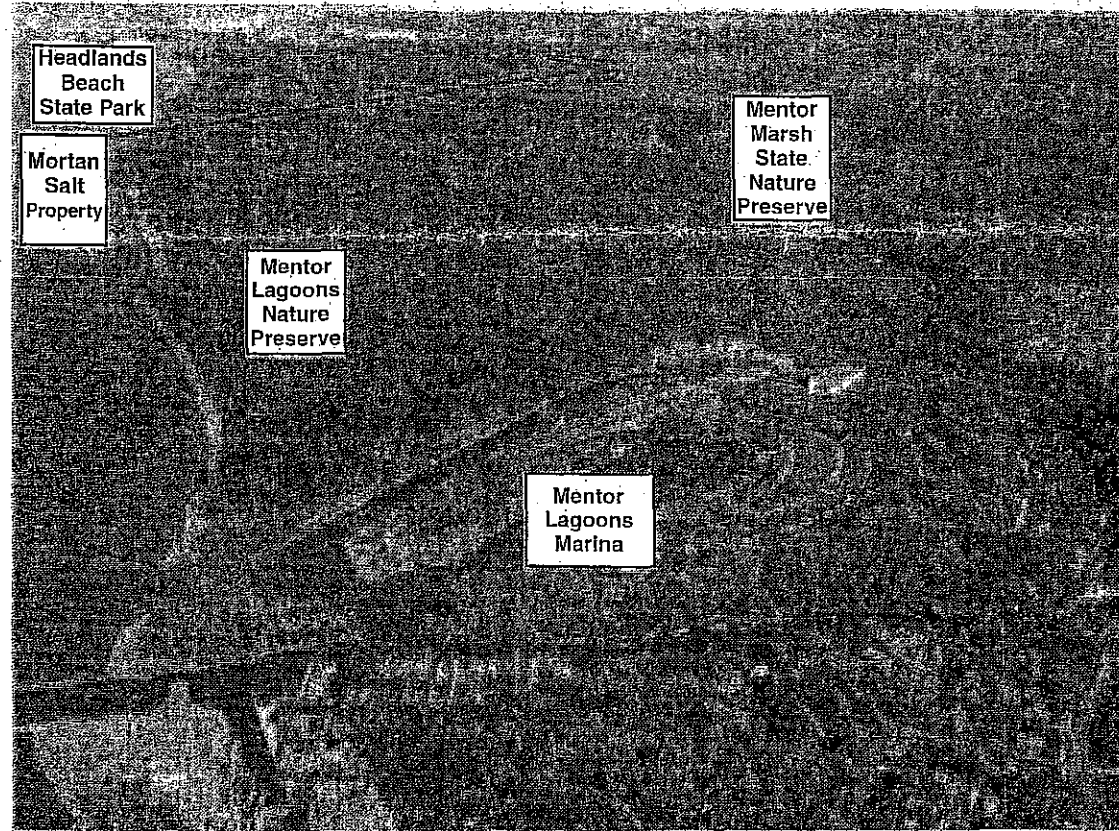
Administration requests state funding for visitor center design project

by BARBARA VENDEVILLE

MENTOR-Mentor City Council members passed two ordinances authorizing the approval of an amended lease and purchase agreement between the city of Mentor and the trust for public land, a nonprofit California public benefit corporation.

The lease agreement between the two parties would permit a three phase transfer of a portion of the Morton Salt property to help minimize the costs of the transaction.

"The two ordinances would allow a purchase agreement and would permit a third transfer to occur at the end of the year in order to allow the city to go seek additional state funding in the amount of \$317,000 through the Clean Ohio Fund," said Kurt Kraus, city park, recreation and public lands director. "You may



SUBMITTED PHOTO

Land purchases by city will provide a hiking/biking trail link to two state preserves and marina.

recall the city was a recipient in the last round of Clean Ohio monies in approximately a quarter of a million dollars to help fund this acquisition. We are optimistic we are able to secure the remaining amount of funds in the final round of the Clean Ohio grant."

Kraus said the administration had the "good fortune" to get a substantial amount of property through federal funding. The remainder of the property to be ac-

quired will also be purchased through grants.

In a phone interview Kraus later said the property acquisition will join Morton Park with the Mentor Marsh state nature preserve.

"The overall purchase of the Morton Salt property is 99.7 acres," he said. "The trust for public land bought the property on our behalf; and as we get federal

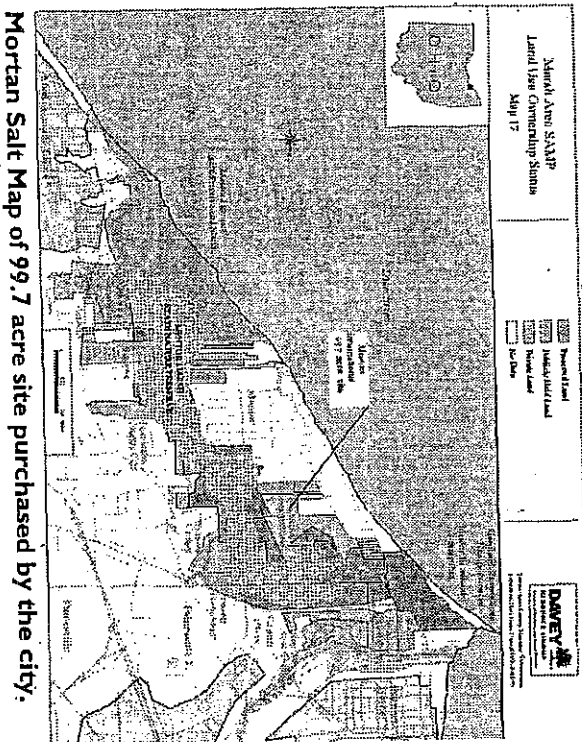
and state funding and private matching funds, we are purchasing in increments that property from the trust for public lands. That is what this purchase is going on here at the end of the month we will be purchasing about 20 acres from the trust for public lands with the grant money we received."

Krause said to date the city has received \$2.66 million in funding.

The overall property would cost \$3 million to purchase and there is about \$300,000 needed to purchase the remaining property.

The efforts of U.S. Rep. Steven LaTourette and a \$508,000 from Safe Tea-Lu grant from the Ohio Department of Transportation the city was able to secure funding for hike and bike trails and the acqui-

◆See MORTON on Page A2



sition of the property.

"It is one of the last coastal habitats and largest remaining tracts of open space up in the marsh and we wanted to protect it for both its natural features and outdoor recreational value," he said.

Kraus said the property acquisition also relates to the Mentor Lagoons Marina Nature Preserve because it will link the hiking trails from one end of the marsh to the other.

There are also plans to construct a bike trail by Jordan Road and possibly through the marina, he said.

The administration has also made a current capital improvement budget request of \$100,000 to the state of Ohio to begin a design of visitor/interpretive center at the Mentor Lagoons Nature Preserved and Marina and adjacent to the Mentor Marsh State Nature Preserved.

The center could include interpretive facilities, restrooms, office space for the Mentor Marsh board, concession and gift store areas, facilities for showers and transient boaters, meeting space for boating safety and interpretive programs, including boat tours of the lagoons area.

The proposed funding would provide preliminary design services, including program concept, site, floor, exterior design concepts plans and environmental reviews. A complete development budget will also be included.

Public hearings would be held to introduce the proposal to the public and to accept comments.

The city anticipates the center would serve the growing number of visitors to the preserve area. These would include naturalists, hikers, bird watchers, bicyclists, boaters and fisherman.

Collaborators on the design of the visitor's center could include the Mentor Marsh board, Cleveland Museum of Natural History, ODNR Natural Areas and Preserves, ODNR Division of Watercraft and Lake Erie Coastal Ohio.

Mayor Ray Kirchner said at the council meeting that a lot of people from local agencies and the administration put a lot of hard work to acquire the acreage.

"We thank all these people who made this possible," he said. "It is a wonderful addition to our area that will not only offer preservation but also opportunity for recreation."

July

Gibraltar Island Stone Lab tours offered on Wednesdays

by John Hageman

Stone Laboratory is offering tours on Wednesdays through August 16 this summer at both the South Bass Lighthouse and Gibraltar Island campus. The South Bass Lighthouse tour is offered from 10 a.m. until noon and lasts 10-20 minutes, which includes a short narrative on the history of the building, a walk through the 1st floor of the house and access to the tower for a view of the Lake, ferry boats and other sights to the South and West. There is a fee of \$4 for adults and \$2 for children 12 and under to cover lab assistants' time, with any profits being deposited into the Friends of Stone Lab Scholarship accounts.

The Gibraltar tour is a 2-hour long science and history tour that includes a walk around Gibraltar Island, discussions about the Jay Cooke castle (unfortunately entry inside has been discontinued due to the fragile condition of the porches), a stop at the scenic Perry's Lookout (the highest elevation on the Lake Erie Islands), a look at the Glacial Grooves, then some science inside the Stone Lab classrooms that include discussions about exotic species (zebra and quagga mussels, gobies, spiny water fleas, purple loosestrife, Asian Carp, river huffer and snakeheads), Island snakes, a look at live algae and zooplankton; a discussion about Lake Erie's dead zone, mayflies, walleye life history, and other current topics of interest.

To participate in the Wednesday Stone Lab tour, take the water taxi from the Boardwalk over to Gibraltar at 1:15. They charge \$4 per person for a round trip to and from Gibraltar. Stone Lab collects an additional \$10 for each adult and \$5 for children 12 and under, which goes into the FOSL Scholarship accounts. The tour takes a full 2 hours, from 1:30 to 3:30 p.m., with no admission to Gibraltar after the water taxi makes the trip over at 1:15 p.m..

Stone Lab Guest Lecture Series Free and Open to the Public - July 2006

Join us on most Thursday evenings throughout the summer for fascinating discussions on a variety of Lake Erie, Great Lakes, and Ohio issues. See complete lecture schedule below. This program is free and open to the public. Sponsored by the Friends of Stone Laboratory, the Ohio Sea Grant College Program, and University Housing.

All lectures begin at 7:45 p.m. and conclude at approximately 9 p.m. Each lecture is preceded by a short lecture on current research at 7 p.m. and both lectures are broadcast live into 244 Kottman Hall on the OSU main campus. An OSU boat leaves the dock in front of the OSU Research Building (near State Fish Hatchery) at 7:15 p.m. before each lecture. Transportation on this boat to and from Gibraltar Island is free.

We can also transmit the lectures to remote locations—contact the Stone Laboratory Office for information or for a listing of the research presentations (614-247-6500).

July 6th - Dr. Joe DePinto, Senior Scientist, Limno-Tech, Inc.
"The Use of Models to Support Management Decisions in the Great Lakes"

July 13th - Dr. Russ Kreis, Director, Large Lakes Research Laboratory, US EPA "Interaction and Impacts of the Detroit River on Lake Erie"

July 20th - Transition between terms—No Lecture

July 27th - Dr. Joan Herbers, Dean, College of Biological Sciences, Ohio State University "Dysfunctional Families in the Insect World"

Ask The Snakelady

By Kristin Stanford

Hello,

I saw your name on-line and wanted to ask a few questions about the Lake Erie water snakes, of which we see a lot because we spend a lot of time on the islands. I want to know what to do if bitten, besides patch yourself up? I know they are not poisonous but can they cause any other harm from a bite that needs attention?

Thanks, Tim.

Hello Tim~

Thanks for writing in. Yes, you are correct the Lake Erie water snakes are not venomous at all and so pose no real danger to you or your family when you visit the lake. If you do manage to get bitten, which would only really happen if you tried to pick one up, I would treat it as you would any scratch. To be on the extra safe side, you can disinfect with peroxide and put a band-aid on if necessary.

To tell you the honest truth though, I do absolutely nothing to my bites and I've never ever had any sort of reaction or infection. There are a lot of old wives' tales out there about how the water snake bites can leave nasty infections, but that's just not true! At least not in my personal experience of probably thousands of water snake bites!

You will bleed like a stuck pig for sure, but after it stops, the wound is really no more than a scratch. Just today I was bitten at least a dozen times or so on the arms and hands, and now it just looks like I've been scratched up by some thorn bushes.

So, bottom line, if you do get bitten by a water snake or any non-venomous snake on the islands, the best thing to do is wash it with soap and water, disinfect it with alcohol or peroxide, and put a band-aid on there if you think it needs one.

But if you don't....you'll definitely live to see another day! :-)

All the best, *Kristin*, theislandsnakelady@yahoo.com

Shrink Wrap Pilot Program with Ohio Sea Grant at Area Marinas Considered Overwhelming Success

In what may be one of the most successful pilot programs ever undertaken by the partnership of OSU Sea Grant, the Ohio Department of Natural Resources and LEMTA, last spring's Shrink Wrap Recycling Program is being hailed as an overwhelming success.

"We estimate 150,000 lbs. of plastic shrink wrap was recycled," reported Gary L. Comer, Sea Grant's Coordinator for the Ohio Clean Marina program. "This was a great success for the first time out of the box," he commented.

Most LEMTA member marinas from Cleveland to Pt. Clinton were participants in the

pilot program. In it, a special packer truck provided by Mondo Plastics Corp. in Marietta, OH made weekly rounds to participating marinas to collect shrink wrap during April & May.

In years past, marinas had to bring in extra dumpsters in the spring for the shrink wrap and pay to have it hauled away to a landfill. The pilot program this year proved to be a big win-win for both LEMTA members and the environment. No longer did the shrink wrap end up in a landfill where it would never decompose, but LEMTA marinas saved the cost of extra trash pickups, too.

The Mondo truck was first used experimentally earlier in the year at January's Mid-America Boat Show to take the shrink wrap normally thrown out at the I-X Center. The truck is expected back next January.

Every piece of the shrink wrap collected by the Mondo truck was recycled into plastic blocks used in today's highway guard rails.

"While this year was a Huge success, some glitches will be reviewed and revised for next year," stated Comer. "But we're already gearing up for even more success in the next round," he added.

Sportfishing workshop offered

Fishwrapper reports

For those wishing to learn more about Lake Erie fishing with a boat as their classroom, The Ohio State University's F.T. Stone Laboratory is offering a three-day sport fishing workshop July 21-23, 2006 at the island laboratory at Put-in-Bay, Ohio.

This non-credit workshop is open to anglers of all ages and skill levels. Stone Laboratory vessels will be used for walleye and smallmouth bass fishing; rowboats will be available during off hours for pursuit of largemouth bass and panfish. Lectures will provide background in gamefish behavior and fishing techniques.

Registration is open now and includes two nights housing on Gibraltar Island and all meals. For fee information and registration, visit ohioseagrant.osu.edu/stonelab/

Information: Fred L. Snyder,
(419) 635-1022.

Virus blamed for sheephead kill in Lake Erie

By KRISTINA SMITH
Fishwrapper correspondent

PORT CLINTON, Ohio — A virus killed thousands of sheephead that washed up in late spring on city and Catawba Island shores, a fish biologist said. The viral hemorrhagic septicemia U.S. Fish and Wildlife

identified as the cause also killed of thousands of fish last year in Lake Ontario, said Jeff Tyson, fisheries biologist supervisor at the Ohio Department of Natural Resources, Division of Wildlife, Fish Research Station in Sandusky.

"I think it's on the downhill,"

Tyson said. "We're not seeing as many dying fish."

Tyson said his office has studied the sheephead, also known as freshwater drum, population since the kills.

"We're still seeing decent numbers of the adult drum," he said. "Ecologically, I don't know

that it's going to have a real significant impact on the lake."

ODNR sent sheephead, a large species that is not considered a prized sport fish, carcasses to a U.S. Fish and Wildlife laboratory in Wisconsin, where biologists found VHS. Tyson stresses the virus does not pose a health risk to humans.

The 2005 infestation in Lake Ontario was the first strain confirmed in fresh water, but it took technological advances to find it, he said.

"This is very similar to a strain that has been identified on the East Coast," he said. "That doesn't mean it hasn't been here. We just weren't looking at it with the right pair of glasses, so to speak."

Ballast waters from freighters may have brought VHS into the Great Lakes, he said. Tyson also believes the unusually warm winter contributed to the prevalence of the virus. Normally, the frozen lake kills disease-causing organisms.

Fred Snyder, Ohio State University Sea Grant specialist, said recently that winters also tend to weaken fish immune systems, making them more susceptible to viruses.

In 2002, there was a similar kill of sheephead, Snyder said.

Biologists do not know if VHS was responsible then as well, Tyson said.

Since the latest sheephead kill, biologists have seen a large number of yellow perch dying in the Lake Erie Central Basin near Cleveland. They have sent some of those carcasses to the same Wisconsin lab to be analyzed for possible VHS.

"We're not seeing it in the Western Basin," he said. "The perch die-off is not nearly as extensive as what we saw with the drum die-off."

Many of the dead are 3-year-old perch, who would have spawned for the first time this year.

"It may also be post-spawning stress," he said.

Summer fun centered on islands

Among the highlights of summer along the Lake Erie shores are the many fun events.

Kelleys Island's annual Islandfest is July 21-23, which kicks off at 7 p.m. Friday with a street dance. Saturday opens with a parade followed, by a waterfront craft fair, live entertainment by local Toledo blues bands, plus food, beer, novelties, evening

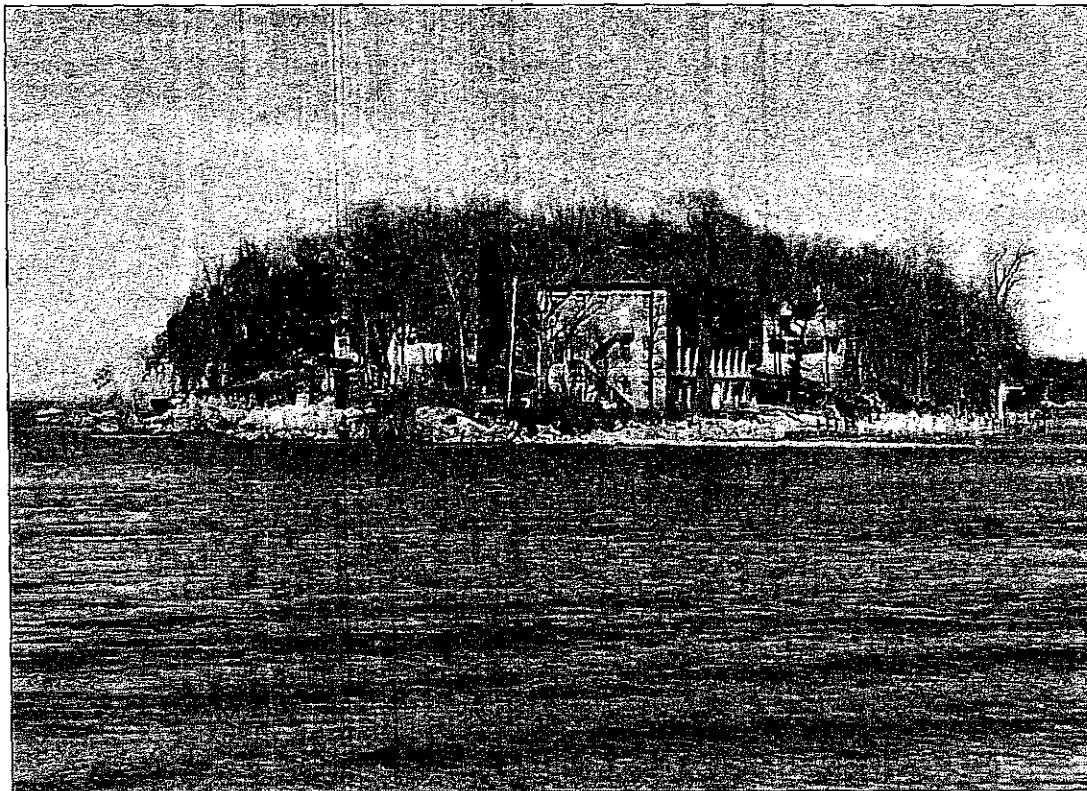


Jon Kerns

fireworks and a dream vacation raffle drawing. Sunday features live entertainment, a craft fair and much more. Details: (419) 746-2360.

Meanwhile, Put-in-Bay offers a mid-summer evening of live classic "Big Band" music July 22 featuring the Johnny Knorr Orchestra. This event, which offers a garden-style buffet, is from 6 to 10 p.m. at the Crew's Nest Pavilion on Bay View Boulevard.

Tickets are \$50 and available by calling Judy Kania at (419) 285-2022. The evening is spon-



Jon Kerns/Fishwrapper file photo

GILBRALTAR ISLAND, located adjacent to downtown Put-in-Bay and South Bass Island, is home to F.T. Stone Laboratory, the nation's oldest freshwater biological field station and the island campus of The Ohio State University.

sored by the Perry Group of Put-in-Bay, a non-profit organization which will use proceeds from this fund-raiser to help sponsor the free public performance of the Toledo Symphony every year during the September Historical Weekend Celebration on Put-in-Bay.

Perry's Victory and International Peace Memorial is benefitting from Ohio's hottest selling-license plate, introduced in 2005. The plate, which features an image of the Perry Memorial and "Put-in-Bay" at the bottom, can be ordered at www.oplates.com or at any Ohio bureau of motor vehicles.

The Put-in-Bay license plate is the only special one offered by Ohio that actually has a municipality's name on it.

The new Put-in-Bay plates, which cost an additional \$25, generate about \$1,500 every three months for the nonprofit Perry group, whose mission is to support the memorial, said Par President Ken Kania. The organization supports educational and cultural programs at Perry's Victory.

The Perry's Victory Visitor

Center opened in late May 2002 and had more than 204,000 visitors that year. Admission to the center is free and open from 10 a.m. to 7 p.m. Sunday through Thursday and 10 a.m. to 8 p.m. Friday and Saturday during the season.

Safe boating classes are conducted throughout the year and boaters are encouraged to enroll in classes — whether for the first time or as a refresher.

For more information on the U.S. Power Squadron public boating course closest to you, call (888) FOR-USPS or access www.usps.org.

The U.S. Coast Guard Auxiliary's boating skills and seamanship course is a comprehensive class designed for both the experienced and novice boater. Details at www.cgaux.org or call the U.S. Coast Guard Infoline at (800) 368-5647.

Keeping Ohio's waterways clean is a difficult task, but with just a little forethought, boaters can make a difference. In addition to being illegal under state and federal regulations, throwing litter overboard

causes trash to float into our rivers and lakes, wash up on our beaches, and create an unsightly view with a potential to become hazardous as well.

Littering is against the law. Individuals caught littering face public embarrassment, court fines and/or sentencing of community service work time.

The most important reason not to litter, however, should be the benefit gained from a clean, safe and natural boating environment. Be an environmentally aware boater and encourage others to do the same.

Don't forget to check out www.thefishwrapper.com for the latest online news, marine weather, updated fishing reports, event listings, business services, fishing charters, lodging, general classifieds and more.

We welcome contributions of press releases, news items and announcements concerning Lake Erie. Please make submissions by our monthly deadlines for publication consideration.

E-mail Jon Kerns at jkerns@fremont.gannett.com

07.03.2006, " Stone Lab lecture series continues July 6." OSU TODAY

STONE LAB LECTURE SERIES CONTINUES JULY 6

-- The Stone Laboratory summer lecture series continues Thursday as Joe DePinto, Senior Scientist, Limno-Tech, Inc. presents "The Use of Models to Support Management Decisions in the Great Lakes" from 7:45-9 p.m. on Gibraltar Island in Lake Erie. A short lecture on current research will take place at 7 p.m., and both lectures are broadcast live into 333D Kottman Hall. A schedule of all summer lectures is available online at. -- > VIEW: <http://ohioseagrant.osu.edu/>

07.06.2006. "Erie plates." CLEVELAND PLAIN DEALER

Erie plates: Lake Erie anglers can purchase an Ohio license plate with a picture of a walleye and benefit the Ohio Sea Grant College Program and Stone Laboratory's fisheries research, education and outreach programs. The new Fish Lake Erie plate is listed on www.oplates.com and costs an additional \$25, with \$15 earmarked for Ohio Sea Grant.

Kids Attend 2006 4-H Sea Camp



Port Clinton native Matt Rhode nets a fish during Thursday's fishing trip.



L to R: Ari Leslie, Jennifer Kist, Renee Hendrshot, Tyler Miller, Meighan Stevens. PHOTOS BY CAPTAIN DENNY BERGEMAN.

**BY RYAN BERGEMAN
SPORTS WRITER**

Kids from all over Ohio migrated to our area last Monday through Friday for the 2006 4-H Sea Camp held on Kelleys Island. Approximately 90 kids between the ages of 13-18 participated in last week's activities conducted by Ohio Sea Grant and 4-H.

This year marked the 23rd year of the annual Sea Camp, which was started in the 1980's by Ohio Sea Grant. Director Bob Troutman and Bill Harris, head of the 4-H program, coordinator Kelly Riesen, along with 18 staff members and 10 counselors lead the five days and four nights, which included a number of daily activities to the kids. All activities were related to the lake and its surroundings. Instructional classes were given such as water/boating safety, navigation skills, techniques of fishing, aquatic science, astronomy, and island history.

Campers also participated in many different activities such as power boating, sailing, kayaking, snorkeling, fossil hunts, and numerous types of fishing. Thursday's activity was a fishing trip on Lake Erie. Sixteen local charter captains volunteered their boats and time to escort campers on the lake and show them the fine points of Lake Erie walleye fishing.

A farewell dinner was held on Friday in the form of a fish fry along with presentation of boat awards as the last event of the week.

New Plates to Promote Lake Erie Fishing

A new specialty license plate that recognizes Lake Erie's recreational fishing opportunities is available from the Ohio Bureau of Motor Vehicles.

The new plates feature an image of a Walleye about to bite a lure. The plates cost \$25 annually in addition to the usual registration fees. A portion of the plate fees, \$15, will go to benefit the Ohio Sea Grant College Program, which is run out of the Stone Lab at The Ohio State University's Gibraltar Island campus.

The Ohio Sea Grant is well known for the development of outstanding curriculum materials for grades 3 and 4-12, for the training of science

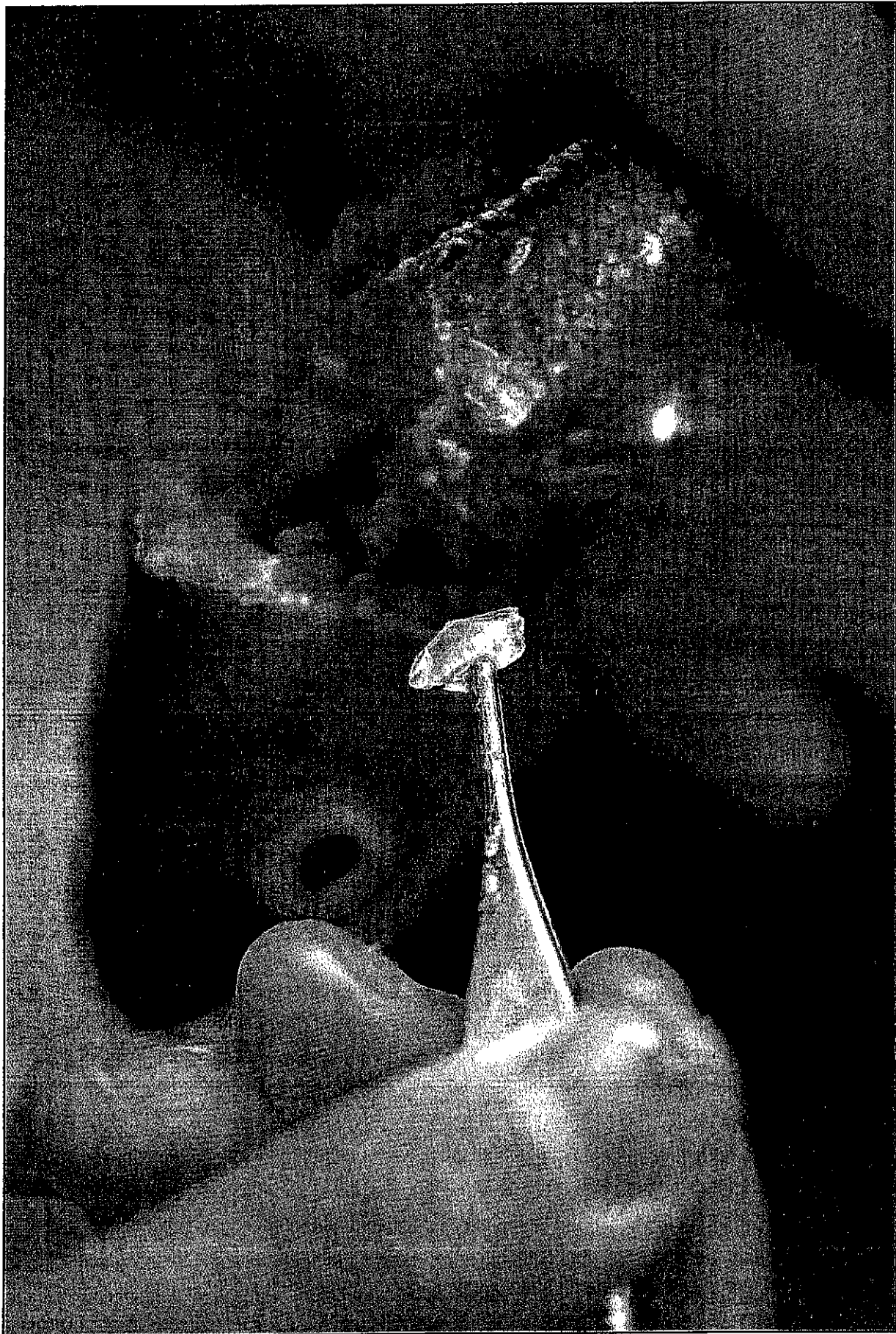
teachers and for research contributions to the education profession. By offering online courses, fellowship and workshops developed specifically for teachers and high school students, the program offers interesting science topics and projects aimed at helping Ohio students improve performance in the field of science.

The Lake Erie Fishing plates will be issued at any deputy registrar's office, by mail, or online.

Requests for special plates may be made at any deputy registrar's office online, through the mail or by calling the Bureau of Motor Vehicles at 1-888-PLATES3 (1-888-752-8373). These plates may

also be ordered as reserved or personalized plates with additional applicable fees. They may be issued to passenger vehicles, no-commer-

cial trucks, motor homes, house vehicles and no-commercial trailers.



JEFF HINCKLEY | DISPATCH

A Bowling Green State University researcher extracts "ear stones" from a white bass at Stone Lab at Put-in-Bay.

The secret lives of fishes

Bowling Green researchers say fish 'ears' will help track where species live and travel to

By Poh Si Teng
THE COLUMBUS DISPATCH

BOWLING GREEN, Ohio — Todd Hayden put on a faded T-shirt and picked up the tools of his trade — a hacksaw, a linoleum knife and a thawed white bass.

The researcher, who sat at a lab table surrounded by dozens of jars containing hundreds of preserved walleye and yellow perch, pinned the bass to a tray and began to cut away its head.

Inside the fish, between its brain and swim bladder, Hayden said, is a secret — one that could change the face of commercial fishing and how officials protect fishes throughout the Great Lakes.

After he created an opening, Hayden picked up forceps and carefully extracted two otoliths, or "ear stones."

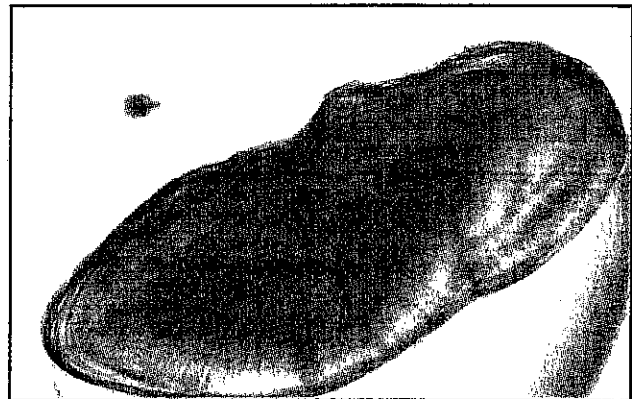
Each calcium carbonate flake, smaller than a half inch, contains the fish's life history, including where it spawned and its migration patterns through Lake Erie.

Bowling Green State University researchers say this information could change the lake's annual billion-dollar fishing industry.

Commercial fishermen, scientists and conservationists are enthusiastic.

"We would have one thing that would have a million answers," said Tom Mayher, a Lake Erie commercial fisherman for 55 years.

Think of it as a type of MapQuest for the lake, guiding fishermen and researchers to



TODD HAYDEN | BOWLING GREEN STATE UNIVERSITY

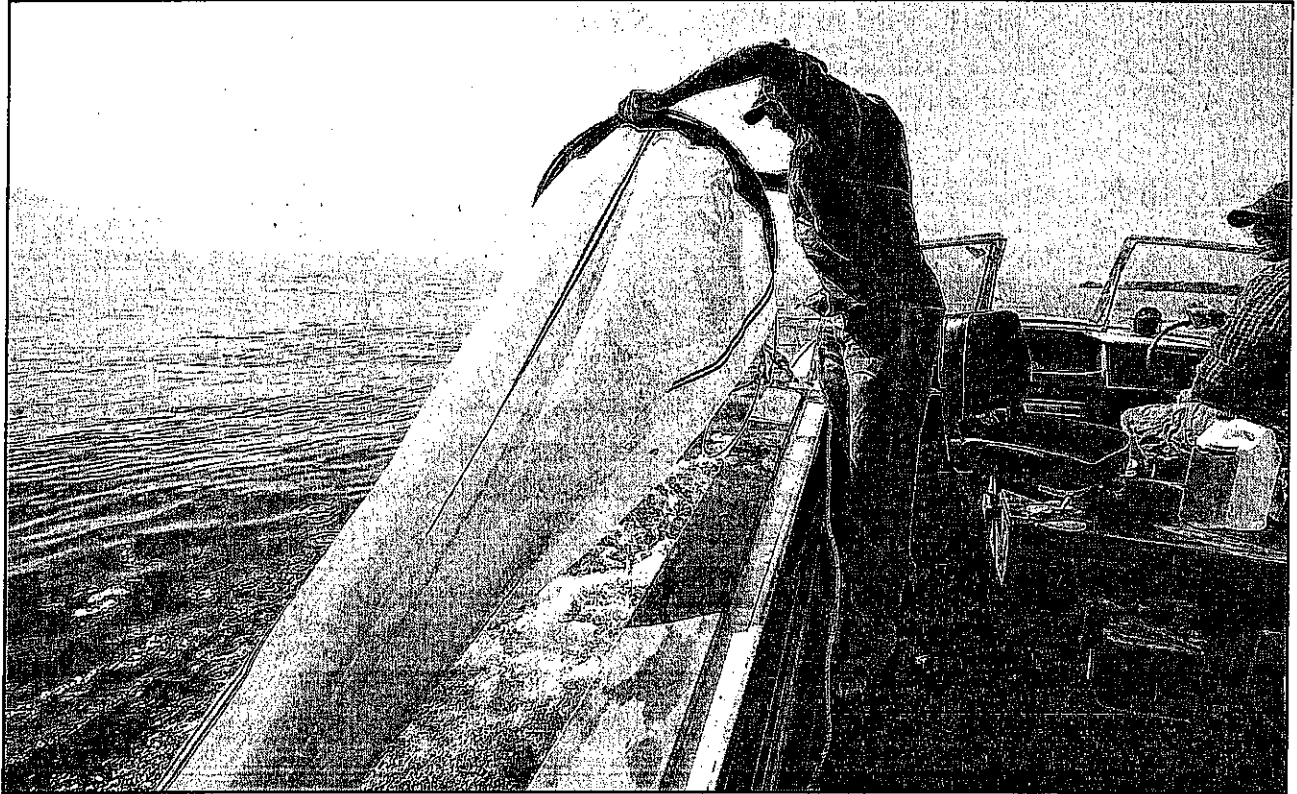
A juvenile yellow perch otolith is prepared for analysis. Researchers say the rings that form in the otoliths are like those that form in a tree, giving clues to the age of the fish. The otolith is about 2 mm long.

"We would have one thing that would have a million answers."

TOM MAYHER

Lake Erie fisherman talking about fish ears, which can show both the age of a species and where it's from

See **FISH** Page B11



JEFF HINGKLEY | DISPATCH PHOTOS

Bowling Green researcher Todd Hayden releases a net to sample fish while research technician Shad Swanson guides the boat on Lake Erie at Put-in-Bay.

FISH

FROM PAGE B10

areas where different fishes congregate.

That's the kind of information that also could help the state protect species from extinction, said Mayher, the Ohio director for the Great Lakes Sport Fishing Council and chairman of the North Coast Sport Fishing Council.

The 76-year-old Cleveland angler said he and others no longer can fish for blue pike, a walleye subspecies that was overfished and driven to extinction in the 1960s.

Mayher said he hopes information derived from the otolith will help keep other fishes, such as the small-mouth bass, from a similar fate.

Otoliths — there are three pairs in every fish — are similar to tree trunks. As a fish grows, so does its ear stone, giving those who read it an accurate age.

Rings form in the otolith during winter, when fishes consume less and aren't growing, said Jeff Miner, an associate professor of biological sciences at Bowling Green.

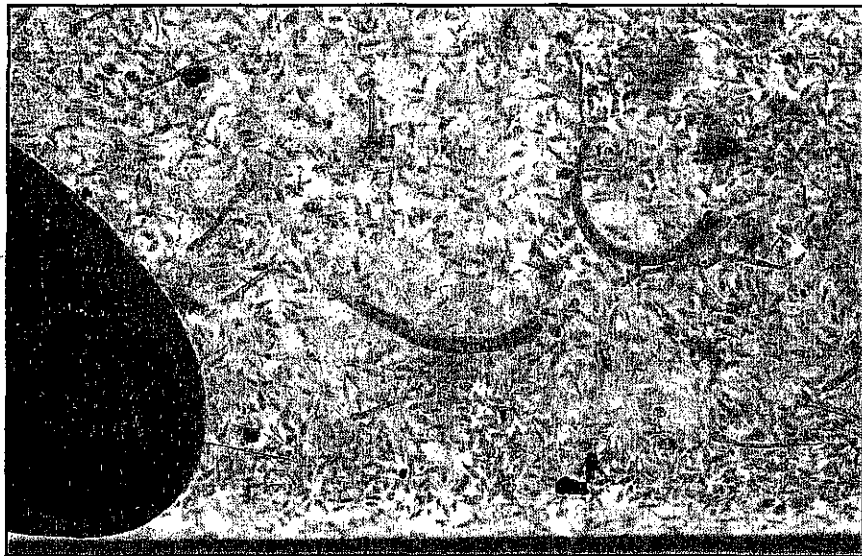
But there's more to the ear stone.

It also records between the rings natural trace elements — strontium, barium, manganese and magnesium — from lake waters. Researchers can pair the chemical composition in the otolith to different areas in Lake Erie, said Miner, a fish ecologist.

The Bowling Green research team, which focuses on the Sandusky River as well, matches the strontium levels in the water to the otoliths. Researchers say they can tell where the fishes spawned — information that might help them uncover their migratory routes.



Hayden inspects a sample just pulled from Lake Erie near Put-in-Bay. The Bowling Green State University researcher is looking for larvae in his study of otoliths. Below, Hayden's thumb shows the size of the larvae he pulled from the lake.



For example, the Sandusky has a higher concentration of strontium, which serves as a tag after the fish migrate into Lake Erie.

In addition to fish sampling, Miner's research team collects water from the Maumee and Sandusky rivers, and where the Detroit River meets Lake Erie.

This is the kind of information that can help the state manage the lake, said Roger Knight, an administrator with the Ohio Department of Natural Resources.

And it could help officials better understand invasive species and help prevent overfishing.

"It will improve our ability to estimate how many fishes are in the lake, and how many can be removed by fishers," said Knight, adding that the otolith is a more efficient marker than traditional fish tags.

But before the lab work begins, researchers must first catch their subjects. Hayden guides a 1973 aluminum boat around Put-in-Bay twice a week, usually after dusk. On a recent trip, he used a cone-shape net to catch larval fishes.



Biology professor and fish ecologist Jeff Miner said researchers can pair

the chemical composition in the otolith to different areas in Lake Erie.

"I can't imagine a better way to spend the day," he said, smiling.

For larger fishes, Hayden and other Bowling Green researchers channel electrical currents into the lake to collect their samples.

Hayden said he would rather fish than polish hundreds of otoliths in the laboratory.

Once polished, Hayden and Miner take the ear stones to the University

of Windsor in Canada, where a mass spectrometer determines the trace elements within each ring.

The otolith research community shares technology and discoveries.

Scientists in Ohio, Michigan, New York and Canada say they have a common goal — to protect the Lake Erie ecosystem.

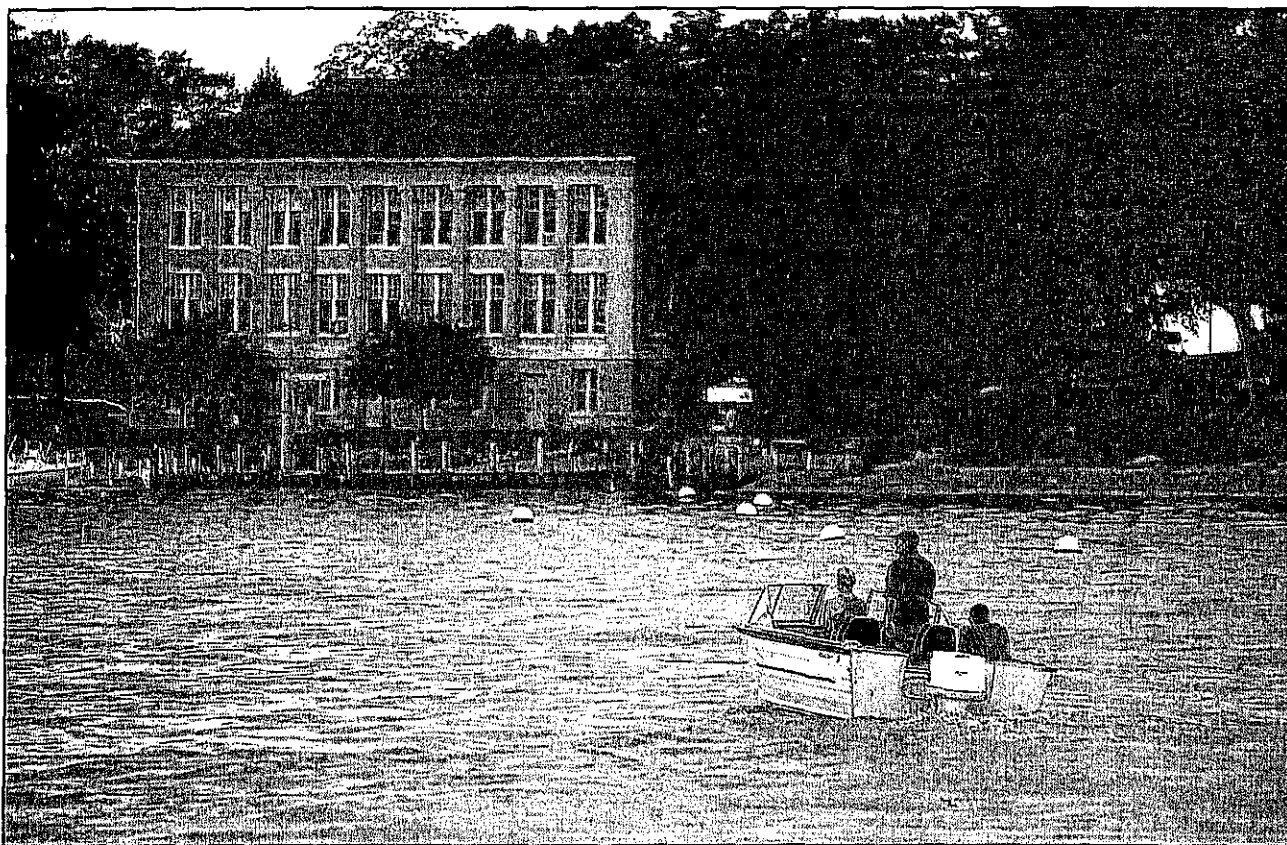
"We have to share information across the border because the fishes don't understand the border," said Brian Fryer, director of the Great Lakes Institute for Environmental Research at the University of Windsor.

The weather dictates how often researchers can collect on the lake, making for some frustrating weeks.

But Hayden, a fisherman at heart, said it's worth it.

"The fishes are a resource and they bring in a lot of money," he said. "It's in our best interest to conserve the fish."

pteng@dispatch.com



Bowling Green researchers approach Stone Laboratory on Gibraltar Island in Put-in-Bay harbor.

COLUMBUS, OH (2006-07-12) It's been called Return of the Green Slime. Gobs of algae have become more abundant over the past ten years in the Great Lakes, and especially in Lake Erie. But these algal blooms aren't just a nuisance. They disrupt the ecosystem, hurt local economies, and can pose a serious health risk.

In the 1960s and 70s, a huge growth of blue-green algae invaded the Great Lakes. The green muck accumulated on shorelines, damaged water quality and kept swimmers away. The cause of those algal blooms was an abundance of phosphorous. Phosphorous is an essential nutrient for algae, which comes from agricultural run-off and laundry detergents. Government regulations in the 70s then limited the amount of phosphorous, and the algae receded.

Now, the algae appear to be back. Ohio State University Biology Professor David Culver studies blue-green algae. He says although the current amount of algae is only half of what it was 40 years ago, its sudden abundance is worrisome.

"Because there's a lot less phosphorous coming in from the watershed, we're surprised to see as much and as frequent algal blooms as we have now. And so we're concerned, and that's why there's the fuss," Culver says.

Culver suspects the arrival of non-native species of mussels might be causing the blooms. In the 1980s, the zebra mussel and its cousin, the quagga mussel, made their way into the Great Lakes. The mussels secrete nutrients that encourage algae growth.

Blue-green algae are actually bacteria, called cyanobacteria, and pose a serious problem.

"Number one, the cyanobacteria in general are not good food for the zooplankton, so they don't contribute to the food-web that raises up to fish and thus to humans. And number two, many of the cyanobacteria produce toxins," says Culver.

Currently, the most common toxin produced is called microcystin. It damages the liver and can cause rashes when in contact with skin. In 1996, 52 people died from microcystin in Brazil. They were kidney patients undergoing dialysis with contaminated water.

Partly because it's shallow and warm, Lake Erie has experienced especially significant algal blooms. Lake Erie also supplies drinking water for Toledo, Cleveland, and much of northern Ohio. OSU Environmental Engineering Professor Hal Walker works on developing technology to treat algae. He says if nothing's done to monitor and treat the algae, the toxin can easily make its way into tap water. Algal blooms are a huge issue because they occur everywhere there is surface water, which accounts for about half of the general population's drinking water.

But, technology is available to solve the problem - one of which is activated carbon. Large carbon particles stick to the toxin, and then are filtered out. Most cities use this method. While agreeing it's a problem, Walker doesn't think algal blooms are a real crisis.

"No I don't think it will be a big crisis, but it'll cost money. With drinking water there are always sort of two issues: one, is technology available? And two, can it be implemented in a cost-effective way," Walker says.

Still, Walker says continuing research is necessary to understand the effects of and treatments for algal toxins.

Perhaps the most significant impact is ecological and economical.

Algae can settle in cold water deep below the surface where it's dark. Without sunlight, it can't undergo photosynthesis and replenish the oxygen supply. The result is regions in the lake where there's little to no oxygen. Scientists have dubbed these regions dead zones.

These dead zones harm the ecology of the lake, and in particular, dead zones destroy fish habitats. Culver says the loss of fish habitats hurts sport fishing, one of Lake Erie's major industries.

"It's been shown that there's a multi-million dollar impact of sport fishing on the people living around the lake, because it's such a good fishing lake," says Culver.

Columbus and surrounding areas get their drinking water from nearby reservoirs. Rod Dunn is Supervisor of Water Quality Research at the Water Quality Assurance Lab of Columbus. Dunn says although there are algal blooms in central Ohio reservoirs, toxins like microcystin are not a problem.

"Different times of the year we see blooms, but usually it's not the kind that produce algal toxins, and those just occur in real low numbers," he says.

Dunn says the primary problem in Columbus from algae is taste and odor, but that can be treated.

Last month, the Michigan Environmental Council issued a report on the harmful impacts of algal blooms in the Great Lakes. The report also cited phosphorous from fertilizer and dishwasher detergents as reasons for algal blooms.

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Lectures

Stone Lab lectures continue

July 27, Aug. 3 and Aug. 10

Stone Lab continues its summer Guest Lectures Series from 7:45-9 p.m. Thursday evenings through Aug. 10 at Gibraltar Island in Lake Erie. The lectures, which are broadcast live on the Columbus campus in 244 Kottman Hall, are:

- Joan Herbers, dean of the College of Biological Sciences, "Dysfunctional Families in the Insect

World," July 27;

- Laura Rush, diplomat, American College of Veterinary Pathologists at Ohio State, "Cancer Treatment Is Going to the Dogs: Using Humans as a Model of Canine Cancer," Aug. 3; and

- John Gannon, International Joint Commission, "Lake Erie and the Great Lakes Water Quality Agreement: Past, Present," Aug. 10.

These programs are free and open to the public. Free transportation to and from Gibraltar Island is provided by a boat that leaves the dock in front of the OSU Research Building (near the State Fish Hatchery) at 7:15 p.m. before each lecture. For lecture details, call the Stone Lab office at 247-6500.

Stone Laboratory Students Offer Personal Accounts of Lake Erie Courses Through Blog

Students and educators interested in The Ohio State University's Lake Erie campus at Stone Laboratory can now view first-hand accounts of students' experiences on line. Lauren Makeyenko of the Center for Great Lakes Environmental Education is the first of many Stone Lab students who has been busy blogging.

"Everyone was able to participate in the water sampling this morning. Techniques used were the Rosette Sampler (conductivity, temperature, chlorophyll, and dissolved oxygen), Box Core Sampler, Ponar Grab, and Plankton Net," writes Lauren on the first day of her blog.

Shipboard and Shoreline Science on Lake Erie is Lauren's daily journal of her experiences while taking the course Natural Resources 611: Great Lakes Education Workshop. Throughout her blog, Lauren quotes her classmates, uploads pictures of her activities, and documents her experience aboard the U.S. EPA's R/V Lake Guardian.

"Lauren Makeyenko did a great job of capturing not only what was happening with the science but also with the environments we encountered," says Dr. Rosanne Fortner, director of COSEE Great Lakes. "The storms, the mayflies and the canoes all contributed to that experiential aspect that is the most memorable way to learn. I think you can see from the

photos how involved and enthusiastic the participants were."

As part of a new Ohio Sea Grant Communications project, Lauren's blog is just one of many student blogs now available on the web. One student representing each of the 30 science courses offered at Stone Laboratory has been selected to write a detailed account of their experiences while at the Lab this summer. Courses with blogs now include Sports Fishing, Geology, and Marine and Aquatic Education.

These blogs will serve as a visual and written record of student experiences to use in the following years for promotion. Future students will be able to click and see what they would be doing in class from another student's perspective. From important items to bring to Lake Erie, to how to catch bigger walleye, anyone can see that these blogs are meant to prepare and intrigue future students.

To see Lauren's blog about her experience with COSEE Great Lakes' Lake Guardian course, visit www.coseegreatlakes.blogspot.com. To read about other students' adventures while at Stone Laboratory, visit the Stone Lab Students blog at www.stonelaboratory.blogspot.com.

For more information about COSEE Great Lakes contact Dr. Rosanne Fortner, at fortner.2@osu.edu.

07.24.2006. "Stone Lab lecture series continues." OSU TODAY

STONE LAB LECTURE SERIES CONTINUES JULY 27

The Stone Laboratory summer lecture series continues Thursday (7/27) as Douglas Kane, lecturer with OSU's College of Food, Agricultural, and Environmental Sciences, presents "From the Lake Erie Ecosystem to the Biosphere: What Plankton Can Tell Us About Our Environment," from 7:45-9 p.m. on Gibraltar Island in Lake Erie. A short lecture on current research will take place at 7 p.m., and both lectures are broadcast live into 333D Kottman Hall. A schedule of all summer lectures is available online.

07.24.2006. License plate to benefit Ohio Sea Grant. OSU TODAY

LICENSE PLATES TO BENEFIT OHIO SEA GRANT, STONE LAB

A new Ohio specialty license plate available through the Ohio Bureau of Motor Vehicles, bearing the image of a walleye and the phrase "Fish Lake Erie," will support research and education efforts of the Ohio Sea Grant College Program and Stone Laboratory, as well as promote tourism and sport fishing participation on Lake Erie. The new plate will cost an additional \$25 above regular vehicle registration fees, with \$15 from each sale going to Ohio Sea Grant. The plates are available now through the Ohio Bureau of Motor Vehicles by calling toll-free (888-752-8373) or online at www.plates.com.

07.25.2006. "Ohio Sea Grant Honors Redfern." PORT CLINTON NEWS HERALD

Article published Jul 25, 2006

Ohio Sea Grant honors Redfern

State Rep. Chris Redfern, D-Catawba Island has been awarded the Ohio Sea Grant Superior Leadership Award in recognition of his outstanding leadership in support of the Ohio Sea Grant College Program and Stone Laboratory.

The award honors Redfern's work to create a new "Fish Lake Erie" license plate to support Ohio Sea Grant programs that enhance Lake Erie tourism, sport fishing, research, education, and outreach.

"Chris Redfern's efforts created the legislative support for the 'Fish Lake Erie' license plate," said Dr. Jeffrey Reutter, director of the Ohio Sea Grant College Program. "This wouldn't have happened without Rep. Redfern's leadership."

Redfern said he was honored to receive this recognition from a program that is vital to Erie and Ottawa counties. "The Ohio Sea Grant College Program protects our environment, promotes tourism, and fosters science education," said Redfern.

Reutter said that proceeds from the sale of the "Fish Lake Erie" license plate will support lake management, research, grant programs, Stone Laboratory, and student scholarships and fellowships. In addition, Reutter expects that the license plate will encourage more tourism in this area.

07.28.2006. "Erie plate available." DAYTON DAILY

By JIM MORRIS

Erie plate available

A new Ohio license plate is now on sale through the Ohio Bureau of Motor Vehicles, bearing the image of a walleye and the phrase "Fish Lake Erie." Proceeds will support research and education efforts of the Ohio Sea Grant College Program and Stone Laboratory.

The new plate will cost Ohioans an additional \$25 above regular vehicle registration fees, with \$15 from each sale going to Ohio Sea Grant. That money will specifically support education (grades 4 to adult) and research programs of Ohio Sea Grant and Stone Lab, along with restoration and education efforts to protect and enhance Lake Erie.

For more information, call (888) 752-8373 or visit oplates.com.



ODNR PHOTO

A new Ohio specialty license plate issue now on sale through the Ohio Bureau of Motor Vehicles bears the image of a walleye and the phrase "Fish Lake Erie." Proceeds from the sale of the plate will support research and education efforts of the Ohio Sea Grant College Program and Stone Laboratory.

On the trail of Lake Erie's shipwrecks

The *F.H. Prince* caught fire in Lake Erie on Aug. 8, 1911, and subsequently was scuttled off the east side of Kelleys Island.

Today, the remains of the steamer are scattered across a 275-foot-long site in about 18 feet of water. The wreck is

popular among scuba divers and snorkelers exploring the many historical treasures hidden in the lake's murky waters.

Some 1,500 known shipwrecks—and countless unknown ones—dot Lake Erie's bottom, 600 of them in Ohio's waters. But until now, the state's maritime history hasn't attracted much official attention, said Dave Kelch, an associate professor with Ohio State's Sea Grant Extension program.

With funding recently secured from several grants, Kelch is leading an effort to create underwater trailways that would guide divers to wrecks in four vast areas of the lake. "Every Great Lakes state has an underwater heritage," Kelch said. "We're finally going to become part of the system."

By mid-2007, Kelch plans to publish a guide to about 10 wrecks in each trailway, complete with photographs and coordinates. The sites will be chosen based on their significance and the amount of information available about each: details such as when the ship was built, how it contributed to Lake Erie's

Algae to the rescue

Ultrasound combined with the right kind of algae can eliminate mercury from contaminated sediment, Ohio State researchers have found.

The discovery could one day lead to a shipborne device that cleans toxic metals from waterways with-

out harming fish or other wildlife, said Linda K. Weavers, the John C. Geupel Chair in Civil Engineering.

"Mercury gets into the food chain when coal is burned or industrial waste is dumped into sediment systems," Weavers said. "It can form methyl-mercury, which contaminates fish." That can cause problems for people who eat the fish.

In the study, an ultrasonic probe was vibrated inside beakers containing water, sediment, and algae. The vibrations freed mercury from the sediment.

Next, the researchers used a species of algae that has been genetically modified by Ohio State scientists to absorb five times the normal amount of selected toxic metals.

**Scientists have
found a promising
method of
removing mercury
from sediment.**

The algae absorbed up to 60 percent of the mercury in the beakers within seconds.

"Say you were trying to clean water that contained effluent with a lot of calcium or iron in it, or seawater, which contains sodium," said

researcher Richard Sayre. "If your algae aren't selective, they'll absorb those other metals and you'll recover less mercury. So the advantage of these modified algae is that other metals don't interfere with the cleanup."

Weavers envisions that boats could dredge sediment from contaminated waterways, clean it on board using ultrasonic equipment and algae-based filters, and return the sediment to its original location. Or, the equipment could be placed directly on sediment to treat it in place. Either procedure would leave wildlife unharmed, she said. ■

4H Sea Camp kids enjoy Erie



Ohio's 23rd 4-H Sea Camp took place on Kelleys Island from June 26 to June 30 this year.

There were a total of 90 kids, ages 13-17, enrolled for the five day camp.

The idea behind 4-H Sea Camp is to get kids outside and exploring recreational opportunities on the water. All of the kids participated in activities such as lure-making, kayaking, snorkeling, jet skiing, and sailing.

As usual, the highlight of the week was the Lake Erie charter fishing trip. Fifteen charter boats converged at the Kelleys Island Seaway Marina to pick up the eager young anglers. When all of the boats had returned at the end of the day, nearly 400 walleye and 40 yellow perch were caught. It was another great year at Sea Camp!

For more info contact:

*Kelly Riesen, Ohio Sea Grant
Lake Erie Nature and Science
Center 28728 Wolf Rd.
Bay Village, Ohio 44140
Office: (440) 808-5627*

August

Stone Lab Guest Lecture Series Free and Open to the Public - August 2006

Join us on most Thursday evenings throughout the summer for fascinating discussions on a variety of Lake Erie, Great Lakes, and Ohio issues. See complete lecture schedule below. This program is free and open to the public. Sponsored by the Friends of Stone Laboratory, the Ohio Sea Grant College Program, and University Housing.

All lectures begin at 7:45 p.m. and conclude at approximately 9 p.m. Each lecture is preceded by a short talk on current research at 7 p.m. and both lectures are broadcast live into 244 Kottman Hall on the OSU main campus. An OSU boat leaves the dock in front of the OSU Research Building (near State Fish Hatchery) at 7:15 p.m. before each lecture. Transportation on this boat to and from Gibraltar Island is free.

We can also transmit the lectures to remote locations—contact the Stone Laboratory Office for information or for a listing of the research presentations (614-247-6500).

Week 9 - 8/3 Dr. Laura Rush, Diplomat, American College of Veterinary Pathologists, Ohio State University - "Cancer Treatment is Going to the Dogs: Using Humans as a Model of Canine Cancer"

Week 10 - 8/10 Dr. John Gannon, International Joint Commission
"Lake Erie and the Great Lakes Water Quality Agreement: Past, Present, and Future"

Week 11 - 8/17 - End of Second Term—No Lectures

Week 14 - 9/9 - Open House—11:30-4:00 Saturday—Open to Public -
Stone Laboratory Open House with Educational Programs and Tours of
Gibraltar Island and South Bass Lighthouse followed by the Friends of
Stone Laboratory Annual Meeting.

Tours of Gibraltar Island and the South Bass Island Lighthouse

Stone Laboratory on Gibraltar Island in Put-in-Bay's harbor is offering its annual summer island tours on Wednesdays from 1:30 to 3:30 p.m. through August 16th. Participants will tour Stone Lab, Cooke Castle and take part in hands-on classroom science activities on Gibraltar Island. Cost of the tour is \$10 for adults and \$5 for children 12 and under. Tickets can be purchased the day of the event at Gibraltar Island. Water taxi to the island is not included in the ticket price. Space is limited. For more information, contact the Stone Lab office at (614) 292-8949, or Put-in-Bay office at (419) 285-2341.

In conjunction with the Gibraltar Island tours, Stone Lab will also offer a tour of the South Bass Island Lighthouse from 10 a.m. to noon every Wednesday through August 16th. Cost is \$2 for all ages and tickets can be purchased at the Lighthouse the day of the tour.

Ask the Snakelady ~ Kristin Stanford Results of Nerodio 2006 – The numbers are in!!

It was another extremely successful two weeks of snake catching during the annual spring Lake Erie watersnake census "aka Nerodio." From May 30th through June 11th a total of 26 volunteer field workers participated in the census and processed a grand total of 1450 snakes! That's the most snakes we've ever handled in such a short time frame!

All of the U.S. islands were visited including Rattlesnake, Ballast, Sugar, Gibraltar, Green and West Sister. All islands (with the exception of West Sister) were found to have a high density of snakes living there. Unfortunately, no LEWS were captured or seen on West Sister Island. Since this island is now part of the Ottawa National Wildlife refuge discussions are underway as to the feasibility of re-introducing and/or translocating snakes from high density sites on other islands. I am hopeful this may be another way we can help island residents peacefully coexist with the snakes.

Some especially noteworthy captures during the census were of two male LEWS that were initially marked 9 and 10 years previous (in 1997 and 1996). The snakes were marked as adults (3 or 4 years old) which suggests that LEWS can live even longer than 10 years!

All of the data we collected this spring will be used to generate new island population estimates for 2005 and 2006. The total population size of the Lake Erie watersnake has exceeded the USFWS Recovery Criterion of 5,555 snakes for the last couple years. However, this needs to be maintained for six consecutive years. In addition, each major U.S. island is required to have a certain number of snakes from this total population residing there. Unfortunately, the numbers have yet to be met on North Bass Island despite several snake censusing trips. We are planning on visiting North Bass again later this summer in hopes of increasing our number of captures.

I'd like to thank all of the island residents out there who continue to support the Nerodio and stand by and cheer as we grab those balls of snakes off the beach!
theislandsnakelady@yahoo.com

Fish Ohio Day a resounding success

by John Hageman

On June 26th, Governor Bob Taft joined Ohio outdoor writers, visitor bureau personnel and Ohio Division of Wildlife Fish management staff at the 28th annual Governor's Fish Ohio Day, hosted by the Lake Erie Charter Boat Association, Lake Erie Islands Regional Welcome Center, Ottawa County Visitors Bureau and the Ohio Dept. of Natural Resources-Div. of Wildlife to promote Lake Erie fishing and north coast tourism.

It was by far the most successful event in recent memory with excellent weather allowing the majority of boats to return with a limit of tasty Lake Erie walleyes, including some genuine trophies. A "Fish Ohio" qualifying 29-inch walleye was caught by none other than DOW Chief Steve Gray, fishing aboard the boat captained by veteran guide Jerry Abele.

Last year, the Governor remarked on how he thought he met the entire 2003 year class of walleyes, as one fish after another just shy of the legal 15-inch mark was released during the 2005 event. This year, he caught several legal-size fish to beat out ODNR Director Sam Speck by one fish. Dr. Speck jokingly claimed to have tossed back a couple fish to let the Governor win and keep his job.

This has been the best walleye fishing seen in over 15 years, as the mega-class of 2003-hatched walleyes have reached

15 inches and beyond, and the weather has cooperated since fishing began in earnest in March. Limits of walleyes have been exceptionally easy to catch, by both drift-fishing with weight forward spinners such as Erie Dearies, and trolling spoons or worm harnesses. On July 16, I took a limit in just 34 minutes within five minutes of Gibraltar Island. Several charter captains have remarked it often took longer to get to the school of fish than to catch their limit.

Encourage your friends to get back out and give Lake Erie fishing a try this season or the next few, as this bounty will last into the next several years the same way the mega-class of 1986 sustained the fishery throughout the 1990's and are still providing an occasional trophy.

Additionally, Smallmouth Bass populations have rebounded, due to the recent spring closure during the nesting season, yellow perch are on the upswing and record numbers of steelhead trout are being produced in the Castalia Fish Hatchery and stocked into Ohio streams to grow up in Lake Erie and return to the stream of their release.

Unfortunately, the 2006 walleye hatch doesn't look successful at all with not a single young of year walleye seen to date in any of the Stone Laboratory's Ichthyology or Aquatic Biology class trawls. The Division of Wildlife's June and July sampling thus far shows similar observations, but official results won't be tabulated until after their August trawls are completed.

Eight Tubenose gobies captured off Middle Bass

In late June, the F.T. Stone Laboratory Ichthyology class caught eight tubenose gobies while seining during a field trip on Middle Bass, on the north shore near the Kuehnle Wildlife Area (formerly known as Haunck's Pond). This is only the second time this European species, which is related to the round goby, has been found in the Ohio waters of Lake Erie. Since their North American discovery in 1990, they have been reported most often in the St. Clair River, Detroit River, the north shore of Western Lake Erie and since 1995, in Lake Superior at Duluth.

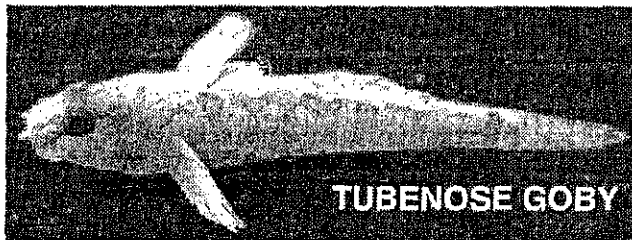
The tubenose goby, *Proterorhinus marmoratus* is a small fish, rarely exceeding 4 inches, native to the Ponto-Caspian region of Europe, inhabiting the Black and Caspian Seas and their tributaries, the same area where zebra mussels originated. It has a unique pair of tube-shaped nostrils which overhang their upper lip. It is a creamy color with brown bars or bands, large barred pectoral fins, long blotchy soft dorsal and anal fins and a rounded, barred tail. Gobies are a large family of fish with over 1,000 species in the temperate, tropical and sub-tropical regions of the world.

It prefers shallow, vegetated habitats, unlike its relative, the round goby, which prefers rocky habitat. In much of its native range, this diminutive fish species is considered uncommon, and in some cases protected by sanctuaries.

Whereas the round goby predominately feeds upon zebra and now quagga mussels, the tubenose goby feeds mainly upon scuds, freshwater shrimp, crustaceans, mollusks, fish eggs, insect larvae and aquatic worms. Due to its smaller mouth and secretive life-style, it is less likely to be caught by the casual fisherman than the pesky round goby.

The life span of the tubenose goby is reported to be from two to five years, maturing at 1-3 years. Both sexes are said to be able to produce sounds during the breeding season in the spring to call to one another. Eggs are laid on the underside of vegetation, rocks, clam shells, or where present, inside of beverage containers, where they are guarded by the tending male, same as the round goby.

It does, however, remind us of the need to get serious about stopping ballast water introductions that have the potential to devastate our Great Lakes, worse than the damage already done so far by the mussels, spiny water fleas, gobies and the recent fish virus that killed tens of thousands of freshwater drum and yellow perch in Lake Erie this past spring. What's next?



TUBENOSE GOBY

New Ohio License Plate to Benefit Ohio Sea Grant and Stone Laboratory Programs

Columbus , OH- A new Ohio specialty license plate is now on sale through the Ohio Bureau of Motor Vehicles . The plate, bearing the image of a walleye and the phrase "Fish Lake Erie," will support research and education efforts of the Ohio Sea Grant College Program and Stone Laboratory.

"The revenue generated from the sale of this plate will not only support research to protect and restore Lake Erie, but it will also support education and the scholarship programs at Stone Lab, as well as promote tourism and sport fishing participation on Lake Erie," said Jeff Reutter, Director of the Ohio Sea Grant and Stone Lab Programs.

The design of the walleye snagging a lure was the combined work of Ohio artists Sue Abatti, Adam Grimm, and Ray DeBolt.

The new plate will cost Ohioans an additional \$25 above regular vehicle registration fees, with \$15 from each sale going to Ohio Sea Grant. Funds generated from the sale of the plates will specifically support education (grades 4 to adult) and research programs of Ohio Sea Grant and Stone Lab, along with restoration and education efforts to protect and enhance Lake Erie.

"A special thanks goes to State Representative Chris Redfern for his support to create this new plate," said Reutter.

"Fish Lake Erie "plates are available now through the Ohio Bureau of Motor Vehicles by calling the toll-free hotline at 888-PLATES3 (752-8373) or by visiting its web site at www.oplates.com.

08.01.2006. "Redfern wins Sea Grant Leadership Award." REDFERNFOROHIO.COM

Redfern wins Sea Grant Leadership Award

Redfern Wins Ohio Sea Grant Superior Leadership Award

State Representative Chris Redfern (D-Catawba Island) has been awarded the Ohio Sea Grant Superior Leadership Award in recognition of his outstanding leadership in support of the Ohio Sea Grant College Program and Stone Laboratory. The award honors Redfern's work to create a new "Fish Lake Erie" license plate to support Ohio Sea Grant programs that enhance Lake Erie tourism, sport fishing, research, education, and outreach.

"Chris Redfern's efforts created the legislative support for the 'Fish Lake Erie' license plate," said Dr. Jeffrey Reutter, Director of the Ohio Sea Grant College Program. "This wouldn't have happened without Rep. Redfern's leadership."

Redfern said he was honored to receive this recognition from a program that is vital to Erie and Ottawa Counties. "The Ohio Sea Grant College Program protects our environment, promotes tourism, and fosters science education," said Redfern.

Reutter said that proceeds from the sale of the "Fish Lake Erie" license plate will support lake management, research, grant programs, Stone Laboratory, and student scholarships and fellowships. In addition, Reutter expects that the license plate will encourage more tourism in this area.

08.03.2006. "STONE LAB LECTURE SERIES CONTINUES AUG. 10." OSU TODAY

The Stone Laboratory summer lecture series continues Thursday (8/10) as Elena Irwin, OSU associate professor of Agricultural, Environmental and Development Economics, presents "The Value of Improved Water Quality to Homeowners Around Lake Erie," from 7:45-9 p.m. on Gibraltar Island in Lake Erie. A short lecture on current research will take place at 7 p.m., and both lectures are broadcast live into 333D Kottman Hall. A schedule of all summer lectures is available online. [Read more >](#)

Outdoor calendar

Friday, August 04, 2006

D'Arcy Egan

Plain Dealer Columnist

Today-Saturday: Deerassic Classic, Whitetailed Deer Education Center, Rt. 22, Cambridge, Ohio. Tickets still available. Visit www.deerassic.com or call 740-435-9500. Concert tickets are \$10 on Friday, \$20 on Saturday.

Today-Sunday: Civilian Marksmanship Program highpower rifle matches, Camp Perry, Rt. 2, Oak Harbor, 5 miles west of Port Clinton. For events visit clubs.odcmp.com/matches. Free.

Saturday: Women's Fishing Day and Fun Tournament, East Harbor State Park Marina, 1169 N. Buck Rd., Marblehead. Call Ohio Sea Grant, Kelly Riesen, 440-808-5627. Fee \$40.

Sunday: Introduction to Two-Handed Fly Rods with Will Turek, Angling Consulting Services. Lake Metroparks' Helen Hazen Wyman Park, Concord Township, 9 a.m.-1 p.m., ages 12 and over. Fee \$75. Pre-registration required. Call 440-358-7275 or 1-800-669-9226.

Sunday: National Bass Anglers Association Lake Erie/Sandusky Bay Challenge, 6 a.m.-2 p.m., Dempsey Access Area, Marblehead. Call Mark Bushroe, 734-847-8749.

LAKE ERIE

Green algae bloom likely in 2 weeks

By **TOM HENRY**

BLADE STAFF WRITER

It's baaaaaaack.

That pea-green algae capable of killing people has reared its ugly head in Maumee Bay and other parts of western Lake Erie as well as points to the east from Sandusky Bay to Kelleys Island.

Tom Bridgeman, a staff scientist at the University of Toledo's Lake Erie Center, said he came across some microcystis in western Lake Erie's water column while sampling near the Toledo shipping channel recently.

It's not the earliest it's been found here. Nor is it the latest.

See **ALGAE**, Page 3 +

Algae

Continued from Page 1

Mr. Bridgeman said he expects the algae to be in full bloom and noticeable to boaters in two weeks, based on past experience.

The Toledo area is normally the first place microcystis shows up because western Lake Erie is the shallowest and, therefore, the warmest part of the Great Lakes. The water temperature off Toledo yesterday was 78 degrees, according to the National Weather Service.

The western edge of the lake is also one of the most impacted by sewage overflows and farm runoff.

Matt Thomas, assistant manager of Ohio State University's Stone Laboratory on Gibraltar Island, near Put-in-Bay, said yesterday he's seen microcystis in water drawn between Sandusky Bay and Kelleys Island.

He's not the only one.

Joe Conroy, an Ohio State University doctoral candidate, collected a large amount of microcystis this week from Sandusky Bay. Some of that bay's algae is believed to have flowed into the lake by now, aided by recent storms, said David Culver, an algae expert who has testified to Congress in recent years. Mr. Culver is head of OSU's limnology lab.

Mr. Thomas agreed that the algae will probably be noticeable to boaters in two weeks. "We're not at that stage yet, but conditions are favorable for an algae bloom," Mr. Thomas said.

A lot depends on how the remaining summer heat and rain interacts with the water. Rain pushes nutrients off farms into streams and rivers that flow to the lake.

Heavy storms force raw sewage from Toledo, Defiance, and other cities to flow into the Maumee River or other Lake Erie tributaries. That includes the Detroit River, which carries Detroit's sewage overflow south toward Lake Erie's western basin.

Mr. Bridgeman said runoff is a bigger factor than heat. Lake Erie's phosphorus — a nutrient in sewage, manure, and farm products — has been on the rise since 1997 after a 25-year



THE BLADE

University of Toledo professor Tom Bridgeman checks algae in Maumee Bay in 2003. The slimy green stuff is back again.

decline.

"Rainfall in northern Ohio usually means runoff," said Mr. Thomas, who added that he "wouldn't be surprised to see a large bloom of microcystis."

July was the region's wettest on record. But microcystis is fluky: Last summer was one of its earliest arrivals, despite 2005 having an unusually cool spring and one of its driest Junes.

Microcystis is a toxic form of blue-green algae that has appeared in western Lake Erie almost every summer since 1995, after an absence of more than 20 years.

For reasons unknown, it made a comeback. But even now, when it's expected, it doesn't always emerge.

It's normally gone by late September, when fall temperatures

set in and the water cools.

Though it's the same type of algae linked to as many as 75 deaths in Brazil in 1996, no deaths in North America have been attributed to it.

Carbon-activated filtration systems used by shoreline municipal water plants, including Toledo's, neutralize it long before it reaches public water supplies.

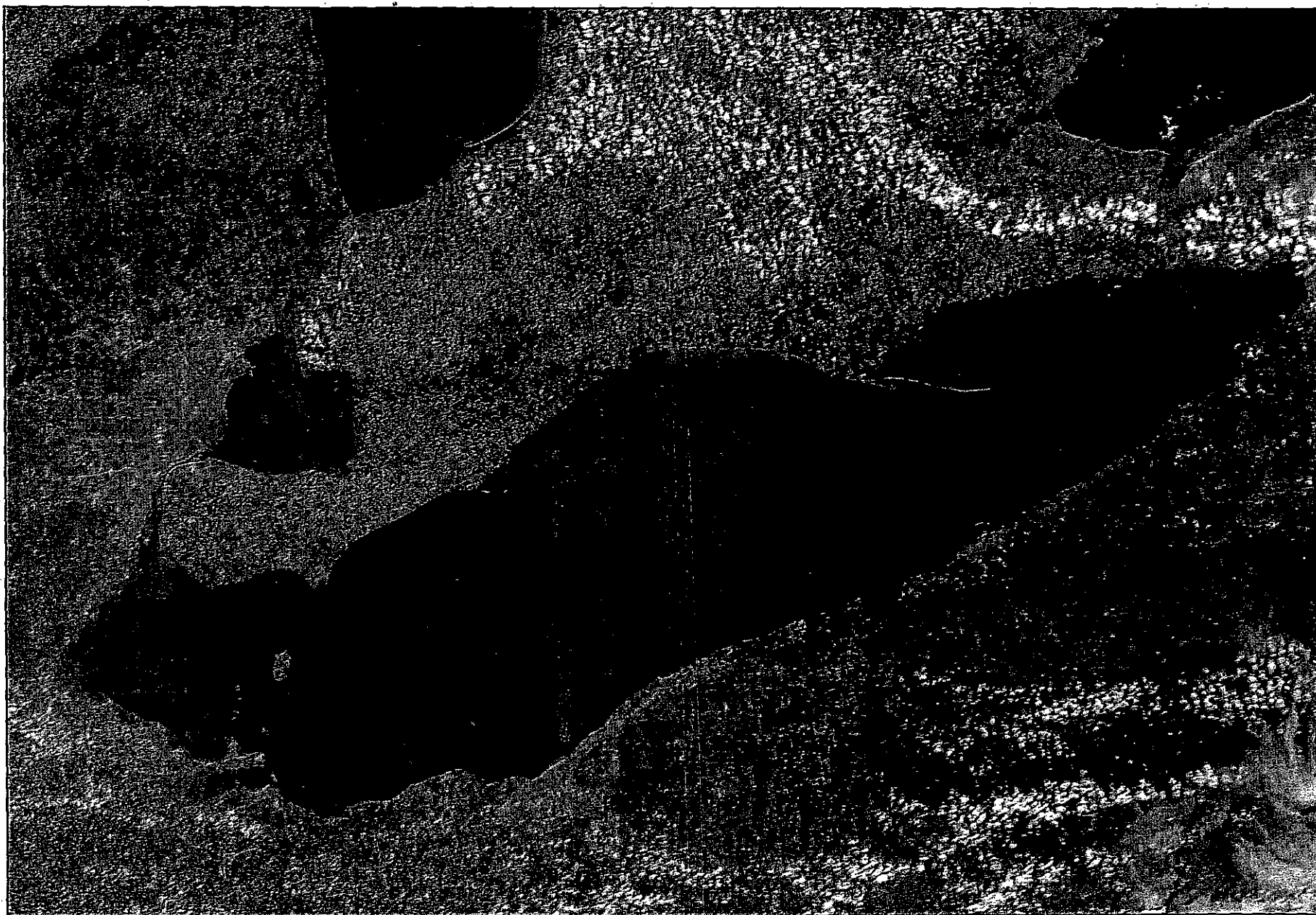
The Brazilian deaths occurred at a kidney dialysis center where there was a malfunction with the water treatment system, allowing contaminated water to come in contact with patients. The U.S. Centers for Disease Control and Prevention was among the agencies that investigated that case.

Contact Tom Henry at:
therry@theblade.com
or 419-724-6079.

DEEP TROUBLE

Scientists
scramble to
figure out why
Lake Erie's
'dead zone' is
growing

08.08.2006. "Deep trouble; Lake Erie's Dead Zone." COLUMBIJIS DISPATCH



NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

There's an expanding area of low oxygen near the bottom of the central basin of Lake Erie where little can survive. The lake, shown here in a satellite photograph, experiences this "dead zone" every summer, and scientists are trying to pinpoint what's causing it.

By Mike Lafferty
THE COLUMBUS DISPATCH

MARBLEHEAD, Ohio — Twelve miles off Cedar Point, Joe Conroy peered over the side of the Erie Monitor and knew summer had arrived with a vengeance.

The temperature was high, one of a string of 90-degree days, and millions of tiny green dots were suspended in the water.

"It's really beginning to cook out here," said Conroy, an Ohio State University scientist whose focus is these green dots, each one a colony of blue-green algae called microcystis.

The algae announced the formation of an annual summer-time area of low oxygen near Lake Erie's bottom. It's called the "dead zone" because not much can survive there.

Scientists say they are concerned because the dead zone is growing.

The dead zone is not as much of a threat in the lake's western basin because the water is shallower and storms usually break it up as it forms.

But in deeper waters to the east, this oxygen-starved region is a real concern. Scientists say it threatens fish and other animals as well as the health of the lake.

The zone begins to form in the west, off Sandusky Bay, in late June and early July in cold water near the lake bottom.

By September, the dead zone expands east to cover most of the lake's central basin, an area of deep water from the Lake Erie Islands to Erie, Pa.

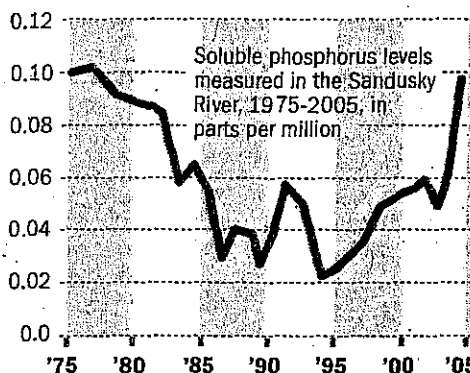
Conroy is searching for a connection between the complex formation of the dead zone and the explosion in growth of microcystis and other algae during the hot, sunny days of early summer.

When algae decompose, they fall to the bottom of the lake, where they choke up nearly all the available oxygen.

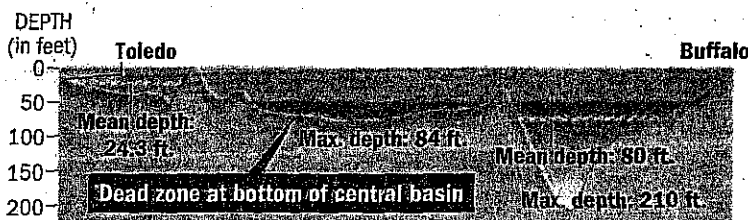
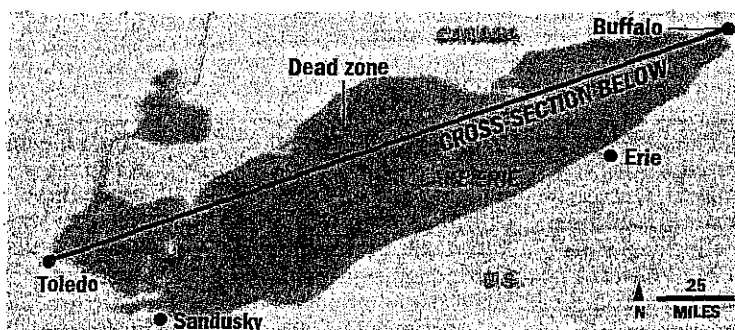
Conroy confirmed the drop in oxygen levels when the Erie Monitor's captain, Matt Tomen, steadied himself on the rocking boat, dropped an electronic sensor over the port side and

Puzzling over a 'dead zone'

The dead zone in Lake Erie might be linked to the resurgence of phosphorus entering streams from farms. The phosphorus feeds algae, which grow, decompose and use up the oxygen in the water.



Storms break up low-oxygen zones when they form in the lake's shallow western basin, but the weather can't reach the zones in the deeper central basin.



Source: National Center for Water Quality

THE COLUMBUS DISPATCH

reeled it off in 18-inch increments.

With each stop, the sensor measured dissolved oxygen, temperature, pH and electrical conductivity.

At 33 feet, dissolved oxygen was still a healthy 5.5 parts per million. A few inches lower, but still several feet from the bottom, the sensor entered the cold zone, known as the hypolimnion. Oxygen levels began to drop precipitously.

At one site, the reading was nearly off the scale at 0.3 ppm, the lowest recorded this summer.

"You won't have fish in there, and also it can disturb (fish food). You won't have mayflies in there," Conroy said.

"So if you're a (perch) fisherman and hitting bottom ... you're not going to get any perch."

On the starboard side of the boat, biologist Douglas Kane dropped a net into the lake to capture algae and other microscopic organisms, including phytoplankton and zooplankton, which fish eat.

One species he always likes to see is a zooplankton called *Limnocalanus*.

"That is only around where there is lots of oxygen," Kane said. "In the mid-'90s there was lots of it. But it's starting to go back down. It's an indicator species."

Microcystis is an indicator species as well. But it is proving to be a bad omen.

And it is simply muscling out other species.

The algae is so toxic that even zebra and quagga mussels, both invasive species, won't touch it.

The Erie Monitor sees too little oxygen and too much microcystis at each of its seven stops in the Sandusky sub-basin, about 600 square miles of water near the entrance to Sandusky Bay.

Conroy, Kane and Tomen have made the same trip every Monday since spring, accompanied by Johnny Cash and Led Zeppelin on the CD player.

"We captured the first indication of low oxygen in the basin last year, and we did again this year," Conroy said.

That's always bad news for fishermen, who can identify the abrupt transition from warmer, oxygenated water to the colder dead zones on their fish finders.

"Our nets fish on the bottom — we just have to stay away from it," said Joe Herr, of Bono, Ohio, who fishes with his son, Jeff.

The two start on the lake's west end in the spring, working their 40-foot boats east following yellow perch, which seek the colder, deeper waters of the central basin in summer.

The re-emergence of the dead zone comes 20 years after a huge, expensive effort to reduce pollution in the lake. A lot of attention was devoted to reducing phosphorus, a vital plant nutrient that washes off farmland and into streams and rivers that reach the lake.

Phosphorus fueled explosive increases in algae in the middle of the last century.

By the early 1990s, reducing phosphorous, especially in sewage discharges, was credited with all but eliminating the dead zone.

Then a decade ago, Canadian scientists noted that the zone was coming back about the same time high phosphorus levels were being recorded in the Maumee, Sandusky and other rivers that empty into the lake.

"We don't really know for sure why soluble phosphorus is going up. The frustrating thing is, soluble phosphorus had gone down 60 (percent) to 70 percent," said David Baker, director of the National Center for Water Quality at Heidelberg College in Tiffin.

"We used to see high phospho-

DEAD ZONE

FROM PAGE D6

rus loading in winter storms. Now we see it in summer storms."

Baker said the increase could be linked to a huge increase in soybean farming.

"Soybeans are hard on the soil. There's little organic matter left (after harvest)," Baker said.

With little stubble to retard water and erosion, phosphorous and other farm chemicals can enter streams more easily.

The phosphorus boost in the rivers also could be linked to an increase in "no-till" farming, a technique in which crops are grown without plowing in an effort to build soil fertility and reduce erosion.

Baker said the farming method concentrates phosphorus in the top inch of soil, where it can be more easily lost to streams and rivers when it rains.

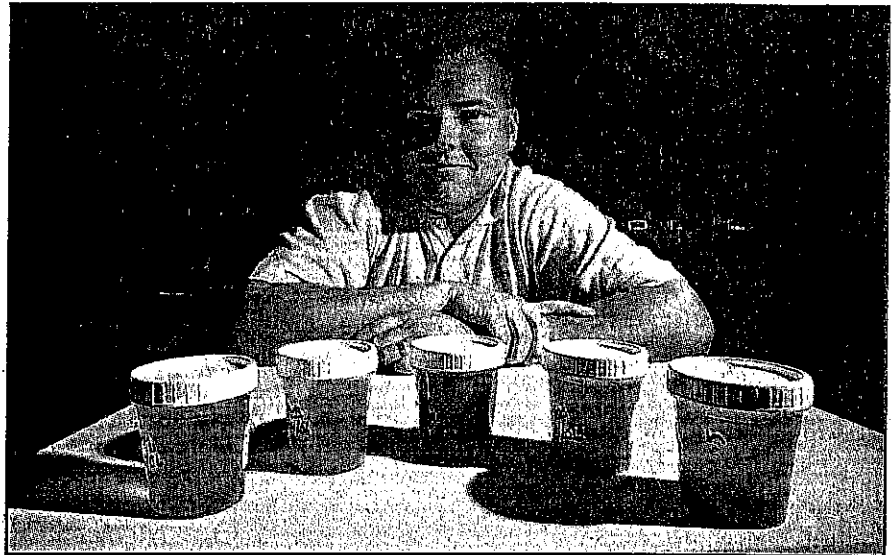
"That was projected as a possible problem (in the 1970s and 1980s when no-till was first promoted), and we may be realizing that," Baker said.

Farmers also have installed thousands of miles of drainage lines that result in more flushes of water loaded with dissolved fertilizers and pesticides into the lake's tributaries.

The phosphorus connection isn't clear cut, however. Much of the phosphorus measured in the rivers is not reaching the lake, except during rainy years, Kent State University biologist Robert Heath said.

Over a decade, phosphorus has been pretty stable in the lake, he said.

And some say the zebra and quagga mussels, discovered in Lake Erie in



RENEE SAUER | DISPATCH

Ohio State scientist Joe Conroy displays samples of water taken from Sandusky Bay and Lake Erie. He is searching for a connection between the complex formation of the dead zone and the explosion in algae growth in early summer.

1988, could promote the dead zone by altering the phosphorus balance in the lake.

Heath said the mussels play a major role in the formation of the dead zone by consuming the phytoplankton and zooplankton and passing phosphorus-rich fecal matter in the western basin.

Then currents move the fecal matter along the lake's bottom and into the central basin, where bacteria take over. The matter is decomposed, which uses up oxygen and frees phosphorus to promote algae growth.

"That's a point of view that's difficult to prove, but it's consistent with what has recently been seen in terms of prevalence of zebra mussels in the western basin," Heath said.

"The increased (dead zone) in the central basin has come with the advent of the zebra mussel."

In eating algae and zooplankton, zebra mussels intercept some phosphorus before it reaches the sediment, making it available to grow more algae, Conroy said.

The mussels also excrete ammonia-rich urine, which microcystis uses as food.

In effect, the microcystis and mussels are modifying a complex ecosystem that Conroy, aboard the rocking deck of the Erie Monitor, is trying to better understand.

"This is where we are now," he said, "ferreting out all the details of these interactions."

mlafferty@dispatch.com



Maribeth Joeright/MJoeright@News-Herald.com

Charlotte McCurdy, manager of Headlands Dunes State Nature Preserve, relocates beach grasses from a man-made sand dune Tuesday at Headlands Beach State Park.

Beach prepares for reopening

Officials work
to save beach
plants before
moving sand
at Headlands
State Park

Jeffrey L. Frischkorn
JFrischkorn@News-Herald.com

Before a man-made sand dune at 126-acre Headlands Beach State Park could be used Tuesday to fill a gaping channel formed during the July 28 flood, a carpet of beach grasses required relocation.

In a move never before attempted, the Ohio Division of Parks and Recreation and Division of Natural Areas and Preserves collaborated on an effort to collect and preserve vital beach grasses, switch grasses and little bluestem plants.

The plants were natural pioneers that had claimed a

foothold on an approximately 400-foot-long, 50-foot-wide, 10-foot-tall artificially built sand dune at the park's far west end in Painesville Township.

It was built from sand swept up from the park's roadways and parking lots; having been accumulated into the huge pile since Headlands was first open in the 1960s.

The dune remained untouched except for the takeover by sand-stabilizing beach grasses.

However, the July 28 storm produced a massive cascade of flood water, pouring out of the Mentor Marsh and sweeping through the park, cutting three channels in the sand from

See Beach, Page A5

Inside ■ Painesville Council approves contracts attempting to alleviate flooding problems **Page A3**

Beach

From Page A1

the parking lot/access road to Lake Erie.

Consequently, the parks division needed all the sand it could find to fill in and patch the beach in order for the park to be reopened to the public.

Parks officials are hoping to allow limited public access beginning this weekend.

Up to 10,000 people a day visit the park during the peak summer season, and the Ohio Department of Natural Resources has been besieged with inquiries as to when the park will reopen.

However, the parks division also was mindful of the value of the beach grasses, especially since Headlands has a seamless merging with the adjacent 25-acre Headlands Dunes State Nature Preserve.

So in a cooperative venture, parks and preserves officials worked Tuesday to secure as many plants as possible before heavy equipment plowed the man-made sand dune in to fill the crack.

The reclaimed beach grass and switch grass were then transported to the 463-acre Sheldon Marsh State Preserve in Erie County, where it is hoped the plants will again take root.

Officials relocated many of the little bluestem plants to the Headlands preserve.

"We probably won't be able to save them all, but we'll try to save as many as we can," said Gary Obermiller, regional manager for the preserves division.

Obermiller said the plant species are uncommon across much of their range in Ohio but are fairly abundant on a local level.

The switch grass and the beach grass were native to Sheldon Marsh, but the little bluestem was not, Obermiller said.

"Really, parks could have just pushed the dune into the channel, but it called us," Obermiller said. "I commend the parks division for calling us first."

Obermiller says most experts believe fewer than 25 percent of the plucked plants will likely survive their uprooting and relocation.

But the object is still to protect the unique plants, which do much to help stabilize beaches, said Charlotte McCurdy, manager of the Headlands nature preserve.

"We don't want to see anything go to waste," especially since Headlands has a huge man-made pile of sand lying right next to the largest flood-cut channel, McCurdy said.

"Parks really didn't have any other choice. It certainly couldn't truck in sand to fill the channel. That would be too expensive," Obermiller said.

Yet in spite of the existing massive pile of sand, the two largest cuts will require even more fill, said Connie Borris, the park's coordinator.

With luck, the artificially built dune should provide about three-quarters of the sand needed to fill the largest channel, Borris said.

The rest will come from smoothing out the beach's wrinkles so the fissures are mended, Borris said.

From that point, the park could reopen to the public, at least on a

limited basis, Borris said.

"We'd like to open the east end of the park either Saturday or Sunday," Borris said.

However, only parking lots 1 through 13 will be open, which includes the one for the preserve and access to the federal government's lighthouse breakwater.

At lot 14, a snow fence will cordon off the remaining parking area and extend across the beach to

Lake Erie.

"We will issue a ticket to anyone caught west of the fence," Borris said.

This is the area still under recovery from the worst of the flooding, with damage to the access road and refurbishment of the beach area remaining, Borris said.

Obermiller said both sister agencies are going to explore a long-term solution to the flooding problem at Headlands. From time to time, the western end of the park is temporally inundated, though not as severely as it was July 28, Obermiller said.

The state expects to work with Frank Lichtkoppler of the Ohio State University Extension Sea Grant program and others in devising a flood-management strategy, Obermiller said.

For now, the effort is on moving sand and moving beach plants, Obermiller said.

"We would have liked to have held off until the best time to dig up the plants, but the park simply couldn't wait that long," Obermiller said.

"Really, parks could have just pushed the dune into the channel, but it called us. I commend the parks division for calling us first."

Gary Obermiller, regional manager for the preserves division of the Ohio Department of Natural Resources

08.09.2006. "Debut of women's fishing day a hit." PORT CLINTON NEWS HERALD

IN & ABOUT OAK HARBOR

Debut of Women's Fishing Day is hit among event goers

Friday was the inaugural Women's Fishing Day on Lake Erie. Almost 40 women participated in the fun event hosted by Ohio Sea Grant, the Lake Erie Charter Boat Association and the Ohio Department of Natural Resources Division of Wildlife. Fisheries Extension Program Coordinator of Ohio Sea Grant Kelly Riesen coordinated the event.

Prizes were awarded for first, second and third largest walleye. Even the undesired sheepshead brought a bit of glory via a prize to the woman catching the largest and second largest.

This was my first fishing experience for walleye on Lake Erie. By 7:30 AM I was aboard The Hatchetman captained by Steve Davis of Nashport, Ohio. My fishing buddies were Shawna Meglich and Cindy Cordero of Antwerp, Ohio and Sherri Good from Paulding, Ohio. The three are friends who drove in the night before. Shawna and Sherri had fished for walleye many times. Cindy and I were the rookies.

We spent the day casting. I caught a 21 _" walleye, a 19" sheepshead and something that broke my line and took my flipper harness lure with it. That was the end of my luck. Sherri caught a very nice size walleye, Shawna brought in a big old catfish and rookie Cindy waited the longest to bring in a fish of any size but I think she brought in two nice ones towards the end of the day. We didn't set any records or bring in our limit.

None of the boats that casted did. However, the two boats that trolled both limited out in a short period of time. The lake and fish are very fickle. Kelly told us that just the day before the only people catching anything were casting their lines.

Thanks to the trollers we had a wonderful lunch featuring fresh walleye. It was the best walleye I have ever eaten. In fact, that's why I didn't fish for walleye until now. Perch has always been my Lake Erie favorite. Friday's experience has given me pause for thought.

I don't know whether the trollers or the casters captured the biggest fish. A 25 _" walleye was the longest, two women tied for second place with their 23" fish and two others tied for third place with 22 _" catch. The biggest sheepsheads were 28 _" and 27".

After lunch we waited for the rest of our catch to be cleaned and brought back. That was the only hitch in the entire day. We waited a much longer than anticipated time for the cleaned and bagged fish. Kelly is working on ironing out that only crease in what promises to be an annual event.

The first Friday in August was tentatively set as the date for next year's event. That was by popular consent as many were already planning to return in 2007.

I probably traveled the least distance to fish. Shawna, Cindy and Sherri drove about 3 hours for the event. Another woman came from Grove City which is pretty far south. I was impressed with how much they all liked Lake Erie and the time spent on the water.

Many also expressed gratitude for a break in the unbearable humidity. Friday was hot but considerably cooler than the rest of the week.

Shawna, the most experienced fisherman on our boat, was philosophical regarding her day of vacation. She said it is so true that even a bad day of fishing is better than a good day at work.

08.10.2006. "Stone Lab lecture continues." OSU TODAY

STONE LAB LECTURE SERIES CONTINUES TODAY

The Stone Laboratory summer lecture series concludes today (8/10) as John Gannon, International Joint Commission, presents "Lake Erie and the Great Lakes Water Quality Agreement: Past, Present, and Future," from 7:45-9 p.m. on Gibraltar Island in Lake Erie. A short lecture on current research will take place at 7 p.m., and both lectures are broadcast live into 333D Kottman Hall. [Read more >](#) [LINKS TO PROGRAM WEB SITE](#)

08.12.2006. "Lake algae, winds cause smelly tap water." CLEVELAND PLAIN DEALER

Sat., August 12, 2006, John C. Kuehner, Plain Dealer Reporter jkuehner@plained.com, 216-999-5325

Tap water from Westlake to Eastlake streamed out of some spigots Friday slightly discolored and laced with an odor.

Thank rotting algae in Lake Erie and strong easterly winds Thursday night for creating the problems.

While the water may smell and have a slight yellow color, it's safe to drink, the Ohio Environmental Protection Agency said.

The problem was especially bad for the 80,000 people in western Lake County who get their water from the Aquarius water plant in Willoughby.

Cleveland's Crown plant in Westlake and the Avon water plant also reported problems, but those were primarily treated and contained in the plant, officials said.

The Sandusky water plant reported similar musty odor and metallic-taste problems last weekend, but they were resolved two days later.

Discoloration and odor problems arose from recent heavy rains that flushed nutrients into the lake, which fertilized the three common forms of blue algae that are responsible for taste and odor problems in water.

The algae bloomed in the lake water, which is nearly 80 degrees, then died and decayed, creating an odor that some folks smelled along the lakefront.

Heavy winds Thursday stirred up and churned up the lake bottom, said John Hageman, manager of Stone Laboratory, Ohio State University's biology lab on Lake Erie.

Like water in a bathtub, water sloshed back and forth, which redistributed the oxygen-depleted lower water where the rotting algae and other aquatics lay.

The churning also stirred up soil on the lake bottom.

The Crown water plant, which serves Cleveland's western suburbs, reported manganese levels at 20 times normal, said Rolfe Porter, acting water commissioner.

This is an issue the plant typically sees in the spring and fall, not in early August, Porter said.

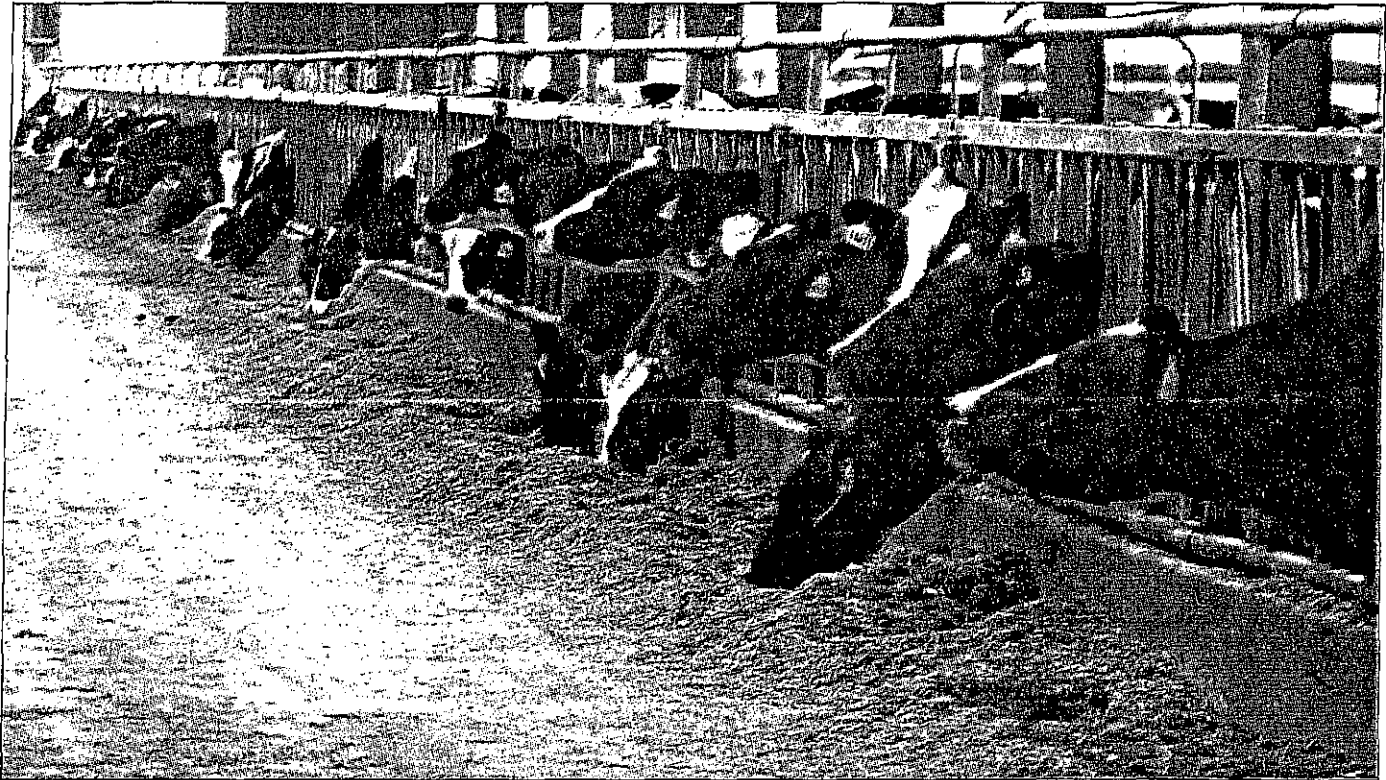
Some discolored water got out of the plant, he said, and about 30 people called to complain before the problem was fixed by adding more chlorine, he said.

Rick Martin, the Lake County Utilities Director, said operators noticed the problem Thursday. It could be several days before it's corrected, he said.

Meanwhile, customers are urged to limit their laundry until the water clears, because it can stain clothes.

"You will always be at Lake Erie's whim, just like everybody else," he said.

SPECIAL REPORT



THE BLADE/HERRAL LONG

Cows feed at the 2,800-head Vreba-Hoff dairy farm near Hudson, Mich. One cow produces the waste of 23 to 30 humans.

Ohio, Michigan megafarms spur clashes over air, water pollution

First of two parts

By **TOM HENRY**
BLADE STAFF WRITER

Travel some back roads and the pressing public-policy issue in those rural areas isn't necessarily \$3-a-gallon gas or violence in the Middle East — it's more likely manure.

As dairy and livestock megafarms, known as concentrated animal feeding operations, or CAFOs, sprout across the country

and region, an emotional debate over animal pollution and air and water quality is building.

Clashes can be found in nearly every state, but it is especially vocal in the western Lake Erie region, where fresh water is abundant and the multibillion-dollar tourism industry relies on the health of the Great Lakes.

Fifteen large-scale operations are in Hillsdale and Lenawee counties, and 30 operate or have permits within a 90-minute drive

of Toledo. They are specialized, and each is home to thousands of dairy cows or hogs; chicken operations sometimes eclipse a million beaks.

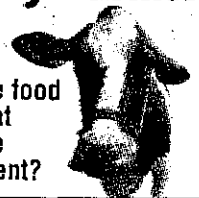
One cow produces the waste of 23 to 30 humans, giving some farms the sewage challenges of small cities.

"I'm telling you these are not family farms. They are industrial farms, and they are producing

See **FARMS**, Page 8

Factory Farms:

Affordable food
but at what
cost to the
environment?



TODAY: The growth of megafarms, and their environmental byproducts, is increasing tensions between big businesses and family farms in rural Ohio and Michigan.

TOMORROW: Strong views on both sides of the farm fence seem to hamper hopes for living in harmony.

Farms

Continued from Page 1

industrial-sized waste," said Ron Wyss, a Hardin County farmer who is president of Citizens for Responsible Agricultural Environmental Policies. "It seems to me that all we're doing now is issuing permits to pollute."

The mega-farm operators say economic pressures have created a need for large-scale farms so food can be affordable and ever-growing populations fed.

"It's why you continue to get a gallon of milk for less than a gallon of gasoline," Stephen Vander Hoff, a Vreba-Hoff LLC partner, said recently on a tour of his 2,800-cow dairy farm near Hudson, Mich.

Mounting tension

Mr. Wyss' strong views punctuate the growing tension in rural Ohio and Michigan between big business interests — some transplanted from the Netherlands with its surplus of dairy farms — and smaller farmers and environmentalists who say a bucolic way of life is threatened.

Joe Logan, president of the Ohio Farmers Union, which represents 5,600 traditional family farms, called it "one of the most divisive issues" facing farmers today.

"Changes have never been as rapid as what we are experiencing now," he said. "What you are confronting is a very distinct change in the history of [our] country."

The Michigan Department of Environmental Quality and academic researchers are documenting that change. The state agency has issued more than 140 violations since 2000 against the farms in Hillsdale and Lenawee counties. And later this month, Case Western Reserve University in Cleveland and Michigan State University plan to release a report that documents environmental problems with operations in Wood County and in other nearby areas, according to Ronald Wright, a nationally known microbiology and bioterrorism researcher who is one of the study's authors.

Factory farming on rise

Despite violations, the dairy and livestock boom continues. Ohio, Michigan, and Indiana have fewer cows than they did years ago. But in Michigan, the amount of milk produced per animal in 2005 was 21,656 pounds — more than twice the rate of 1975 and more than four times what it was in the 1940s.

Ohio and Indiana have had similar upward trends in per-animal production, but not as dramatic, according to U.S. Department of Agriculture records.

"We certainly understand the reality that farming is moving closer and closer to this," said Robert McCann, spokesman for the Michigan Department of Environmental Quality. He characterized the problems as "growing pains" for the region.

Mr. Vander Hoff and others say technology is solving potential problems from increased production and large-scale operations. Larger livestock facilities can run with machine-like precision now and prevent manure runoff from entering groundwater and streams, he said. And there can be minimal impact on air pollution from ammonia, hydrogen sulfide, and particulate-matter emissions, he said.

Those claims have been attacked by some outside the usual ranks of animal-rights activists and environmental lobbyists.

Some of the nation's top scientists, including those from the National Academy of Sciences, the National Academy of Engineering, and the Institute

of Medicine, have urged the U.S. Environmental Protection Agency to look harder at health effects of long-term exposure to air pollutants from the large farms.

The American Public Health Association, the nation's largest group of public-health officials, has called for a moratorium on the operations.

Vander Hoff's impact

Commonly called megafarms or factory farms, CAFO is a legal term for industrial-sized livestock facilities so big that they need new rules and definitions. Such facilities pack livestock by the thousands into tightly confined facilities, with manure a main by-product.

Mr. Vander Hoff's family has stimulated the boom by expanding its own operations and running a type of employment and relocation service for the Netherlands.

Shortly after opening its Lenawee County farm in 1998,



Logan

it established a second operation three miles to the west in Hillsdale County. The Vander Hoffs have 6,000 cows producing as much waste as a city of at least 138,000 people.

The Vander Hoffs also created Vreba-Hoff Development Authority, a consulting group based in Wauseon. The authority helps displaced Dutch dairy farmers start life anew on American farmland.

Many choose the tri-state region of Ohio, Michigan, and Indiana because of its affordable land, access to water, favorable climate, and simpler regulations. Farmers have been moving here from the Netherlands for a few years, in part because environmental laws in the European Union have become so stiff, according to information from the Ohio State University Extension.

Drawing criticism

Ideally, large-scale operators enlist crop farmers to take manure off their hands, free of charge. If applied properly, the manure works its way into the soil and becomes a cheap fertilizer. But many of the most vocal opponents are the crop farmers themselves.

They have criticized the industry trend toward greater consolidation, questioning if state and federal officials are looking the other way and failing to protect the environment.

"They're stealing our fresh air from us," said John Zachel, who lives across the street from a hog operation and has farmed in Lenawee County for 58 years.

Some traditional family farmers see large-scale factory farming as a threat to their existence.

They cite steep losses in property value and fear higher taxes as township budgets increase because of the need for more road work to support the vehicles and trailers of large-scale farming.

Ohio is a milk-deficient state. That means residents are consuming more milk than what's being produced within its borders, resulting in a net loss of dollars for the Buckeye State.

The Ohio Department of Agriculture wants to correct that imbalance. But the agency also regulates the large-scale farms. The agency assumed that regulatory control from the Ohio Environmental Protection Agency via legislation passed by the General Assembly in 2002.

Melanie Wilt, state agriculture department spokesman, said her agency is run by skilled regulators unafraid to issue fines of up to \$25,000 a day or to revoke permits for egregious violations. She noted the agency spends 93 percent of its budget on regulation and revoked the permit for Buckeye Egg farm facilities, which were a habitual violator of manure-disposal regulations. The agency took the action on the first day it was given the authority by the General Assembly.

"But we think as long as large livestock farms are respectful of the environment, they are good for the economy," she said.

Regulatory battle

Congress now is considering legislation to exempt CAFOs from federal Superfund pollution laws. A flurry of lobbying has occurred on both sides of the issue at state and federal levels.

Recently, the Ohio Dairy Producers urged Ohio legislators to exempt the large-scale operations from Clean Water Act regulations that apply to major industries.

David Culver, an Ohio State University expert in freshwater ponds and lakes, known as a limnologist, testified in front of Congress about western Lake Erie's resurgent algae problems. He said the push to exempt factory farming from some pollution regulations doesn't make sense. Excess manure in the water can stimulate out-of-control plant growth, choking off oxygen to fish and killing waterways.

"This is the year 2006. We're paying attention to environmental issues and trying to figure out what flows down our rivers and streams," he said. "How could

there be an industry exempt from all that?"

Mr. Wyss, a Hardin County carrot farmer who runs a non-profit group that works to keep current regulations in place, fumes whenever he thinks about what could happen. His farm is adjacent to the Van Deurzen farm that has obtained a permit from the state agriculture department to become Ohio's largest dairy operation with up to 4,500 cows.

"They aren't farms at all. They're industries and should be regulated like industries," he said.

Manure records sealed

John Rohrs, a Hardin County corn, bean, and carrot farmer, said he opened the door for the Van Durzen facility by selling 160 acres of his land. In exchange, he will be a manure recipient.

"Every other business has consolidated. Farming is just another business that has to do that to stay competitive," Mr. Rohrs said. "Everybody wants cheap food."

He said he has no fears of his groundwater becoming contaminated as long as spreaders apply manure according to state agriculture regulations.

But a recent effort to seal manure spreading records in court has some doubting the methods are solid. A lawsuit was recently filed by the Naomi and Green dairies in Wood County and the Hillbex Dairy in Sandusky County to seal documents known as manure-management plans. They contain maps that reveal the identity of manure recipients.

The state agriculture department, upon advice from the state attorney general's office, agreed the information is public record and should be revealed.

Residents say they can't independently test for contamination without knowing where the manure is heading. The dairies have claimed the information is a trade secret.



Henning

Cecelia Conway, Vreba-Hoff spokesman, said the company wants the names concealed to keep clients from being harassed.

Sue Torrey of Wood County Citizens Opposed to Factory Farms, one of several area watchdog groups that have sprung up, said her group doesn't condone harassment. But the group "can't control every kook in the county" irked by megafarms.

She and that group's president, Jane Phillips, claim to have been harassed themselves. Both said they have received threatening letters accusing them of

being troublemakers, with the anonymous senders hoping they "starve to death."

Ms. Phillips also said her dog has been shot, her business ransacked, and her children eyed disapprovingly as they have gotten off their school bus.

"Our neighborhoods will never be the same," she said. "You've got people who won't ever talk to each other again."

Claims of harassment

In Michigan's Lenawee County, Lynn Henning said dead raccoons, opossums, and skunks have been put on her porch, in her mailbox, and next to her vehicle. She and others claim to have been run off country roads by tractor-trailers and other large vehicles.

The three women said the tension has become thick enough that there are times they tell their local sheriff's department in advance when they'll be driving by megafarms.

Ms. Henning, who farms 300 acres, is affiliated with the Mackinac chapter of the Sierra Club in Lansing and a group of Lenawee-Hillsdale area residents called Environmentally Concerned Citizens of South Central Michigan.

The two groups, in part because of more than 100,000 pictures and other pieces of evidence Ms. Henning claims to have accumulated, were instrumental in getting Michigan to file a court action against the pair of Vreba-Hoff facilities in 2004. The result was an order for the Vander Hoffs, at a cost of \$1 million, to install a wastewater treatment facility to serve the sites. It's one of only four in the nation built for CAFOs, Mr. Vander Hoff said.

In 2003, Ms. Henning's father-in-law, Gerald Henning, 85, was charged with making an obscene call after losing his temper with Michigan agriculture officials over CAFO. She said he was called the "cussing farmer" for swearing after months of feeling that his concerns were being ignored.

She and others take their own oxygen readings of flowing water in their area to see if too much manure is depleting the oxygen.

Rachel Matthews of the Michigan Department of Environmental Quality water bureau said anything less than 5 micrograms per liter is a sign of depleted oxygen, something that can indicate an excessive nutrient load. Oxygen is one of many signs scientists use to assess a stream's biological health for supporting fish and other aquatic. But it's not the only one, Ms. Matthews said.

On Wednesday, Ms. Henning registered a reading for dissolved oxygen as low as 1.8 micrograms per liter in a ditch called South Medina Drain, which flows past one of the Vreba-Hoff lagoons, she said. The ditch eventually flows to the Tiffin River, a Maumee River tributary. The Maumee flows into Lake Erie.

She said she was stunned that the reading barely merited a shrug from Michigan regulators. The agency was not planning to investigate the stream again because of that reading, Mr. McCann, agency spokesman, said.

Ms. Henning said the region is headed for a "train crash" on the CAFO issue, akin to what happened in Walkerton, Ont.

She was referring to an event in May, 2000, in which seven people died and nearly half of Walkerton's population of 5,000 got sick. A probe revealed water contaminated by cattle manure had been errantly washed down into the town's public water well. The episode has been described as one of Canada's worst public-health disasters.

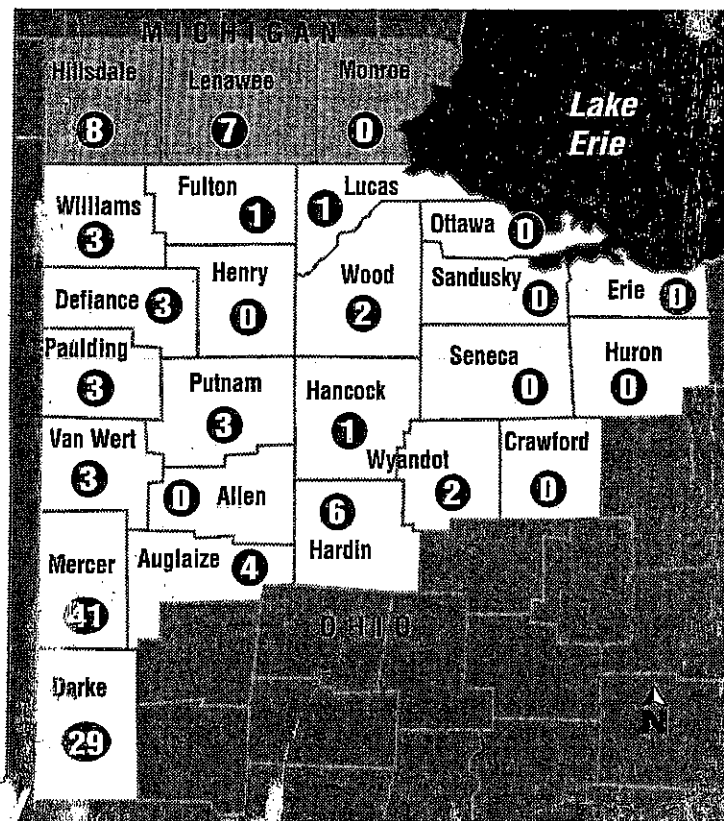
Contact Tom Henry at:
thenry@theblade.com
or 419-724-6079.

WHAT IS A CAFO?

Huge, industrial-sized livestock facilities are categorized by state and federal regulators as CAFOs, short for "concentrated animal feeding operations."

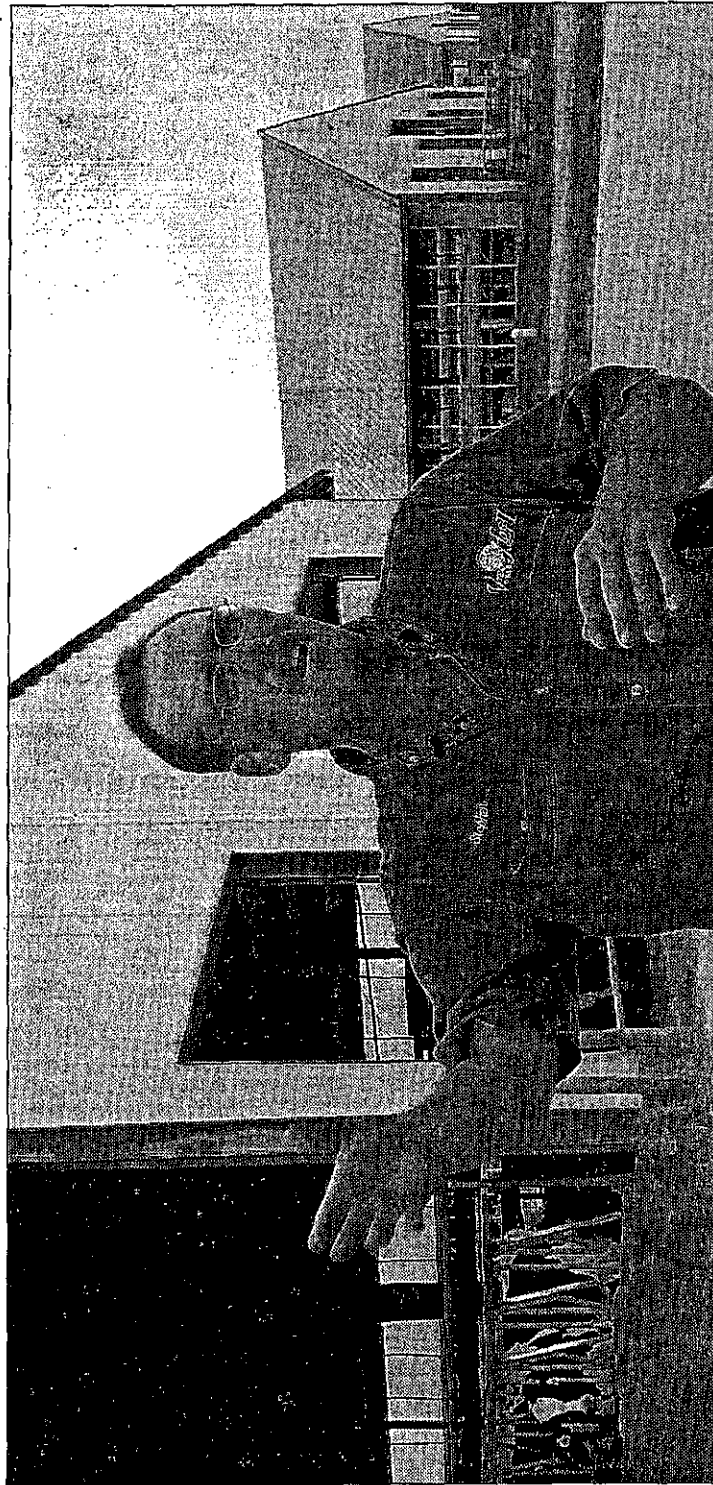
Ohio has 156 either operating or permitted for construction. Nearly half are in Mercer or Darke counties. Thirty are closer to the Toledo area.

Michigan has 194 in operation, all in its lower peninsula. The Michigan Department of Environmental Quality is reviewing applications for about 10 more.



SOURCE: Michigan Department of Environmental Quality, Michigan Department of Agriculture, Ohio Department of Agriculture, and other Blade reports.

THE BLADE



THE BLADE/HERRAL LONG

Stephen Vander Hoff leads a tour at his farm, during which a new manure-control waste-management system was demonstrated.

Lectures

Stone Lab Open House part of Historic Weekend

Sept. 9

The annual Stone Laboratory Open House is set for 11:30 a.m.-4 p.m. Sept. 9 at Gibraltar Island in Lake Erie. The event is open to the public and coincides with Put-in-Bay's annual Historic Weekend, commemorating Commander Perry's victory over the British in the War of 1812. There will be educational programs and tours of Gibraltar Island and South Bass Lighthouse followed by the Friends of Stone Laboratory Annual Meeting. For details, call 292-8949, e-mail cordi.2@osu.edu or visit ohioseagrant.osu.edu/fosl/activities/?show=openhouse.

08.21.2006. "Researcher makes Lake Erie drinking water safer." OSU TODAY

Headline news

RESEARCHER MAKES LAKE ERIE DRINKING WATER SAFER

Ohio Sea Grant researcher Hal Walker has discovered an efficient method to remove 95 percent of harmful microcystins from Lake Erie drinking water, using a combination of powdered activated carbon and ultrafiltration technologies. Microcystis, a form of blue-green algae, which occur in Lake Erie during the warm summer months, generate toxins called microcystins that can cause health problems if consumed by humans or animals. Water treatment facilities, however, do not specifically treat drinking water for microcystins and many of the conventional removal processes are ineffective on them. Thirteen million people rely on Lake Erie for their two billion gallons of water annually. Contact: 292-8263 or walker.455@osu.edu.

AgNotes

Fish sale

Ottawa Soil and Water Conservation District is conducting its annual fish sale, offering pond owners the chance to stock their ponds with bluegill, channel catfish, largemouth bass, Redear sunfish and white Amur, supplied by Fender's Fish Hatchery in Baltic, O.

The white amur, more commonly known as "grass carp," are members of the minnow family that reportedly attain weights in excess of 100 pounds and live up to 15 years. Although cultured in Asia as a source of food, the sterile white amur is primarily used in the U.S. to control aquatic

vegetation.

All fish must be pre-ordered and pre-paid. For an order form, call 419-898-1595 or visit the SWCD office at 240 W. Lake St., Oak Harbor. The deadline for ordering is Sept. 18. Fish may be picked up at the SWCD office Sept. 21.

Free trees

Ten free white flowering dogwood trees will be given to each person who joins the National Arbor Day Foundation in August.

The trees are part of the nonprofit foundation's "Trees for America" campaign. The six- to 12-

inch trees will be shipped postpaid at the right time for planting, between Oct. 15 and Dec. 10. They are guaranteed to grow, or they will be replaced free of charge.

Members will also receive a subscription to the foundation's bi-monthly publication, "Arbor Day," and "The Tree Book," which includes information about tree planting and care.

To join the foundation, send a \$10 membership contribution to Ten Dogwoods, National Arbor Day Foundation, 100 Arbor Ave., Nebraska City, NE, 68410 by Aug.

Pond clinic set

The Lucas Soil and Water Conservation District will host a pond clinic Sept. 5 at 6:30 p.m. at the St. Luke's Lutheran Church shelterhouse, located at 20 S. Yondota Rd. in Curtice.

Topics to be discussed include fish stocking and pond management and maintenance. Guest speakers will include Fred Snyder, Ohio State University Sea Grant Extension and Greg Labarge, OSU Extension - Fulton County.

The event is free and open to the community. A ring buoy will be given away following the presentation. Register by calling 419-893-1966.

08.22.2006. "Stone Lab 9th Open House." GLIN ANNOUNCE

STONE LAB NINTH ANNUAL OPEN HOUSE

<http://ohioseagrant.osu.edu/stonelab/>

GIBRALTAR ISLAND, Put-in-Bay, OH -- The Friends of Stone Laboratory (FOSL) will host their 9th annual one-day Open House for the public on Saturday, September 9 from 11:30 to 3:30 p.m. at Stone Laboratory on Gibraltar Island. Free transportation is provided from The Ohio State University Research Building (beside the ODNR Division of Wildlife Aquatic Visitors Center) to Gibraltar Island. Go to 879 Bayview Ave., Put-in-Bay, Ohio.

Located on the 6.5-acre Gibraltar Island in Put-in-Bay harbor, The Ohio State University's F.T. Stone Laboratory is the oldest freshwater biological field station and research laboratory in the U.S.

"Our annual Open House combines science and history by allowing our visitors to learn about Lake Erie research issues and education programs at Stone Laboratory in addition to touring the historic Cooke Castle and South Bass Island Lighthouse," states Dr. Jeffrey Reutter, Director of Stone Laboratory.

Activities include touring Gibraltar Island, the Aquatic Visitors Center, and the South Bass Island Lighthouse, along with lectures and laboratory sessions on Gibraltar Island. Registration will be at The Ohio State University Research Building on South Bass Island beside the O.D.N.R. Aquatic Visitors Center. Tour the State Fish Hatchery, South Bass Island Lighthouse, or Gibraltar Island.

For more information, call the Stone Lab office at Put-in-Bay at 419-285-1800 or contact Bonita Cordi in the Columbus office at cordi.2@osu.edu or 614-292-8949.

This event is free and open to the public and sponsored by FOSL, Stone Laboratory, Office of Housing Food Service and Event Centers, Office of Physical Facilities, and Ohio Sea Grant College Program with The Ohio State University.

WATER FILTRATION TECHNIQUE REMOVES DANGEROUS FRESHWATER ALGAE TOXINS

COLUMBUS , Ohio – A water filtration technique that normally cleans up agricultural chemicals is also effective at removing a toxin secreted by algae found in lakes and rivers, an Ohio State University study has found.

Engineers here determined that the technique greatly outperformed other methods by removing at least 95 percent of a toxin secreted by *Microcystis*, a blue-green algae.

Some water filtration plants around the country already use the technique, which couples activated carbon with membrane filters, said Hal Walker, associate professor of civil and environmental engineering and geodetic science at Ohio State .

Microcystis is native to freshwater lakes and rivers around the country, and secretes toxins that can cause liver damage in animals including humans. Worsening environmental pollution in Lake Erie during the last decade has caused algal blooms, the most recent of which began this August.

Some 13 million people rely on Lake Erie for their water supply, so *Microcystis* is a growing concern there, Walker said. But dangerous algal blooms have occurred across the country this summer, from Massachusetts to California .

And while many water filtration plants are beginning to use high-tech ultrafiltration membranes with very fine holes to filter water, *Microcystin* toxins are small enough to slip through. For example, the toxin used in this study was microcystin-lr, a tiny molecule made up of only seven amino acids.

The study will appear in the journal *Environmental Science & Technology*, and has been published in advance on the journal's Web site.

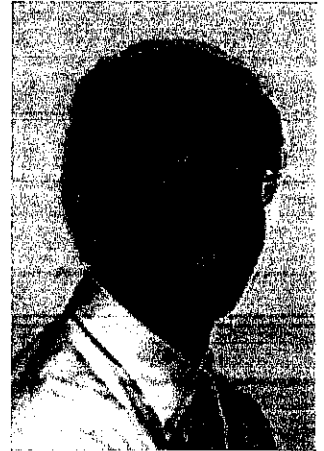
Rather than invent a new technology for filtering microcystin-lr, Walker and his colleagues decided to test whether combining activated carbon with membrane filters would do the trick. That technology has already proven effective for removing herbicides and pesticides from drinking water.

"This toxin is an organic molecule, and we knew that activated carbon is good at removing organics," Walker said, "so we coupled the carbon with membranes. Together, they provide a way for water treatment plants to remove the toxin by basically upgrading the membrane system they already have."

Water treatment plants that already had membranes in place could add carbon to their systems without purchasing new equipment, he added.

Activated carbon is a highly porous form of charcoal that sticks to organic molecules. It's often used to filter water and clean up environmental spills, and it's even administered to poison victims to clean toxins from the digestive tract.

The engineers combined the active carbon with three different commercially available membrane filters to remove microcystin-lr from samples of Lake Erie drinking water. Each combination produced good results: one removed 95 percent of the toxin, one removed 97 percent, and the other removed 99 percent. Without the carbon, even the most effective ultrafiltration membrane removed only 78 percent of the toxin.



Harold Walker

"Microcystis secretes a whole range of toxins, and we only looked at the one we thought would be the most important for health reasons. Then there's a whole host of other toxic algae that secrete their own toxins. I suspect this technology would be pretty effective for all these toxins."

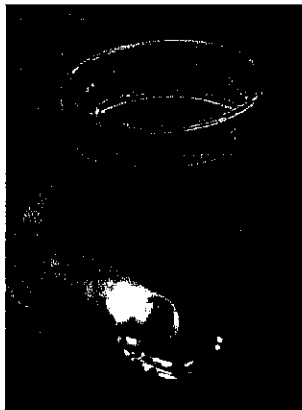
This is the first time this technique has been used to remove an algal toxin, and Walker cautioned that more research needs to be done before commercial water treatment plants could adopt it wholesale.

"*Microcystis* secretes a whole range of toxins, and we only looked at the one we thought would be the most important for health reasons," he said. "Then there's a whole host of other toxic algae that secrete their own toxins. And we don't know if there are synergistic effects between the toxins. Still, I suspect this technology would be pretty effective for all these toxins."

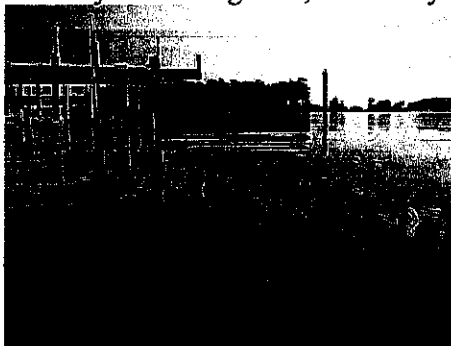
He would like to start a pilot project with a water treatment plant that uses membrane filters, ideally to test the system during an algal bloom.

This work was funded by the Ohio Sea Grant. PICA USA, Inc., of Columbus, OH, provided the powdered activated carbon.

Contact: Hal Walker, (614) 292-8263; Walker.455@osu.edu. Written by Pam Frost Gorder, (614) 292-9475; Gorder.1@osu.edu



Microcystis (left), a type of blue-green algae, has been blooming in freshwater lakes across the United States this summer. It secretes a toxin which causes liver damage in animals including humans. Photo by Tom Bridgeman, University of Toledo, courtesy of Ohio Sea Grant



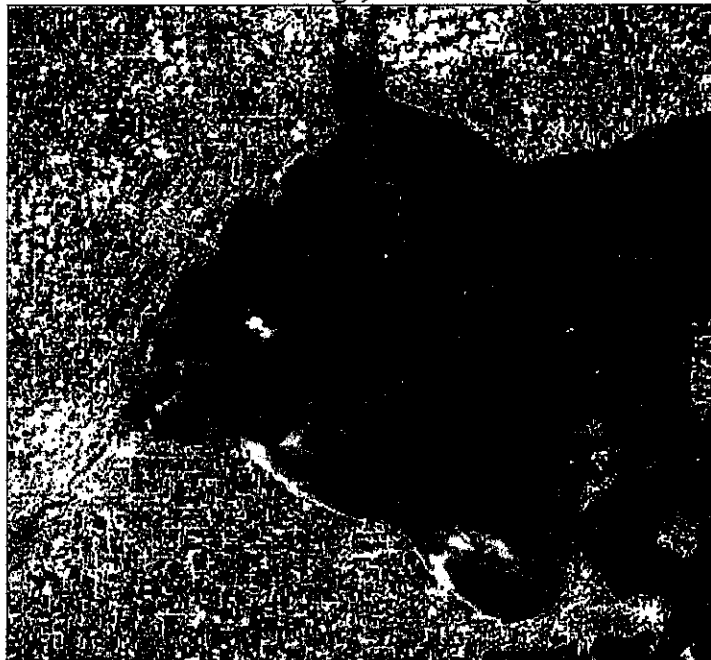
Above and below, an algal bloom is visible in the waters around Ohio State

University's Stone Laboratory on Gibraltar Island in Lake Erie. Photo by Erin Quinlan, Ohio State University,



courtesy of Ohio Sea Grant.

This Landsat satellite image, shows an algal bloom in western Lake Erie. Image courtesy of NASA.



Public release date: 23-Aug-2006

Contact: Hal Walker, Walker.455@osu.edu, 614-292-8263, The Ohio State University

Water filtration technique removes dangerous freshwater algae toxins

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Water treatment plants that already had membranes in place could add carbon to their systems without purchasing new equipment, he added.

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The engineers combined the active carbon with three different commercially available membrane filters to remove microcystin-lr from samples of Lake Erie drinking water. Each combination produced good results: one removed 95 percent of the toxin, one removed 97 percent, and the other removed 99 percent. Without the carbon, even the most effective ultrafiltration membrane removed only 78 percent of the toxin.

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Written by Pam Frost Gorder, (614) 292-9475; Gorder.1@osu.edu.



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Source: Ohio State University



BY KELLY RIESEN
OHIO SEA GRANT

September is a special time for Lake Erie anglers. The kickoff of fall football season is also the kickoff for fall fishing. This month marks the beginning of a yellow perch, walleye, smallmouth and steelhead fishing extravaganza.

The Central Basin holds large numbers of jumbo perch, which makes finding these fish fairly easy. Anglers are enjoying consistent and rapid-fire angling in the nearshore areas and harbors from Conneaut to Huron.

Perch fishing often seems to get better when more lines are down and more bait is in the water. Look for packs of boats that are hooking perch and join in the fun.

In the early fall, perch are schooling up and beginning to move back toward shoreline areas in preparation to overwinter near their spawning grounds. Going into late fall, hot perch fishing will be found

Kelly's Catch: Expect Hot Catches on Lake Erie as the Weather Cools

around harbor mouths from Conneaut to Huron.

Some of the top fall spots for perch fishing as you get further west are the east sides of Kelleys Island and Kelleys Island shoal, a mile or two offshore of the Marblehead Lighthouse, and around Green and Rattlesnake Islands. The C Can to Niagara Reef area and Maumee Bay are also good spots to try.

Walleye are also on the move during the fall. Many of the fish, which may have moved as far east as Buffalo, New York, will migrate from the Eastern and Central Basins back toward their spawning grounds in the Western Basin.

Central Basin anglers had a phenomenal August for walleye fishing and this trend should continue into the fall throughout the Central and Western Basins as the walleye migrate west.

During the 1980s, September was a top month for finding walleye on Western Basin reef tops. With the current fishery reverting back to its 1980s form, many of the reef tops should be hot again this September.

Reefs that have been consistent producers are Crib, Niagara, and Round reefs. Cone and Flat Rock have also been producing good numbers. The shallower waters can be fished using weight forward spinners tipped with night crawlers.

Much of the fishing in the open waters of the Western Basin will be done by trolling. Trollers will probably find continued success in the broad area between West Sister and Rattlesnake Islands.

On calm evenings, walleye will move in close to shore to feed on shiners. At these times, shoreline fishing can be a very successful method of catching walleye from Lorain to Catawba Island. Use shallow-running crankbaits and minnow imitations.

Steelhead anglers eagerly anticipate September's early runs of fish into streams from the Huron River to Conneaut Creek. Runs may be early and especially good this year because of the increased amounts of rain northern Ohio has received.

During September, stay close to river and stream mouths and

cast live minnows. Steelhead often stage just offshore of river outlets, so try fishing off of a break wall or beach near one of these outlets.

Some places to try for early fall steelhead are the mouth of Conneaut Creek in Conneaut Harbor, the mouth of the Grand River at Mentor Headlands Beach, the mouth of Arcola Creek, and the Rocky River at the Emerald Necklace Marina.

Fall is also among the best times to fish for smallmouth bass on Lake Erie. Smallmouth that spent midsummer in deep water begin forming larger schools during early autumn. Fall smallmouth tend to hang on small humps offshore in 20 to 25 feet of water.

Bass will feed heavily at this time of year to prepare for winter. Jigs tipped with live baits or tube jigs are often very successful, as are spoons jigged off the bottom. Small soft shell or hard shell crawls also yield good catches.

Smallmouth fishing on any of the artificial reefs in the Central Basin can be dynamite in September. Deep water humps and shoals around the Bass Islands are also excellent spots. Look for these areas on the navigation chart and use your sonar when you are on the water to pin-point your spots.

Some good places to start are West Reef, Kelleys Island shoal, Gull Shoal, and many anglers are beginning to fish Crib and Niagara Reefs for smallmouth.

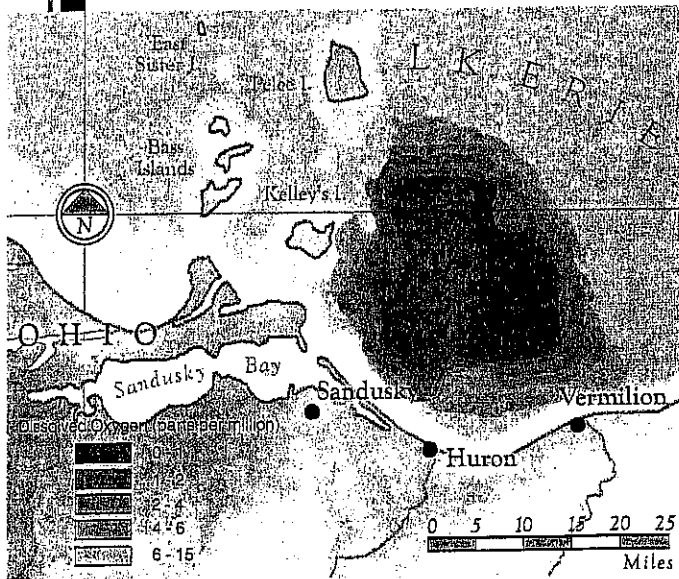
Current and weather play important roles in fishing for smallmouth on Lake Erie. Often, the best fishing occurs during adverse weather conditions. A good rule of thumb is to fish the windy side of any structure.

Keep an eye on bait fish schools as well. As the water cools, bait fish will tend to move deeper and this often signals good smallmouth fishing.

Late summer and early fall fishing can get pretty exciting on Lake Erie. It's a little quieter since fewer boaters are on the water, and the weather is more predictable than in late fall and early winter. But for the fish, falling water temperatures sound a clear wake up call.



September kicks off Lake Erie's fall perch fishing, and anglers can expect lots of jumbos in this year's catch.



» Newly discovered "dead zone" in the Sandusky Basin, Lake Erie.

CENTRAL BASIN WALLEYES

Walleye Notes in Passing—In the 2005 Summer Edition of *Twine Line*, a publication of Ohio Sea Grant, biologist Kelly Riesen affirmed that 90 percent of Lake Erie walleyes spawn on reefs of the western basin, with the remaining 10 percent in the Maumee, Grand, and Sandusky rivers, and in sections of the eastern basin. Walleyes from each of these areas are genetically different, probably because they return to these specific spawning locations to reproduce. After spawning, most fish from each of these spawning groups move to the central basin to spend the rest of spring and summer.

Of more technical interest is the ongoing research into zones of Lake Erie that experience low oxygen levels during summer. One large "dead zone" exists in a portion of the central basin, and another smaller area has been discovered in the Sandusky basin. We hope by next season to be ready with a report about how these zones may be affecting walleye movements in Lake Erie.

In-Fisherman

September

Great Lakes: Sea Grant Researcher Featured on *Dirty Jobs*

Kristin Stanford, a resident researcher at Ohio State's Stone Lab on Lake Erie's Gibraltar Island, studies the endangered Lake Erie water snake. Stanford catches, weighs, and induces the snakes to vomit, then records their diet. Stanford was featured in the season premiere of the Discovery Channel's *Dirty Jobs*. The snakes are a federally threatened species found only on the Lake Erie islands. Stanford's goal is to see the

snakes removed from the endangered species list. "Filming *Dirty Jobs* was fun," according to the researcher. Stanford hopes it shows prospective Stone Lab students how interesting summer research can be. The lab attracts students each summer from all over the country to work on supervised, independent research projects.

More Great Lakes News ([IL](#) [IN](#) [MI](#) [MN](#) [NY](#) [OH](#) [PA](#) [VT](#) [WI](#))

**LEWS in the Limelight!
Discovery Channel's "Dirty Jobs" to
feature the Island Snake Lady and the Lake
Erie Watersnake!**

Life as a field biologist has been a fun and rewarding career choice. It's always interesting to see the reactions of people whom I meet, when I tell them what I do. "I study snakes." Their confused response is often times, "Why?"

It's true that being a field biologist often isn't the most glamorous profession. In fact, much of what I do is down right gross. Not many people allow their limbs to be regularly chewed on by dozens of watersnakes and come home from a days work covered in snake poo. Am I a weirdo? Maybe.

Thankfully, this is exactly the kind of job Mike Rowe, the creator and host of Discovery Channel's Dirty Jobs, looks for in a story. Mike and his crew recently came to Put-in-Bay to spend a day filming with me in early August for an upcoming episode of Dirty Jobs. If you have never seen the show, the concept is simple. The host, Mike Rowe, showcases three different jobs by assuming the duties that the "experts" give him. As the title of the show describes, the jobs Mike performs usually have a dirty aspect to them. And more often than not "dirty" is a bit of an understatement.

So how did they hear about the LEWS and the island snake lady? Well, I just e-mailed them. It was that easy. After watching the show one evening, my fiancé looked over at me and suggested that I send them an e-mail telling them what I do for my job.

"What you guys do with those snakes is pretty dirty" he said. "I bet they would come out if you contacted them." Would they? I wasn't so sure.

After several days of prodding, he convinced me that it was worth a shot. I composed a message and posted it on the Dirty Jobs discussion forum (<http://dsc.discovery.com/fansites/dirtyjobs/splash.html>). Not in a million years did I think that I would get a response from their researchers the very next day asking me to contact them with more information!

After months of e-mailing, logistical planning and working around Mike's busy film schedule (he recently hosted Shark week for Discovery), we finally got a film date set for August 10th. Beginning at 10:00am, the crew filmed Mike conducting several aspects of the LEWS research that I do including, snake catching, measuring, weighing, sexing and even diet analysis, better known as puking! We finally finished the shoot just before 8:00pm. It was an unbelievably fun experience.

Did we get good footage? Did he manage to catch a snake?

Well, you'll all just have to watch and see. The segment will air sometime this fall. The show is on Tuesdays at 9pm ET/PT but be sure to check your local listings or the Dirty Jobs website.

I used to joke around with friends saying that one day they may see me on the Discovery Channel and gasp saying "I know that girl!"

That was my pie-in-the-sky—something to look forward to at the pinnacle of my career.

So is this it? Can it get any better from here?

(cont. page 2)

(Limelight, cont. from page 1)

All I know for sure is that I am extremely grateful to Mike and his crew for allowing me the opportunity to share our LEWS with the rest of the country. Although the show plans to highlight the "dirty" aspects of my job, I am confident that it will also highlight the importance of our research and conservation efforts.

And if that's as good as it gets, then I'd say I've done pretty well!

~Kristin Stanford
The Island Snake Lady

Lake Erie Watersnake – Round Goby Population Interactions

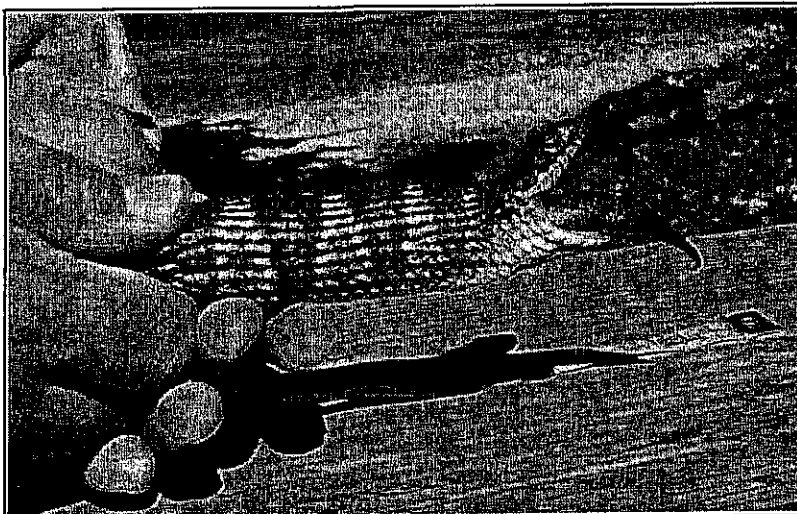
This summer, an investigation into the consumption of round gobies (an invasive fish species) by Lake Erie Watersnakes (LEWS) began. The goal of this research was to determine the amount of round gobies LEWS eat in a given period of time. LEWS were captured on South Bass Island and held at the F.T. Stone Lab for digestive rate trials. These trials were set up to discover the length of time it took for an average watersnake to digest an average-sized round goby. The trials consisted of a watersnake being fed a round goby weighing 5% of the snake's weight. The snake was then placed in a temperature controlled tank for a specified number of hours. At the end of the trial, the snake was manually stimulated to regurgitate, and the remnants of the round goby were weighed. By weighing the round goby before and after digestion, we determined how much of the round goby was digested during the trial time. Preliminary analysis of these data shows that round gobies can be digested in just 16-20 hours. Once the final analysis has been completed, we can use LEWS population density data to determine how many gobies watersnakes can eat in a given amount of time.

Along with the digestive rate trials, a maximum prey consumption experiment was also performed using LEWS. The goal for this test was to determine the maximum amount of round gobies a watersnake would eat in a given amount of time. Watersnakes were put in aquaria containing a set of weighed round gobies. The aquaria were checked periodically throughout the day,

and any eaten round gobies were replaced with new, weighed round gobies. After 8 hours, any remaining round gobies were removed. All the round goby weights for the day were totaled, and the remaining round goby weights were subtracted to give the total weight consumed for the day. This process was continued for five days for each snake. Although individual watersnakes varied in the amount they ate, some individuals ate a dozen or more gobies in five days. Further analyses will allow us to determine a theoretical maximum amount of round gobies LEWS could eat in a given period of time. Together with the digestive rate analysis, we hope that a realistic value for the consumption of round gobies by LEWS can be determined.

Finally, we surveyed a watersnake population on South Bass Island at two week intervals to determine the frequency and size of round gobies consumed by free-ranging watersnakes. Following capture, watersnakes were measured and manually stimulated to regurgitate, providing us with information on the proportion of snakes that had recently fed. Coupled with information on digestive rate, these data are providing a picture of the impact that watersnakes might be having on round goby populations in the island region. In contrast to the typical view that snakes eat large meals at infrequent intervals and then digest their food slowly, we are learning that LEWS eat frequent small meals and can digest their food quickly. As a consequence, LEWS may control round goby populations in the island region, potentially lessening the impact these invasive fish have on native fish populations.

~Peter Jones
Northern Illinois University



With the help of researchers, LEWS regurgitate round gobies as part of a dietary study. Photo: Kristin Stanford

ODNR builds Artificial Snake Hibernacula on Middle Bass Island

In August of this year, the Ohio Department of Natural Resources built two artificial hibernation structures for the Lake Erie Watersnake at the Middle Bass Island State Park (MBISP). These structures will hopefully provide hibernation habitat for LEWS and other snake species residing within the park and marina. The "hibernacula" are just a portion of the beneficial aspects for LEWS the ODNR has included within their plans for development.

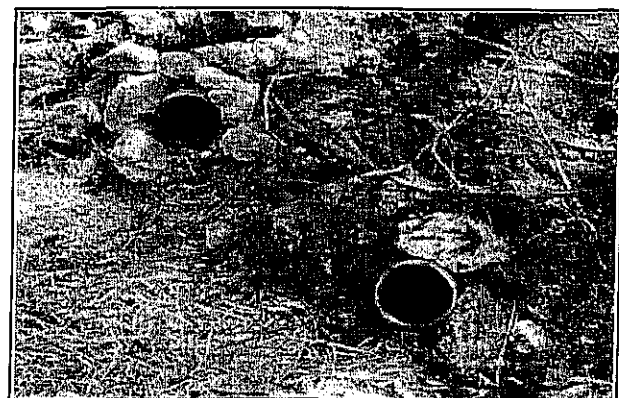
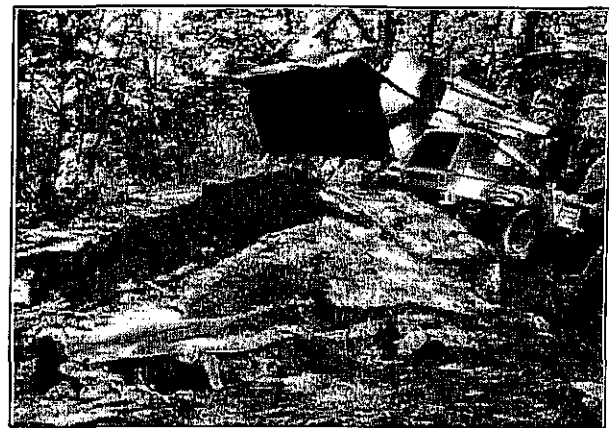
So just how does one build a snake "hibernaculum?" The MBISP hibernacula were modeled after similar structures built in southern New Jersey by other snake researchers, but with a few modifications. Construction begins by digging a hole approximately 6' deep and 10' x 10' in size. Large rocks are placed at the bottom of the hole to create crevices that the snakes can utilize. Several pieces of flexible drain pipe fitted with "T" shaped pieces at the terminal ends are placed among the rocks within the structure providing entrance. The pipes also had 2" holes cut into the sides along the entire length of the pipe to provide snakes multi-level access. More large rocks, small logs and left over pieces of drain pipe are carefully placed and piled creating a multi-layered shelter. In the case of the MBISP hibernacula, recycled pieces of concrete were also used from an old septic tank the park had planned to remove.

Smaller rock rubble is then piled on top and a piece of filter fabric is laid over the structure. The fabric is covered with approximately 2-3' of sand and dirt while leaving the ends of the flexible pipes uncovered. As a final step, the entrances are surrounded with more pieces of small rock to reduce erosion.

In late October, after the snakes have moved to where they plan on spending their winter, the hibernacula will be surrounded with a "snake barrier" made of silt fencing and small snake traps. As snakes begin to emerge from hibernation in the spring of 2007, the structures will be monitored to determine whether any snakes have successfully spent the winter within the hibernacula.

Special thanks to those who helped in the planning and construction of these unique structures. We will look forward to hearing about their future success!

~Kristin Stanford, The Island Snake Lady



Thanks for Making Nature Camp a Success!

Nature Camp Programs presented by the Lake Erie Islands Chapter of the Black Swamp Conservancy were a big success this summer teaching over 100 kids about our unique island environment! New this summer was Preschool Nature Camp with stories, games and crafts about birds, dragonflies, and leaves. Nature Camp for the younger children on both Middle Bass and South Bass included programs on Bees, Bats, and Bubbles! A joint lunch with both morning and afternoon sessions was enjoyed by all. Environmental Adventure Camp on Middle Bass included fishing with Pat Chrysler, an ROV trip from OSU Stone Lab, kayaking with Kayak the Bay to Gibraltar, and an overnight at the Middle Bass Island State Park. Adventure Camp at the Bay included a trip to North Bass for snakes and butterflies, Ladd Carr Wildlife Woods to pull garlic mustard, and ended with kayaking and camping at South Bass Island State Park. Both groups learned about bat conservation and built bat boxes which will be used at North Bass, Middle Bass, Kelleys, and South Bass State Parks as well as Perry's Cave. Programs on the Lake Erie Watersnake presented by Kristin Stanford for all the campers are always a favorite and important part of our camp program. All campers were awarded a prize for reusing and recycling their water bottles for the week. Plans are already underway for next year's camps!

A big thank you goes to the Middle Bass Yacht Club and to the Middle Bass Town Hall for use of their facilities during our Middle Bass Nature Camp week sponsored by the Middle Bass Local Board of Education. On South Bass thanks goes to the Lake Erie Islands Historical Society, North Bass School Board of Education, Perry Holiday Hotel, South Bass Island State Park, Perry's Cave and O.S.U. Stone Lab for the use of their facilities during our camp program. Thanks also to the Put-in-Bay Recreation Committee and all our Nature Camp Fund donors who made the camp possible. We couldn't have done it all without our 2006 staff—Lisa Brohl, Carol Ferguson, Valerie Mettler, Kim Miles, Emily Peterson, Kelly McCarthy, Matt Okneski, Sandi Glauser, Sally Duffy, Kristin Stanford, Annmarie Eriksen, Lianne Genzman, and Sue Bixler. Thanks goes to special instructors, John Schrenk, Tim Krynak of the Cleveland Metroparks, Mark Pecot from 41 Degree North, Vicky Wigle of Kayak the Bay, Debbie Nofzinger of the Wood County Metroparks, Dr. Dave Moore, Ranger Chris Desh, Helen Skelton,



Nature Camp participants hold an Eastern Fox Snake. Photo: Lisa Brohl

Arnold Bigler, and Eric Mayer. We would also like to thank everyone in the community that donated supplies, support, or services to make a successful program!

~Lisa Brohl
Lake Erie Islands Chapter, Black Swamp
Conservancy

Nerodio 2006

The 2006 annual spring Lake Erie Watersnake census (*Nerodio 2006*) occurred from 30 May - 11 June 2006 and involved a total of 25 participants. During this period, more than 1,450 LEWS captures were made. Especially noteworthy were the recaptures of two LEWS, initially marked 9 and 10 years ago (in 1997 and 1996). These snakes, both males, were adults when initially marked. Their recapture extends the maximum observed survival of adult LEWS to 10 years. 1996 represents the first year that watersnakes were marked using PIT tags and the first year of LEWS field work following a three-year hiatus (1993 - 1995). Thus, it is possible that adults sometimes survive even longer than 10 years, as may be documented in future annual censuses. Mark-recapture data collected during *Nerodio 2005* and *Nerodio 2006* are currently being used to update estimates of LEWS population size. (cont. on pg. 5)

The small Ohio islands in Lake Erie were a particular target of field work during *Nerodio 2006*. With the exception of West Sister Island, LEWS were encountered in high numbers on the small Ohio islands in 2006, consistent with censuses in previous years (see table). Of particular interest is the continued presence of LEWS on Green Island. Watersnakes were present on this island in the early 1900s, but were not found during repeated searches in the 1980s and early 1990s. The renewed presence of LEWS on Green Island was first noted by C. Caldwell and S. Butterworth of the ODNR, Division of Wildlife, who visited the island in 2002. This year, a team of researchers captured and marked 40 large adults on the island. LEWS also occurred on West Sister Island in the early 1900s, but were not found during repeated searches in the 1980s and early

Island	Census Date	Number of watersnake captures
Rattlesnake	2-Jun-04	51
	30-May-06	48
Ballast	8-Jun-04	48
	3-Jun-06	73
Sugar	24-Jul-02	27
	4-Jun-04	80
	3-Jun-06	80
Green	25-Jun-02	20 (sightings)
	23-Jul-02	9
	5-Jun-06	40
West Sister	26-Jul-02	1
	9-Jun-06	0
Gibraltar	5-Jun-04	57
	14-Jun-04	17
	2-Jun-05	29
	10-11 June 2006	21

1990s. A visit to this island in 2002 resulted in the capture of one adult female watersnake. However, an intensive search of West Sister Island on 9 June 2006 by six workers resulted in no watersnake sightings or captures. This result suggests that LEWS remain exceedingly rare or absent from West Sister Island. Possibly, the watersnake captured there in 2002 was a transient individual that swam or drifted to the island rather than a member of a permanent resident population.

~Richard King
Northern Illinois University

Island Snake Lady and Lisa Brohl to be on television

Lake Erie Island Chapter - Black Swamp Conservancy (LEIC-BSC) Board Member, Kristin Stanford, aka, Island Snake Lady, will be featured on the Discovery Channel Dirty Jobs program this fall! The crew was here filming Kristin work with the Lake Erie Water Snakes in August. We will be advertising a viewing party when the date is set!

LEIC-BSC Chair Lisa Brohl will also be featured in a Hallmark Channel New Morning segment this fall. The segment by filmmaker Peter Huston will also include clips of island scenery, preschool nature camp, board member Bob Russell, and shoreline property owner Jeff Bykowski. Date will also be announced when available.

LEWS in the Limelight!
Discovery Channel's
"Dirty Jobs" to feature
the Island Snake Lady
and the Lake Erie
Water Snake!

by Kristin Stanford

Life as a field biologist has been a fun and rewarding career choice. It's always interesting to see the reactions of people whom I meet, when I tell them what I do.

"I study snakes." Their confused response is often times, "Why?"

It's true that being a field biologist often isn't the most glamorous profession. In fact, much of what I do is down right gross.

Not many people allow their limbs to be regularly chewed on by dozens of water snakes and come home from a day's work covered in snake poo.

Am I a weirdo? Maybe.

Thankfully, this is exactly the kind of job Mike Rowe, the creator and host of Discovery Channel's Dirty Jobs, looks for in a story.

Mike and his crew recently came to Put-in-Bay to spend a day

filming with me in early August for an upcoming episode of Dirty Jobs. If you have never seen the show, the concept is simple. The host, Mike Rowe, showcases three different jobs by assuming the duties the "experts" give him. As the title of the show describes, the jobs Mike performs usually have a dirty aspect to them. And more often than not "dirty" is a bit of an understatement.

So how did they hear about the LEWS and the island snake lady?

Well, I just e-mailed them. It was that easy.

After watching the show one evening, my fiancé looked over at me and suggested I send them an e-mail telling them what I do for my job.

"What you guys do with those snakes is pretty dirty" he said. "I bet they would come out if you contacted them."

Would they? I wasn't so sure.

After several days of prodding, he convinced me it was worth a shot.

I composed a message and posted it on the Dirty Jobs discussion forum. (<http://dsc.discovery.com/fansites/dirtyjobs/splash.html>)

Not in a million years did I think I would get a response from their researchers the very next day asking me to contact them with more information!

After months of e-mailing, logistical planning and working around Mike's busy film schedule (he recently hosted



Kristin Stanford, the Snake Lady, was filmed with Mike Rowe from Dirty Jobs on the Discovery Channel going after Lake Erie Water Snakes at the South Bass Island State Park Beach. Mike also filmed dockmasters raking seaweed at the city docks and the crew at the Boardwalk gas dock doing pump outs on pleasure boats.

Shark week for Discovery), we finally got a film date set for August 10th. To be honest, this was not my first choice. Originally, we tried to get them to come out for our annual census in June (aka Nerodio), however, in the world of television production, you sometimes have to take what you can get.

Beginning at 10:00am, the crew filmed Mike conducting several aspects of the LEWS research that I do including snake catching, measuring, weighing, sexing and even diet analysis, better known as puking! We finally finished the shoot just before 8:00pm.

It was an unbelievably fun experience.

Did we get good footage? Did he manage to catch a snake?

Well, you'll all just have to watch and see. The segment will air sometime this fall.

The show is on Tuesdays at 9 p.m. ET/PT but be sure to check your local listings or the Dirty Jobs website.

I used to joke around with friends saying that one day they may see me on the Discovery Channel and gasp saying "I know that girl!"

That was my pie-in-the-sky. Something to look forward to at the pinnacle of my career.

So is this it? Can it get any better from here?

All I know for sure is I am extremely grateful to Mike and his crew for allowing me the opportunity to share our LEWS with the rest of the country. Although the show plans to highlight the "dirty" aspects of my job, I am confident it will also highlight the importance of our research and conservation efforts.

And if that's as good as it gets, then I'd say I've done pretty well!

Ask the Snake Lady by Kristin Stanford

Dear Kristin,

I'm a Middle Bass resident with a few questions about the fox snakes around my home. This year I have successfully caught and released 2 fox snakes but those are the only ones I've seen and I can't seem to find the two I normally see. Since you are studying them now I was wondering if the fox snake is an endangered species and how to tell the difference between male and female fox snakes. Thanks!

Sincerely, *Leah Bilski*

Hi Leah!

Thanks so much for writing in with your questions on Fox Snakes! The Eastern Fox Snake is listed as a "Species of Concern" in Ohio which basically means that we don't have enough information on how well the total Fox Snake population is doing for us to say whether it should be elevated in its status (listed as Threatened or Endangered). So far, the results of our Fox Snake survey within Northwestern Ohio seem to indicate that the populations are doing very well and that their range (where the snake is normally found) has expanded. This is great news because the Fox Snake is listed as "Threatened" within the two other areas it is found (Michigan and Ontario, Canada).

An interesting observation that we have made on Fox Snakes during our radio-telemetry study is that they seem to be very active in May and June and then become very secretive later in the summer. Even with radio-transmitters implanted inside them, it is rare that we get to see the snakes we are tracking during July and August. This may be why you caught two new Fox Snakes by your house earlier in the year, and haven't seen the other two 'residents' around lately. That's my best guess anyway! I haven't quite mastered "Parcel Tongue" yet! Let's both keep our fingers crossed that they are hiding out somewhere and that nothing bad has

happened to them.

So how does one tell the difference between male and female snakes? For many snake species the easiest way you can tell adult males from females is their body size. In several species that we are familiar with on the islands (e.g. Garter snakes, Brown snakes and Lake Erie water snakes), females are quite a bit larger than males. Unfortunately, this doesn't hold true for all snakes, including Fox snakes. Fortunately, there is another character difference between male and female snakes for most species and that is the length of their tail. Some people think that a snake is just one big giant tail, but really the actual 'tail' of a snake is the distance from their anal opening (called a cloaca in reptiles and amphibians) to the distal end of the snake (the point furthest away from the head). In male snakes, the tail is usually longer than the females. This is because male snakes hold their reproductive organs (called hemipenes) in the base of their tail. If you have seen LOTS of snakes like I have, then you can usually tell if it is male or female just by looking at the length of the tail. If you aren't sure, then the proper way to determine the sex of the snake is to use a probe (which is a thin metal rod that is rounded at the end) and insert it downward into the cloaca. If the probe goes down into the tail (usually about an inch) then this would indicate the presence of the hemipenes and it is a male snake. If the probe will not go into very far down the base of the tail, then it is a female snake. I have always found it funny that many people who have pet snakes never found out whether they had a boy or girl because they never knew how easy it was to figure out. One thing to keep in mind for you or anyone who does want to have their snake sexed; it's probably best if you only have someone (like a Veterinarian) who has used a probe before do this test for you. If used improperly, even a round probe could cause an injury to the snake.

I hope I have answered your questions and I'll look forward to hearing back from you when you find your Fox snakes again!

All the best, *Kristin*, theislandsnakelady@yahoo.com



Mike Rowe (left) was busy one morning in August filming a sequence on Put-in-Bay A-Dock for his show on the Discovery Channel, *Dirty Jobs*. He was talking about how the dockmasters have to skim the seaweed off the lake surface and pile it up to be hauled away. When the show airs later this fall, you see Put-in-Bay Dockmaster Joe Reser helping Mike rake up seaweed and pile it on the dock. Mike should return here in September for the annual harbor clean up. That would be a great segment for his show. The muck on the trash pulled from the bottom of the lake must be hosed off with a pressure washer.

Harbor clean up Sept. 18th

Get your SCUBA gear ready for the 15th annual Dive! Put-in-Bay Harbor Clean Up on September 18th. New Wave Dive Center and Patrix's Scuba are coordinating approximately 60 volunteer divers and more than 200 land support volunteers to participate in the event. Last year, 230 volunteers pulled more than 1,500 pounds of trash from the waters around all three public docks.

Prizes will be awarded to divers who find the most unusual item, the most zebra mussel-encrusted item, and the most valuable item. Land volunteers will have a chance to win door prizes.

Miller Boat Line will help provide transportation to Put-in-Bay for the volunteers, plus Island Transportation will provide bus service from the Lime Kiln to the downtown docks. Steve Heschel, "Mr. Coca-Cola" from Port Clinton, will be cooking lunch in the park for everyone.

If you'd like to volunteer, you can pick up a registration form at the Put-in-Bay Chamber of Commerce, or download a registration form from www.diveputinbay.com.

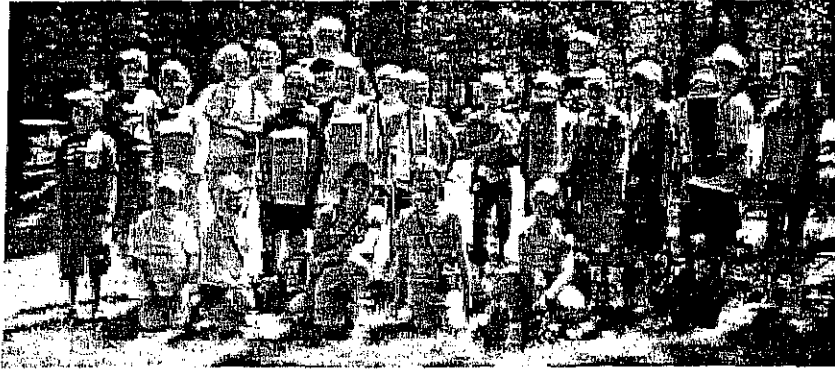
Algae bloom expected

Anyone who has been around the islands for very long knows about the thick pea-green algae which sometimes invades western Lake Erie after a long hot summer. The official name for the stuff is microcystis, and it can be poisonous. Microcystis is a toxic form of blue-green algae that has appeared in western Lake Erie almost every summer since 1995, after an absence of more than 20 years. Microcystis is the same type of algae linked to as many as 75 deaths in Brazil in 1996. There have been no deaths attributed to it in North America.

Scientists recently found the algae while sampling in the Toledo shipping channel, and they expect a full bloom at the end of August and the beginning of September.

Western Lake Erie gets the nasty stuff because it is so shallow and the water is so warm compared to the other Great Lakes. Eighty degree lake water temperatures were not uncommon this summer. Add sewage overflows and farm runoff and you've got the makings for the lake's version of pea soup.

Matt Thomas, the assistant manager of Ohio State University's Stone Laboratory on Gibraltar Island in the harbor at Put-in-Bay, said earlier in August, he'd already seen microcystis in water drawn between Sandusky Bay and Kelleys Island.



These island youngsters were just one of several age groups who enjoyed the Nature Camp programs this year on the Lake Erie Islands. This group is shown at Perry's Cave with bat boxes.

Nature Camp 2006 by Lisa Brohl

Nature Camp Programs presented by the Lake Erie Islands Chapter of the Black Swamp Conservancy were a big success this summer, teaching over 100 kids about our unique island environment! New this summer was Preschool Nature Camp with stories, games and crafts about birds, dragonflies, and leaves. Nature Camp for the younger children on both Middle Bass and South Bass included programs on Bees, Bats, and Bubbles! A joint lunch with both morning and afternoon sessions was enjoyed by all. Environmental Adventure Camp on Middle Bass included fishing with Pat Chrysler, an ROV trip from OSU Stone Lab, kayaking with Kayak the Bay to Gibraltar, and an overnight at the Middle Bass Island State Park. Adventure Camp at the Bay included a trip to North Bass for snakes and butterflies, Ladd Carr Wildlife Woods to pull garlic mustard, and ended with kayaking and camping at the South Bass Island State Park. Both groups learned about bat conservation and built bat boxes which will be used at North Bass, Middle Bass, Kelleys, and South Bass State Parks as well as Perry's Cave. Programs on the Lake Erie water snake presented by Kristin Stanford for all the campers are always a favorite and important part of our camp program. All campers were rewarded for re-using and recycling their water bottles used for the week with a special prize. Plans are already underway for next year's camps!

A big thank you goes to the Middle Bass Yacht Club and to the Middle Bass Town Hall for use of their facilities during our Middle Bass Nature Camp week sponsored by the Middle Bass Local Board of Education. We are grateful to the Middle Bass State Park for help in arranging our campout, the talks by Ranger Chris and prizes. Thanks goes to John Schrenk for an excellent program on Bees (with honey tasting!) and the nice books he put together for the children, to Tim Krynak of the Cleveland Metroparks for bringing over his bat for us all to meet, Mark Pecot from 410 North for his kayaking program, and to Vicky Wigle of Kayak the Bay for her cooperation with our efforts. We would like to thank Nancy Bane of the Lone Willow for whistles for kayaking, Stan Gebhardt for maple syrup for our pancakes, Lynn and Dick David for supplies, Richard Gump for bathhouse materials, Vince Peterson for firewood, the Middle Bass Arts Camp for use of scissors, Annemarie Eriksen for planning assistance, and Andy Ferguson for carpentry help. Thanks also goes to the parents of the children who brought lunch food or tents and especially those parents who stayed to help cook dinner during the thunderstorm (always seems to be part of a campout!) and to anyone else we may have missed-we really appreciate all the support! Thanks to our 2006 staff-Lisa Brohl, Carol Ferguson, Valerie Mettler, Kim Miles, Emily Peterson, Kelly McCarthy, Matt Okneski, and Sue Bixler.

Here on South Bass, we would like to thank our staff this summer- Lisa Brohl, Carol Ferguson, Valerie Mettler, Lisa Bircher, Sandi Glauser, Sally Duffy, Emily Peterson, Matt Okneski, Kristin Stanford, and Lianne Genzman. Thanks also to the Put-in-Bay Recreation Committee and all our Nature Camp Fund donors who made the camp possible. Thanks to the North Bass School Board of Education, Perry Holiday Hotel, Lake Erie Islands Historical Society, South Bass Island State Park, Perry's Cave and O.S.U. Stone Lab for the use of their facilities during our camp program. We appreciate donations of supplies by Mike Steidl of Island Bike & cart Rental (bottled water), Chris Krueger (first aid kit), Mona Rutger at Back to the Wild (owl pellets), Kendra Koehler (bird seed), Richard Gump (wood for bat houses), Wal-mart (gift card), Sally Duffy (art supplies), LEIHS (paper), Andy Ferguson (carpentry help) and South Bass Island State Park (firewood, supplies). Thanks to guest teachers beekeeper Arnold Bigler, kayak instructor Helen Skelton, bat lady Debbie Nofzinger from the Wood County MetroParks, Dr. Dave Moore, and naturalist Eric Mayer. We appreciate all the food donated by parents and grandparents for the campout and for the joint lunch for Nature Camp, the loaning of tents, transportation of gear by Doris Hubschman, Pinky Batt, and Nancy and Bob Russell. Thanks for all your support for a successful program!

Volunteers to clean

By JON KERNS
Managing editor

PUT-IN-BAY, Ohio — Every day, things somehow make it to the bottom of Put-in-Bay Harbor, and one day each year, volunteer divers bring them back up.

This year's Put-in-Bay Harbor Cleanup is scheduled for Sept. 18.

"We are back on the Coastweeks program," said Put-in-Bay Chamber Director Maggie Beckford, event coordinator for the cleanup.

Ohio's Coastweeks is part of an annual nationwide effort to educate the public about protecting America's coastlines. In Ohio, the focus is Lake Erie and its watershed.

"Our community is so appreciative of all the volunteers who make the trip to the island and of our local residents who helped collect more than 1,500 pounds of trash from around the municipal docks last year," Beckford said.

Miller Boat Line and Island Transportation will remain the event's primary sponsors. Again this year, the Miller ferries will transport volunteers to and from the mainland while Island Transportation will take volunteers from the Lime Kiln Dock to the cleanup site downtown.

"We discovered last year that the success of this community project relies predominantly on the many people who volunteer to cleanup and the businesses and individuals that support it," said Beckford.

"We had a lot of fun last September and we're hoping that those who participated tell their family and friends," said operations coordinator Sandy Heschel. "The more volunteers we have, the more we can clean up and the quicker we can get the job done."



Polly Ann Bauman/Fishwrapper

DIVERS AND VOLUNTEERS at the 2005 Put-in-Bay Harbor cleanup collected more than 1,500 pounds of trash from around the downtown docks and numerous items underwater. This year's cleanup is Sept. 18.

Sandy and her husband, Patrice Heschel, are both divers and take the day off from work to help out. Patrice represents the Ohio Council of Skin and Scuba Divers, another sponsor of the event.

Port Clinton New Wave Dive Shop owners Rod and Jenny Althaus are also important to the project.

"Rod and Jenny did a terrific job in 2005 and we're glad they're back on board this year," Beckford said.

Meanwhile, Ohio State Uni-

versity's John Hageman returns this year as Put-in-Bay coordinator.

"John takes care of locating and gathering together all the necessary equipment needed to do the cleanup," Beckford said.

The Village of Put-in-Bay and the DeRivera Park Trust are also important contributors in coordinating efforts so the project can be completed safely within a short period of time.

"Through the efforts of all these separate entities working together we are able to clean up nearly a ton of trash from our beautiful downtown harbor," Beckford said.

A year ago, 80 divers and 130 land-volunteers signed up to clean the popular boating area near downtown Put-in-Bay. Some came as far away as Michigan and Cincinnati,

Put-in-Bay Harbor

Divers and land volunteers concentrated on the area around the public docks, which is about 6-8 feet in depth. They found a plethora of unusual items buried in the mud, including two bikes, a tambourine, harmonica, an unopened bottle of gin, a digital camera, a CD player and part of the bow of a boat. The interesting finds are part of the draw for some divers, although there are the normal beer and soda cans, fishing lures and cell phones to pull out, too.

"A lot of the stuff gets inadvertently knocked off the boat," Beckford said. "Some people just dump their trash."

Diver Mark Foster, 49, Fremont, won the prize for recovering the most unusual item, a bowling ball

Last year, more than 650 Ohio Coastweeks volunteers plucked more than 11,000 pounds of trash from the beaches, tributaries and underwater muck along 33 miles of Lake Erie shores.

Food wrappers and beverage cans account for most of the trash including used auto parts, appliances and many other unwanted and peculiar items.

This year's Coastweeks events will take place Sept. 7-22 while the International Cleanup Day is set for Sept. 16.

The cleanup committee at Put-in-Bay is currently seeking

volunteers and sponsors for the harbor event. Anyone interesting in sponsoring the cleanup for \$100 will have their name printed on the back of the official "2006 Dive! Put-in-Bay Harbor Cleanup" T-shirt given to all volunteers.

For more information, write the Put-in-Bay Chamber of Commerce, P.O. Box 250, Put-in-Bay, OH 43456 or call (419) 285-2832. On the web, go to www.put-in-bay.com.

*Fishwrapper correspondent
Kristina Smith contributed to
this article.*

Maritime history is being preserved along Erie shore

By **SCOTT CARPENTER**
Fishwrapper correspondent

Up close, a lighthouse's battered exterior shows the decades of weather and waves it has endured. Only from a distance does it take on the stately character that captures our imagination.

Then again, lighthouses were meant to be seen from afar. Their purpose, after all, was to keep mariners a safe distance away. Perhaps it's the distance that adds to their mystique today.

Whatever it is, there is no denying lighthouses' appeal. Amazon.com lists more than 1,800 books with "lighthouse" in the title, while eBay offers more than 8,000 lighthouse-related items for sale.

"Some people may be attracted to their historical significance, others may be drawn by their important and impressive

role in our maritime heritage," said Melinda Huntley, executive director of Lake Erie Coastal Ohio, which promotes the lakeshore's natural and historical assets.

"Still others are drawn for their somewhat romantic and mystical appeal. Let's not forget their artistic appeal as well."

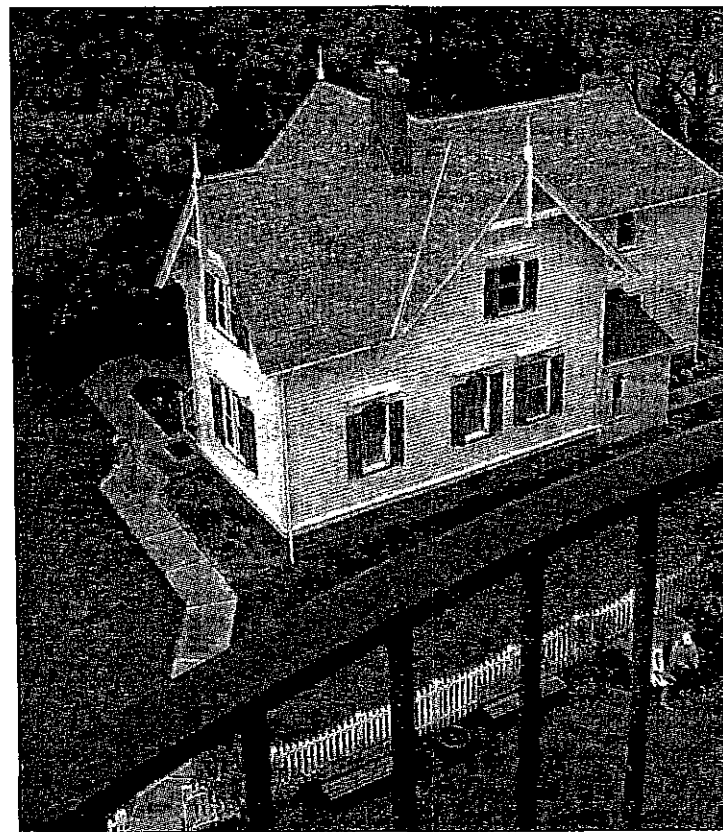
Coastal Ohio, the organization behind the new National Scenic Byway along the Ohio lakeshore, is making lighthouses and other nautical gems more accessible with a new guide, "Lake Erie Lighthouses and Maritime Adventures." The map-style publication, available this fall, features 31 lighthouses and maritime museums from the Conneaut Harbor Light to the Willis B. Boyer Museum Ship in Toledo. To request a copy, go to www.coastalohio.com.

Among the sites listed are

two lighthouses open for public tours this fall:

■ Fairport Harbor Marine Museum and Lighthouse, at the mouth of the Grand River, is a 60-foot sandstone and brick tower built in 1871. It is open for tours on weekends and holidays from May through the third weekend in September. An adjacent museum has models of early sailing vessels and navigation instruments. It also tells the story of the nearby Lake Erie salt mines, the deepest salt mining operation in the U.S., which extracts salt from beds 2,000 feet beneath the lake.

■ The oldest lighthouse in continuous operation on the Great Lakes is also the newest Ohio State Park. Marblehead Lighthouse State Park, at the tip of the Marblehead Peninsula, preserves the picturesque



Scott Carpenter/Fishwrapper correspondent

THE KEEPERS' HOUSE at Marblehead Lighthouse State Park, as seen from the top of the lighthouse, has displays related to the beacon's history.

Maritime history is being preserved along Lake Erie shore

Continued from Page 9

la, preserves the picturesque tower that has warned ships away from the rocky point for 184 years. An adjacent keeper's house has historical displays related to the lighthouse. The state park is open year-round, while the lighthouse and keeper's house are open for tours from late May through early September, and the second Saturday of the month May through October.

■ **The Wolcott Keeper's House**, a short drive from the lighthouse on E. Bayshore Rd., tells the story of Benajah Wolcott, who kept watch over the Marblehead Light from its opening in 1822 until his death in 1832. He was succeeded by his wife, Rachel, the first female lighthouse keeper on the Great Lakes. The house is open for tours weekdays from June through August, and the second Saturday of the month from May through October, or by appointment for groups.

MORE SCENIC SENTINELS

More than a dozen other lighthouses can be seen from a distance, while some can be seen only by boat. The following, and more, are listed in the brochure.

■ **The Ashtabula Harbor**

Lighthouse, at the mouth of the Ashtabula River, is best seen from the Great Lakes Marine and Coast Guard Museum on Walnut Blvd. in Ashtabula. Built in 1905, it was the last manned lighthouse in Ohio.

■ **The Fairport Harbor West Breakwater Lighthouse** is probably the best-known lighthouse in northeast Ohio. It is visible from the beach at Lakefront Park. Built in Buffalo and transported to its current location by steamer, the steel lighthouse began operation in 1925, replacing its 100-year-old predecessor.

■ **There are three Cleveland lights:** the Harbor East Entrance Lighthouse is best viewed from Cleveland Lakefront State Park's Gordon Park or E. 55th Street Marina; the East Pierhead Lighthouse is visible from the Great Lakes Science Center; as is the Cleveland West Breakwall Lighthouse, which still operates as a Coast Guard station.

■ **Amid the excitement of the latest, new thrill rides at the amusement park is the 38-foot Cedar Point Lighthouse**, which operated from 1862 until 1909. The beacon was built atop a six-room, limestone keeper's house.

■ **The South Bass Island Lighthouse**, at the end of Langram Rd. past the Miller Boat Line dock on Put-in-Bay, offers

limited public access. Owned by The Ohio State University, it is open for public tours on Wednesday mornings from 10-noon, mid-June through mid-August, and during special open houses throughout the summer.

■ **Lighthouses on West Sister, Green and Turtle islands** are off-limits, but hold endless fascination for boaters.

■ **The Toledo Harbor Light**, visible in the distance from the beach at Maumee Bay State Park, is a 69-foot, operating Romanesque structure has been in service since 1904. It marks the entrance to the Toledo shipping channel about eight miles out from the mouth of the Maumee River.

MARITIME MUSEUMS

The Battle of Lake Erie was a lopsided match in which Commodore Oliver Hazard Perry and his inexperienced sailors toppled the British fleet 193 years ago this month. Perry's Victory and International Peace Memorial, which has a new visitor center, tells the story of the Sept. 10, 1813 battle that turned the tide of the War of 1812 in the favor of the U.S. It is open daily, April through October.

The Lake Erie Islands Historical Society Museum in downtown Put-in-Bay delves into the fascinating history of is-

land life, including western Lake Erie's rich maritime and winemaking traditions. It's open daily, May through August and weekends in September and October.

Artifacts from early ship-building days and exhibits about the ferryboats that once carried passengers to Cedar Point set the Maritime Museum of Sandusky apart from other museums on the lakeshore. It includes a larger collection of memorabilia from the legendary local boat builder, Lyman Boat Works.

To get a feel for what it's like to be a Great Lakes sailor, visit Lake Erie's two museum ships:

The William G. Mather, a 618-foot freighter that sailed the lakes from 1925 until 1980, is located at Cleveland's North Coast Harbor. It is open for tours May through October.

At 617 feet, the Willis B. Boyer was the largest ship on the Great Lakes in its day. Now, the 1911 ship welcomes visitors at Toledo's International Park on the Maumee River daily from May through October.

Scott Carpenter, a Toledo-area freelance writer and author, is president of the board of Lake Erie Coastal Ohio. E-mail carpcom@buckeye-access.com

Researcher helps with water safety

COLUMBUS — Ohio Sea Grant researcher Dr. Hal Walker has discovered an efficient method to remove 95 percent of harmful microcystins from Lake Erie drinking water, using a combination of powdered activated carbon and ultrafiltration technologies.

Microcystis, a form of blue-green algae, which occur in Lake Erie during the warm summer months, generate toxins

(called microcystins) that can cause health problems.

Water treatment facilities, however, do not specifically treat drinking water for microcystins and many of the conventional removal processes are ineffective on them.

"With 13 million people relying on Lake Erie for their two billion gallons of water annually, microcystin toxins in drinking water have become a growing concern," says Dr. Walker, Associate Professor at The Ohio State University's Civil and Environmental Engineering and Geodetic Science Department.

— Fishwrapper reports

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September 2006

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Located on the Huron River in Huron, Ohio.

Huron Lagoons Marina is one of Huron's largest full service Marinas. Family owned and operated for over 45 years, we are proud to announce that within the past year HLM has been recognized by the marine industry as a Five Star Certified Dealership and as an Ohio Clean Marina.

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The basic goal of the Program is environmental stewardship by making marinas and boaters more aware of environmental laws, rules and jurisdictions, and to get as many marinas as possible to follow best management practices and to be designated as "Clean Marinas."

Learn more at <http://ohioseagrant.osu.edu/cleanmarinas/>

Buying from Certified Dealers

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Learn more at <http://www.discoverboating.com/>

Our Mission

Huron Lagoons Marina is on a never ending quest to serve our customers better to assure them that boating is the most enjoyable time of their lives.

To learn more about HLM go to www.huronlagoons.com
100 Laguna Drive
P.O. Box 231
Huron, OH 44839

New for 2006



Lorain County Commissioners Award \$500 Paper Recycling Grant

Container was entered into a contest for November & December 2005. The school with the most tons of paper collected for recycling would receive \$500 to be placed in their activity fund and used as they saw fit. The winning school collecting 23 tons was St. Jude in Elyria. The next three schools with the highest tons collected respectively were St. Joseph, Amherst with 14 tons, Prospect Elementary in Oberlin with 12.8 tons and Ely Elementary School in Elyria with 11.9 tons.

Reduce Reuse Recycle

The District received a grant for \$500 from the American Forest & Paper Association to encourage paper recycling in schools. Every Lorain County school with a PaperRetriever

Pilot Shrink Wrap Program Expanded

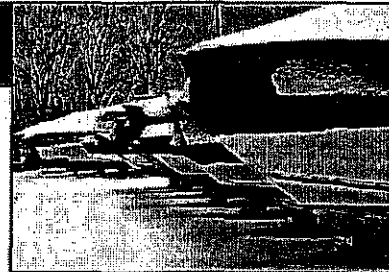
Mondo Polymer Technologies in conjunction with The Ohio Clean Marinas Program will conduct a 2 year pilot program for the collection and recycling of boat shrink wrap along the shores of Lake Erie in Erie, Ottawa and Lorain County. The collections kicked off on April 1st and continued through the spring launch.

The Lorain County Solid Waste Management District has agreed to help support and promote this venture in Lorain County. This effort will not only divert tons of this material from

our landfill but will also help in the reduction of disposal costs to the marinas.

Under the pilot program Mondo Polymer has agreed to purchase a compactor truck and develop a route for the collection of the shrink wrap. They will then transport it to a collection facility to be baled and loaded on semi-trucks for shipment to their factory in Reno, Ohio.

Originally looked upon as a Ohio Clean Marina program a decision was made to expand the collection to all marinas



and greenhouses in the pilot area.

Over twenty greenhouses in the county were contacted by Jim Skeeles of our office about the possibility of joining the program. The vast majority signed up to join the program and will be on board in the fall.



Recycling Saves Energy

Recycling an aluminum can saves the energy equivalent of six ounces of gasoline. In 2000, Americans recycled 54.8 million aluminum cans, saving the energy equivalent of 2.58 billion gallons of gasoline. Had we recycled the other 46 billion cans we used that year, we could have saved another 2.15 billion gallons of gas.



This article is a result of the Ohio Sea Grant Clean Marina/Clean Boaters Program.

Lake Erie fishing can heat up your fall

Whether your favorite flavor is steelhead, smallmouth, walleye or perch, October offers a chance to head to Lake Erie for some of the biggest fish of the year.

Spring-spawning fish are starting to mature their eggs right now, and that means they need lots of food. That's also why fall fishing on the big lake can be action-packed.

Steelhead are stocked yearly by ODNR Division of Wildlife to provide excellent fall, winter, and spring recreation in northern Ohio rivers. The Manistee steelhead strain, which is a hard-fighting, spring-spawning variety, is stocked in Lake Erie tributaries from the Vermilion River to Conneaut Creek.

Though these fish are spring spawners, they begin entering the rivers during autumn as water temperatures begin to drop. Reports already have come in from anglers bagging steelhead in Cleveland's Rocky River.

Cool, rainy weather will bring steelhead into rivers from Huron to Conneaut. Conneaut is often a good place to start the steelhead season because Conneaut Creek is stocked by both Ohio and Pennsylvania.

During autumn the water is cold enough to comfortably support steelhead, yet not so cold that activity is decreased. Translated, October steelhead will smash flies or bait and perform the lively acrobatics these fish are so well-known for.

At this time of year anglers should stay relatively close to river mouths, as steelhead have not moved far upstream. If the water is deep enough, try casting and retrieving spinners and crankbaits.

Many public access areas on rivers including the Grand, Rocky, and Chagrin have low-head dams or ford areas. These are great places to cast and retrieve artificial lures.

If you prefer to use live bait, minnows can work wonders at this time of the year while steelhead are still actively feeding to put on weight. Spawn sacs are another popular bait which will work nearly any time of year.

Fly fishermen will be successful with larger sized woolly buggers, clouser minnows, and egg patterns. All steelhead anglers, whether fly or spin fishing, should make sure their baits or lures are near the bottom to keep them in front of the fish.

Anglers who still have their boats in the water also have some exciting fishing opportunities in store for the month of October. Some of the best smallmouth fishing of the year will be over the next month. Keeping an eye on bait fish can be a key to finding bass.

As the water cools, bait fish will begin to hug the bottom in 15 to 30 feet of water, and the bass will follow. Using jigs tipped with minnows can be particularly effective, as well as fishing crayfish or shiners straight down on a simple split shot and hook rig.

Excellent fall smallmouth fishing can be found from Avon Point to the Bass Islands. Some productive places to try are the C-shaped structure off Avon Point, the artificial reefs offshore of Cleveland and Lorain, Gull Island Shoal, and West Reef.

Jumbo walleye are an October feature on Lake Erie, but you may have to brave some wind and cooler temperatures. Walleye feed heavily during autumn to prepare for a long winter but also begin moving toward springtime spawning areas.

The westward migration from the Central to the Western Basin is in full swing and the waters offshore of Huron and Vermilion are home to an annual trolling fest. Planer boards and diving planes pulling the same small spoons used all summer are a top offering, but as the water cools, crankbaits also regain their effectiveness.

Shoreline anglers are also successful in catching big walleye at this time of year. Schools of bait fish move into shoreline areas at night, and hungry walleye follow them. The best time to fish is after dark on a relatively calm evening.

Casting and retrieving minnow-shaped crank baits takes most of the shoreline catch. Some good places to try evening shoreline fishing for walleye in October are the Marblehead lighthouse on Catawba Island, Huron Lighthouse pier, and Fairport Harbor breakwall. Nearshore fishing from Lorain to Catawba will be good all winter, or at least until ice-up.

Yellow perch fishing will continue to be good outside of most harbors from Fairport to Port Clinton. Try fishing in 25 to 35 feet of water in the Western Basin, and slightly deeper in the Central Basin.



If you're not sure where to start, watch for packs of anchored boats. These anglers are likely targeting yellow perch, and a big pack is a good sign that a particular area is producing.

Perch usually move in closer to shore later in the season. This gives shoreline anglers the opportunity to get in on some of the action as well.

Fall offers phenomenal fishing opportunities on Lake Erie. Just remember that the weather can be unpredictable and the lake can turn dangerous very quickly. Exercise caution and have a great time filling the freezer.

Photo captions: Top -- Steelhead are entering Lake Erie tributaries right now and will provide action throughout next spring. Bottom -- Crayfish dangled a foot off the bottom produce autumn smallmouth on Lake Erie reefs.



EAST HARBOR STATE PARK

Findlay man seeks to restore beach

By **TOM HENRY**
BLADE STAFF WRITER



MARBLEHEAD, Ohio - For decades, East Harbor State Park beach was the place to be on Labor Day weekend.

Unbeknownst to millions of people who have grown up in Ohio or moved into the state over the last generation, the park had an incredible 2 1/2 to 3-mile long stretch of sand beach.

Dick Taylor is trying to persuade state officials to rejuvenate beach development.

(THE BLADE/JEREMY WADSWORTH)

But in November, 1972, a major storm wiped out all of East Harbor's beachfront except for a tiny, 1,500-foot remnant on the north end. An auxiliary beach, it was only a tenth of East Harbor's total beachfront and is all that remains today.

Findlay resident Dick Taylor, who has started a campaign to rejuvenate the original beach, is convinced the culprit was a man-made breakwall - a revetment - that had been installed in 1957 to stabilize East Harbor's peninsula.



In its heyday, water enthusiasts fill the East Harbor beach.

Ohio Department of Natural Resources and U.S. Army Corps of Engineers officials don't dispute Mr. Taylor's theory. Don West, Ohio DNR's state park system chief, agreed it has some merit but added that exploring it is "not priority No. 1" in cash-challenged Ohio.

Mr. West fondly recalls what it was like when he was a youth and his family stayed at the park in the 1950s and 1960s.

"You could walk out maybe 100 yards offshore, as well as another 2 1/2 or 3 miles along the beach," he said. "There was a lot of room to spread out ... It was great."

The disappearance of East Harbor's beach may go down in history as one of Ohio's greatest losses of public access to Lake Erie, an especially dubious feat given the state's efforts to purchase more

shoreline property as waterfront values rise and lake-based tourism plays a major role in the region's economy.

Mr. West said he saw first-hand what East Harbor could mean to tourism if the park's beach ever comes back to being anything like it was. He compared the beach at East Harbor before the 1972 storm to a Florida beach.

Gov. Bob Taft said he is among those who never knew East Harbor once was so big.

The beach loss hasn't killed East Harbor's attendance. The Department of Natural Resources' annual report shows the park drew 1.3 million visitors last year, not much less than when it peaked at 1.5 million visitors a year in the mid-1960s. Like most other state parks in Ohio and Michigan this holiday weekend, its campground likely will be full.

Yet Mr. West said the type of visits have changed. Today's attendance figures are inflated by a number of people who come only for a scenic drive and don't stay long, he said.

Back in the day

On a busy holiday weekend in the 1960s, traffic into East Harbor State Park backed up for three miles. Most were beach buffs.

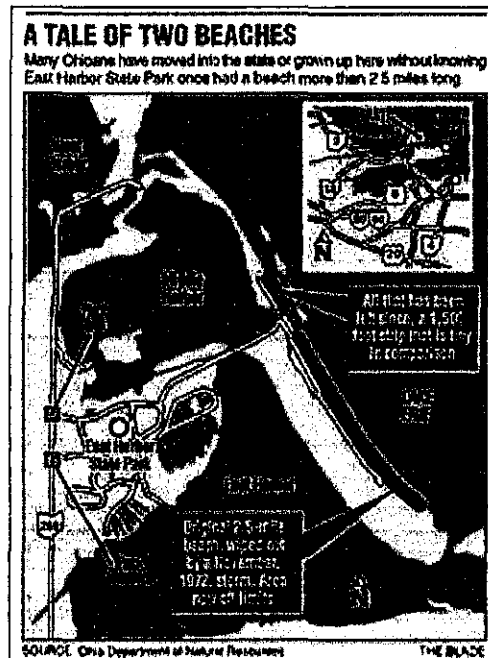
A 1964 article in The Blade reported how East Harbor then had 11 lifeguards. There were some peak periods in which it turned away 200 or more families a day. Even a normal weekend between Memorial Day and Labor Day meant at least 30,000 beach visitors.

Today, the park appeals mostly to campers. Its 560 campsites are the most of any Ohio state park. Lake Erie beaches generate billions of dollars for Ohio's economy through grocery, restaurant, gasoline, and other sales - everything from suntan lotion to radio batteries.

A 1998 study concluded that at least half of Lake Erie's daily beach visitors and more than two-thirds of the overnight visitors make substantial purchases within a 10-mile radius of the beaches they are visiting, according to Brent Sohngen, an Ohio State University assistant professor of development economics who was the principal researcher.

Mr. Sohngen told The Blade that East Harbor's remaining 1,500-foot strip of beach was generating \$1.3 million in local sales eight years ago. If the original beachfront had not vanished, it would be making a contribution many times that, he said.

That only fuels the questions from people such as Mr. Taylor, who has a bachelor's degree from Ohio State University in parks and recreation administration: Did the revetment cause more harm than good? Is there any hope of bringing it back?



Rise and fall

Unlike the marina, parks, and related facilities under development on North and Middle Bass islands, the Department of Natural Resources is not a newcomer to East Harbor State Park. It has been managing it since opening it to the public in 1947.

In 1957, the state agency worked with the U.S. Army Corps of Engineers to stabilize the East Harbor peninsula with the revetment.

The massive slabs of concrete and boulders act like a fortress to keep high water from eroding land. But it also accelerates wave energy and creates an undertow.

High water that smacks up against the revetment gains inertia as it rushes back, like a swimmer kicking off the side of a pool while doing laps. Except that the high-energy waves also create an undertow that takes sand from the beach back with it.

Without such structures, water gradually dissipates along the shoreline and deposits sand - rather than taking it away.

Mr. Taylor, who is the Findlay-Hancock County Public Library's facilities manager, pointed out that the same 1972 storm that struck East Harbor's beach wiped out other nearby beaches, including those on Kelleys Island and at Cedar Point. All recovered to some extent, as did the 1,500-foot strip on East Harbor's north end.

The others, however, did not have a revetment, Mr. Taylor said.

Officials from the 1950s "either didn't know what waves would do when they hit a rock wall or were bold and brash enough to think [massive loss of sand] would never happen. Both would have been mistakes, in my opinion," Mr. Taylor said. "Why has there been nothing done about this?"

Several officials contacted by The Blade acknowledged the breakwall structure has drawn their attention for years, but little money has been dedicated to studying it.

"There's no question that a breakwall, if not designed properly, can contribute to the erosion of a beach," said Scudder Mackey, who was in charge of the Department of Natural Resources' Lake Erie Geology Group in Sandusky until a few years ago. He is now a private consultant and adjunct professor at the University of Windsor.

"The issue now is the lack of sand," Mr. Mackey said. He pointed out that Lake Erie's whole hydrology has changed since the 1950s, when the revetment was built.

From the 1960s through the late 1990s, the Great Lakes were in an unprecedented, 30-year era of high water. They have since receded to average or even below-average levels. Officials said it is unclear how much the Corps of Engineers accounted for fluctuating water levels when it designed the revetment in 1957.

"In hindsight now, who knows?" Mr. West said.

A matter of lake access

A 1980 report issued by the Corps of Engineers, citing Department of Natural Resources' geology data, claimed the peninsula had been receding for years in the beach areas not protected by the revetment.

Spokesman Bruce Sanders said the corps might be willing to re-evaluate the effectiveness and need for the revetment in the future.

One national shoreline expert said revetments are scorned so much they've been banned in Texas, North Carolina, and South Carolina.

"I started pounding on this issue of seawalls 25 to 30 years ago," said Orrin Pilkey, a professor of earth sciences at Duke University in North Carolina. He co-authored a 1987 book about Lake Erie and a 1996 book critical of corps shoreline projects across the country.

"In the ocean states, we are far more educated [about man-made structures] than you are. I don't mean that disparagingly. We use beaches almost year-round," he said.

Mr. Pilkey said he's astounded by the lack of public beach access in the Great Lakes region.

"The stories [about man-made structures] are more atrocious in the Great Lakes than they are [in North Carolina], in my view, because of the ignorance," he said.

Melinda Huntley, Lake Erie Coastal Ohio executive director, said she "absolutely" agrees that the Great Lakes have less public access than the oceans. She said the access problem may contribute to the public's lack of understanding about the lakes.

Without a complete engineering study, it's hard to say conclusively whether East Harbor's revetment was an engineering mistake or if it has outlived its usefulness, state and corps officials said.

The 2 1/2 miles of shoreline it flanks is off-limits to swimmers. The massive parking lot behind the structure is usually empty. All but one of the bath houses that were built to handle the crowds in the park's heyday are closed.

Mr. Mackey said he's torn on the revetment issue. He cited heavy shoreline erosion east of Cleveland that destroyed several homes near Painesville in Lake County over the years.

"Had the wall not been there, there's a good chance East Harbor would not be there," said Don Guy, one of Mr. Mackey's former colleagues and an Department of Natural Resources geologist in Sandusky who has studied the Lake Erie shoreline for 33 years.

Mr. Guy said removing the whole structure could be a "risky venture" now.

"There might be a way to remove sections of the wall to allow a pocket beach. We might be able to increase the bathing beach without jeopardizing all of East Harbor," he said.

Bacteria and bucks

Mr. West said there "probably is some merit in looking at this issue sometime."

Taking out the revetment would cost millions of dollars. But Mr. Taylor argues the benefit of doing that would pay for the cost many times over.

The only known estimate for that kind of work was made by the Corps of Engineers in 1981, when it put the cost at between \$5.6 and \$11.3 million. Nobody knows how much more it would cost in today's dollars, 25 years later.

And without more study, there's no guarantee sand would return to the shoreline because of the way it was displaced in the past because of changing lake levels and other factors, officials said.

There could be another motivating factor for studying the East Harbor revetment issue: bacteria.

Although the lakefront beach at Maumee Bay State Park in eastern Lucas County has had erratic E. coli bacteria counts over the last several years, East Harbor has consistently been among the lowest bacteria counts of all Lake Erie beaches.

"Certainly, a long, sandy, clean beach would be an attribute," Larry Fletcher, director of the Ottawa County Visitors Bureau, said of the idea of exploring additional beach area for East Harbor. "The more this area has to offer in terms of public beaches, the more we can market that."

East Harbor could become even more attractive if rising fuel prices resume the upward trend seen early last month, Mr. Fletcher said. That would force more people to consider whether they want to keep driving thousands of miles to Atlantic Ocean or Gulf Coast beaches for beachfront vacations.

"People can have a similar experience here, except it's freshwater instead of saltwater," he said. "We need to give 'em what they want - a nice, big sandy beach."

Contact Tom Henry at: thenry@theblade.com or 419-724-6079.

09.05.2006 "Stone Lab Open House set for Sept 9." OSU TODAY

STONE LAB OPEN HOUSE SET FOR SEPT. 9

The annual Stone Laboratory Open House will take place from 11:30 a.m.-4 p.m. Saturday (9/9) on Gibraltar Island in Lake Erie. The event is open to the public and includes educational programs and tours of the island and South Bass Lighthouse. The open house will coincide with Put-in-Bay's annual Historic Weekend, commemorating Commander Perry's victory over the British in the War of 1812. Contact: 292-8949 or cordi.2@osu.edu.

Andy Schenkel, an Urbana High School senior, recently completed an intense study of aquatic biology at the Franz Theodore Stone Laboratory, The Ohio State University's Lake Erie campus on Gibraltar Island.

He earned three college credit hours in the course, which included field trips to a variety of habitats, such as Lake Erie, a wetland, pond and stream, a field trip to the aquarium at the Toledo Zoo, lectures, identification, laboratory sessions, and exams.

Stone Laboratory, established in 1895, is the research facility for the Ohio Sea Grant College Program and is the nation's oldest freshwater biological field station. Dozens of research projects are conducted from the island facility each year.

Teachers, high school students, and college students take college credit courses at Stone Lab, and the facility offers aquatic science workshops and field trips for children and adults.

Water Filtration Technique Removes Dangerous Freshwater Algae Toxins

Science Daily — A water filtration technique that normally cleans up agricultural chemicals is also effective at removing a toxin secreted by algae found in lakes and rivers, an Ohio State University study has found.



Microcystis (left), a type of blue-green algae, has been blooming in freshwater lakes across the United States this summer. It secretes a toxin which causes liver damage in animals including humans. (Photo by Tom Bridgeman, University of Toledo, courtesy of Ohio Sea Grant)

Engineers here determined that the technique greatly outperformed other methods by removing at least 95 percent of a toxin secreted by *Microcystis*, a blue-green algae.

Some water filtration plants around the country already use the technique, which couples activated carbon with membrane filters, said Hal Walker, associate professor of civil and environmental engineering and geodetic science at Ohio State .

Microcystis is native to freshwater lakes and rivers around the country, and secretes toxins that can cause liver damage in animals including humans. Worsening environmental pollution in Lake Erie during the last decade has caused algal blooms, the most recent of which began this August.

Some 13 million people rely on Lake Erie for their water supply, so *Microcystis* is a growing concern there, Walker said. But dangerous algal blooms have occurred across the country this summer, from Massachusetts to California . And while many water filtration plants are beginning to use high-tech ultrafiltration membranes with very fine holes to filter water, *Microcystin* toxins are small enough to slip through. For example, the toxin used in this study was *microcystin-lr*, a tiny molecule made up of only seven amino acids.

The study will appear in the journal *Environmental Science & Technology*, and has been published in advance on the journal's Web site.

Rather than invent a new technology for filtering microcystin-lr, Walker and his colleagues decided to test whether combining activated carbon with membrane filters would do the trick. That technology has already proven effective for removing herbicides and pesticides from drinking water.

"This toxin is an organic molecule, and we knew that activated carbon is good at removing organics," Walker said, "so we coupled the carbon with membranes. Together, they provide a way for water treatment plants to remove the toxin by basically upgrading the membrane system they already have."

Water treatment plants that already had membranes in place could add carbon to their systems without purchasing new equipment, he added.

Activated carbon is a highly porous form of charcoal that sticks to organic molecules. It's often used to filter water and clean up environmental spills, and it's even administered to poison victims to clean toxins from the digestive tract.

The engineers combined the active carbon with three different commercially available membrane filters to remove microcystin-lr from samples of Lake Erie drinking water. Each combination produced good results: one removed 95 percent of the toxin, one removed 97 percent, and the other removed 99 percent. Without the carbon, even the most effective ultrafiltration membrane removed only 78 percent of the toxin.

This is the first time this technique has been used to remove an algal toxin, and Walker cautioned that more research needs to be done before commercial water treatment plants could adopt it wholesale.

"Microcystis secretes a whole range of toxins, and we only looked at the one we thought would be the most important for health reasons," he said. "Then there's a whole host of other toxic algae that secrete their own toxins. And we don't know if there are synergistic effects between the toxins. Still, I suspect this technology would be pretty effective for all these toxins."

He would like to start a pilot project with a water treatment plant that uses membrane filters, ideally to test the system during an algal bloom.

This work was funded by the Ohio Sea Grant. PICA USA, Inc., of Columbus, OH, provided the powdered activated carbon.

Note: This story has been adapted from a news release issued by Ohio State University.

09.05.2006. "Coast Guard to use Lake Erie for weapons training." BOWLING GREEN NEWS

By: THE ASSOCIATED PRESS Section: State

CLEVELAND (AP) - Anglers, boaters and environmentalists are up in arms about the Coast Guard's proposal to establish weapons training zones on Lake Erie.

The Coast Guard wants to establish four areas on the lake, as well as 30 other zones on the four other Great Lakes, where they can train using live ammunition. Officials say they need the shooting practice to prepare for maritime threats including terrorism and drug smuggling.

The plan drew so much criticism that the Coast Guard has extended the period for public comment - which was initially to end Thursday - until November.

"It's pretty clear that we didn't do a good enough job educating the public," said Robert Lanier, a Coast Guard spokesman. The Coast Guard is also considering holding public hearings.

The Ohio Department of Natural Resources and other environmental groups voiced concern over the plan and its possible impact on boaters and wildlife.

Commercial fishermen would have a hard time moving their nets for the drills, and recreational anglers and boaters could accidentally wander into the range, the department's Steve Holland wrote in a letter to the Coast Guard.

The zones are all more than 5 miles offshore and drills would only be conducted a few days every year, Lanier said. Exercises would use machine guns mounted on cutters and small boats.

During live-fire operations a small boat would patrol as a safety lookout. Any wayward boats would be escorted from the zone, and firing would stop until the area was cleared, Lanier said.

The state DNR also wanted assurances that the areas would not be used between April 15 and Nov. 1 in order to protect aquatic species and boaters.

"We're talking hundreds and hundreds of boats," said **David Kelch of Ohio State University's Sea Grant office in Lorain County**. "The one [proposed zone] off Cleveland, that is another prime area for fishing."

Lead and other metals from the ammunition could taint the water, said Kristy Meyer of the Ohio Environmental Council. The council is also worried that noises from rounds firing will disrupt the reproduction of migratory birds.

Lanier acknowledged the munitions contain some lead, but said it would not harm the ecosystem.

Despite the objections, some groups are confident that an agreement can be ironed out.

With the right scheduling and good communication, zones can be safely implemented, said Ken Alvey, president of the Lake Erie Marine Trades Association.



Media Credit: THE ASSOCIATED PRESS

Training Zone: The U.S. Coast Guard cutter Healy returns from its 2006 Arctic deployment to the Coast Guard Integrated Support Command Sunday, Sept. 3, 2006 in Seattle. The Coast Guard wants to use four areas of Lake Erie for shooting practice with live

Researchers hatch theory that mayflies add to Lake Erie algae woes

By **TOM HENRY**
BLADE STAFF WRITER

ELYRIA, Ohio — Despite the annoyance that mayflies pose each June when they swarm across the region, Ohioans have generally held the broad-winged insects in high esteem because of what they have symbolized: Lake Erie's recovery.



Now, a decade after pollution dissipated enough for mayflies to make their comeback, some researchers believe they could be hurting the lake by helping algae grow.

The theory is that they stir up tiny particles of nutrient-laden sediment, a subtle action at the lake's bottom that might even make the central basin's infamous "dead zone" worse. Those tidbits were among the relatively new pieces of information emerging at yesterday's annual Ohio Lake Erie Conference, which drew nearly 200 people to Lorain County Community College. The event was sponsored by the Toledo-based Ohio Lake Erie Office, an arm of the governor's office, which reports to state agency directors.

Other items included a report about Ohio's first attempt to predict beach bacteria for Cleveland-area swimmers, which could be the wave of the future.

The mayfly theory is just that: a theory. It was floated by Jeff Reutter, Ohio Sea Grant executive director and head of Ohio State University's Stone Laboratory on Gibraltar Island.

But Mr. Reutter said it illustrates how deep researchers are going to seek answers about a toxic blue-green algae known as microcystis, which has re-

emerged between Toledo and Sandusky almost every summer since 1995, after vanishing for about 20 years.

The algae is in full bloom in the lake's western basin and is expected to stay there until lake temperatures cool late this month. Just two years ago, near South Bass Island, it was 60 times greater than what the World Health Organization deems acceptable, he said.

Phosphorus, a nutrient, feeds algae. Algae robs water of oxygen. Major sources of phosphorus are sewage overflows and runoff from farm fertilizers.

But David Baker, director emeritus of Heidelberg College's National Center for Water Quality Research, said the lake's higher phosphorus levels over the last 10 years go beyond inputs.

Zebra mussels excrete phosphorus they take in through the water, disrupting the lake's balance between that nutrient and nitrogen. But phosphorus levels might be driven up by millions of mayflies as they burrow in sediment during their first two years as nymphs.

"It's like a lot of things," Ken Krieger, a Heidelberg mayfly researcher, said. "One mayfly doesn't make a difference. A million might."

Also yesterday, Ohio's first try at predicting bacteria levels at a public beach got mixed reviews from the project's lead researcher, Donna Francy of the U.S. Geological Survey.

Would-be visitors at Huntington Beach in Bay Village, Ohio, west of Cleveland, had the chance this summer to see the anticipated bacteria levels there at www.ohionowcast.info. The formula was based on factors including wave height, turbidity, and rainfall within 48 hours of a given date, Ms. Francy said.

The formula worked 80 percent of the time. But she said it was too conservative and underestimated the upcoming day's bacteria on too many dates.

She said officials will tweak the formula for that beach next summer and may try it at three others in the Cleveland area. No plans have been made to try it in the Toledo area.

Contact Tom Henry at: thenry@theblade.com or 419-724-6079.

September 11, 2006

Steelheaders Value Their Fish!

Ann Arbor, MI — Avid Ohio Lake Erie steelhead (lake-run rainbow trout) anglers value their sport to the tune of \$28.50 to \$37.70 per fish. For the first time Ohio Sea Grant researchers have estimated the value of this small but important fishery and found it to be highly prized by anglers. They estimate the value of steelhead fishing in Ohio's Lake Erie tributaries to be as large as \$12 to \$15 million per year.

"Knowing the value of this steelhead fishery will help policy makers to justify expenditures on stocking programs," said Dr. Brent Sohngen, Professor in the Department of Agricultural, Environmental and Developmental Economics at The Ohio State University.

"Economic information could be used to encourage policies focused on providing access to increased fishing opportunities or to encourage improvements in water quality that enhance fish catch rates," added Sohngen.

Ohio Sea Grant Extension Specialist Dave Kelch led the steelhead angler intercept survey effort to gather economic data on this fishery. Nearly 500 steelhead anglers were contacted on popular Ohio Lake Erie tributary streams for their names and addresses and 375 responded to the subsequent mail survey.

"Typical steelhead anglers were 46 years old, middle class, male, and had 9 years of steelhead angling experience," said Kelch. "Less than two-thirds of respondents fished with spinning tackle and one-third used fly tackle."

They mostly took single day trips (94% of respondents), traveling about 52 miles round trip. The value of the steelhead angling experience to participating anglers is estimated at \$36 to \$46 per trip and the money spent to participate in steelhead fishing is estimated at \$26 per trip. It was also noted that steelhead anglers keep only one of every eight steelhead caught.

The Ohio Department of Natural Resources, Division of Wildlife, stocks approximately 400,000 steelhead annually into five Lake Erie tributary streams.

Original Publication Information

Results of this study "The Value of Steelhead (*Onchorhynchus mykiss*) Angling in Lake Erie Tributaries," are reported by Dave Kelch, Frank Lichtkoppler, Brent Sohngen and Adam Daigneault in the latest issue (Volume 32, No. 3, pp. 424-433) of the Journal of Great Lakes Research, published by the International Association for Great Lakes Research, 2006.

Contacts

For more information about the study, contact Dave Kelch, Ohio State University Extension / Ohio Sea Grant, 42110 Russia Road, Elyria, Ohio 44035; kelch.3@osu.edu; (440) 326-5851.

For information about the Journal of Great Lakes Research, contact Marlene Evans, Editor, National Water Research Institute, 11 Innovation Boulevard, Saskatoon, SK, S7N 3H5, Canada; editor@iaglr.org; (608) 692-1076.

Links

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Kelly will be involved in the Steelhead Seminar this October at the ODNR District 3 offices in Akron. I'll be posting more of her articles as they become available. Thanks Kelly!!!



Lake Erie fishing Can Heat Up Your Fall. by Kelly Riesen

Ohio Sea Grant Extension

Whether your favorite flavor is steelhead, smallmouth, walleye or perch, October offers a chance to head to Lake Erie for some of the biggest fish of the year.

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winter, and spring recreation in northern Ohio rivers. The Manistee steelhead strain, which is a hard-fighting, spring-spawning variety, is stocked in Lake Erie tributaries from the Vermilion River to Conneaut Creek.

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South Bass sites fined for water violations

Extension given for continued well use

PUT-IN-BAY, Ohio — Three South Bass Island businesses, a state park there, and a research laboratory on Gibraltar Island were given extensions to continue using their water wells, but were fined for violations of earlier conditions placed on them, state regulators said.

Yesterday was the deadline for the five facilities to stop using the wells because of an outbreak of gastrointestinal illness on the island in the summer of 2004. The illnesses were linked to wells contaminated by high bacteria levels.

Dina Pierce, spokesman for the Ohio EPA, said the emergency orders issued yesterday require each facility to have its systems operated by a certified operator provided by the county and to continue to post an advisory to not use the well water for drinking, dish washing, or brushing teeth.

The facilities must stop using their water systems if future violations occur and they are forbidden from using the current purification systems by next summer without approval of Ohio EPA.

Ms. Pierce said most of the facilities are using a combination of ultraviolet light and chlorine to purify their drinking water.

The well owners must continue to monitor operations and water quality and file monthly reports with Ohio EPA. The well must be abandoned within a year of connecting to the village water supply.

"The idea with these orders is to allow the facilities to operate until the water line is available. The requirement for county oversight is to eliminate many of the common violations we've seen," Ms. Pierce said.

Most of the violations cited yesterday involved failure to

- Island Club, \$19,250.
- South Bass Island State Park, \$3,000.
- OSU Stone Lab, \$3,000.

A \$3 million water line will serve 67 businesses and residents, primarily to the southwest of the village and include service to South Bass Island State Park and South Bass Island Airport.

The Ohio Environmental Protection Agency has granted Ottawa County and Put-in-Bay a \$1.2 million, low-interest loan to build the water line.

Wells

Continued from Page 1

post warning signs regarding the water-quality issues, failure to monitor for contamination, poor record keeping, or failure to operate the sanitizing system properly, the EPA report said.

The fines included:

- The Fox's Den campground, \$1,750.
- Bird's Nest, \$3,250.



Tom Bridgeman


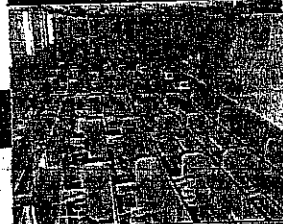
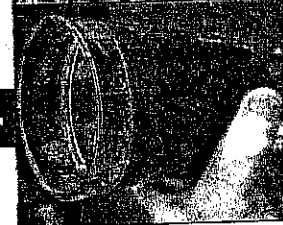
A glass of algae-rich water makes for a potent beverage.

A water filtration technique that normally cleans up agricultural chemicals is also effective at removing a toxin secreted by algae found in lakes and rivers, an Ohio State study has found.

Engineers determined the technique greatly outperformed other methods by removing at least 95 percent of a toxin secreted by *Microcystis*, a blue-green algae.

Some water filtration plants around the country already use the technique, which couples activated carbon with membrane filters, said Hal Walker, associate professor of civil and environmental engineering and geodetic science at Ohio State.

Microcystis is native to freshwater lakes and rivers around the country and secretes toxins that can cause liver damage in animals and humans. Worsening environmental pollution in Lake Erie during the last decade has caused algal blooms.

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Filtration technique removes freshwater algae toxins

PAM FROST GORDER | Research Communications

Some 13 million people rely on Lake Erie for their water supply, so *Microcystis* is a growing concern there, Walker said. But dangerous algal blooms have occurred across the country this summer, from Massachusetts to California.

And while many water filtration plants are beginning to use high-tech ultrafiltration membranes with very fine holes to filter water, *Microcystin* toxins are small enough to slip through. For example, the toxin used in the study was microcystin-lr, a tiny molecule made up of only seven amino acids.

Rather than invent a new technology for filtering microcystin-lr, Walker and his colleagues tested whether combining activated carbon with membrane filters would do the trick. That technology has already proven effective for removing herbicides and pesticides from drinking water.

"This toxin is an organic

molecule, and we knew that activated carbon is good at removing organics," Walker said, "so we coupled the carbon with membranes. Together, they provide a way for water treatment plants to remove the toxin by basically upgrading the membrane system they already have."

Water treatment plants that already had membranes in place could add carbon to their systems without purchasing new equipment, he added.

Activated carbon is a highly porous form of charcoal that sticks to organic molecules. It's often used to filter water and clean up environmental spills, and it's even administered to poison victims to clean toxins from the digestive tract.

The engineers combined the active carbon with three different commercially available membrane filters to remove microcystin-lr from samples of Lake Erie drinking

water. Each combination produced good results: one removed 95 percent of the toxin, one removed 97 percent and the other removed 99 percent. Without the carbon, even the most effective ultrafiltration membrane removed only 78 percent of the toxin.

This is the first time this technique has been used to remove an algal toxin, and Walker cautioned more research needs to be done before commercial water treatment plants could adopt it wholesale.

"*Microcystis* secretes a whole range of toxins, and we only looked at the one we thought would be the most important for health reasons," he said. He wants to start a pilot project with a water treatment plant that uses membrane filters, ideally



Hal Walker, associate professor of civil and environmental engineering and geodetic science, tested a method for removing dangerous chemicals from Lake Erie's water.

Kevin Fitzsimons

to test the system during an algal bloom.

The study will appear in the journal *Environmental Science & Technology* and has been published in advance on the journal's Web site.

The work was funded by the Ohio Sea Grant. PICA USA of Columbus provided the powdered activated carbon.

09.24.2006. "Students help dig trash out of Put-in-Bay Harbor." SANDUSKY REGISTER

SECTION: STATE AND REGIONAL

LENGTH: 237 words

HEADLINE: Students help dig trash out of **Put-in-Bay** harbor

DATELINE: **PUT-IN-BAY** Ohio

About 125 students helped haul 1,468 pounds of trash out of the harbor on South Bass Island in Lake Erie.

Each year, diver and volunteers collect the trash, but this year's group included students from three area schools.

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The community service message sunk in for Port Clinton eighth-grader Kelly Passabet, 13. "We're doing this for a cause, not for us," she said.

The most common finds were old bottles and cans.

Justin Adams, a diver from Ann Arbor, Mich., pulled an Erin Brew can, it was last made by Standard Brewing Co. of Cleveland in the 1960s and made a come back in the late 1980s.

Finding older garbage is a positive sign, said John Hageman, manager of Ohio State University's Stone Laboratory near Put-in-Bay.

"People have skimmed things off the top," he said. "It looks like we're finally catching up. Someday we'll grab down and it'll be nothing but dirt."



Lake Erie's fresh water fishing can heat up your fall

By Kelly Riesen

Ohio Sea Grant Extension

riesen.4@osu.edu

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Ashtabula River watershed development granted help

Jeffrey L. Frischkorn

JFrischkorn@News-Herald.com

A \$55,600 federal grant recently awarded to Ohio is earmarked for the development of a watershed plan for the Ashtabula River.

Such a plan is in place for several other Northeast Ohio streams — the Ashtabula River is one of a few that doesn't have one.

According to state officials, the plan's objective is to receive state-designated scenic river status for the Ashtabula River — a goal achieved on portions of the Chagrin and Grand rivers as well as Conneaut Creek.

The grant from the National Oceanic and Atmospheric Administration will be administered over three years by the Ohio Department of Natural Resources.

Working with area constituency groups and agencies, along with the Ashtabula Watershed Steering Committee,

ODNR will study the river, and evaluate the natural features along its corridor to determine whether it meets the requirements for scenic or wild river status.

A portion of the grant will go toward funding a full-time position for a person to assist the study and watershed plan development.

"We appreciate NOAA's support for this project," said Bob Gable, scenic rivers program administrator for the department's Division of Natural Areas and Preserves, which directly administers the state's scenic rivers program.

"The grant will enable us to craft a comprehensive watershed plan that will help protect its water quality and biological community."

Agreeing is Mike Wayman, the steering committee's chairman.

"We are looking forward to working together as partners in this project," Wayman said.

Eddie Dengg, executive director of the Painesville-based Grand River Partners, said his group helped assemble the steering committee, and one of its board members serves on it.

"The hiring of a new scenic rivers coordinator for the Ashtabula River is a landmark event because this previously underappreciated stream will finally get the recognition it deserves," Dengg said.

By forming a partnership, a river's protectors can pool resources and expertise as well as pluck grant money for the funding of future projects, Dengg said.

"The partnership that is beginning to come together to protect this river is made up of all the right players at the table," Dengg said.

The Ashtabula River watershed drains more than 137 square miles, of which 128 are in Ashtabula County.

Students help clean Put-in-Bay harbor

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Hands of Help Offered to the Put-in-Bay Community

Fleet 8 students from the Port Clinton Middle School recently volunteered to help with the annual Put-in Bay Harbor Clean-Up. This community awareness project has been in existence for 15 years and is partnered by 123 countries throughout the world who help in the cleaning and protection of over 130,000 miles of shoreline. The purpose of this event is to protect the Lake Erie shoreline. On September 18, students helped make this event a success. By helping the divers remove, tabulate and discard debris found in the harbor, the middle school students truly had a "hands on" experience.

The Jet Express partnered with Fleet 8 students

to help them arrive on the island. Donating transportation to students, teachers and chaperones, the Jet Express made this event exciting for the students, as well.

Not only did the students actively participate in the clean-up, they were treated to an informative and "hands on" display of scuba gear and diving instruction by Patrick Heschel and Rich Herrig, certified divers participating in the event.

Though the weather on that Monday became wet and rainy, it didn't dampen the spirits of Fleet 8 students, nor deter them from doing their best to help.

09.29.2006. "Summer 2007 Stone Lab course list now online." OSU TODAY

SUMMER 2007 STONE LAB COURSE LIST NOW ONLINE

Each year Stone Laboratory, Ohio State's island campus on Lake Erie and the nation's oldest freshwater biological field station, hosts more than 5,500 students ages nine through adult participating in aquatic science workshops and fieldtrips. The Summer 2007 course offerings have been posted online. Students can choose from more than 30 science courses, offered in one- or five-week sessions. Stone Lab's courses are available to college students, teachers and high school students for college credit. Non-credit workshops are also available.

Ask the Snakelady

Dear Kristin,

I'm a Middle Bass resident with a few questions about the fox snakes around my home. This year I have successfully caught and released 2 fox snakes but those are the only ones i've seen and i can't seem to find the two I normally see. Since you are studying them now I was wondering if the fox snake is an endangered species and how to tell the difference between male and female fox snakes. Thanks!

Sincerely,
Leah Bilski

Hi Leah!

Thanks so much for writing in with your questions on Fox Snakes! The Eastern Fox Snake is listed as a "Species of Concern" in Ohio which basically means that we don't have enough information on how well the total Fox Snake population is doing for us to say whether it should be elevated in its status (listed as Threatened or Endangered). So far, the results of our Fox Snake survey within Northwestern Ohio seem to indicate that the populations are doing very well and that their range (where the snake is normally found) has expanded. This is great news because the Fox Snake is listed as 'Threatened' within the two other areas it is found (Michigan and Ontario, Canada).

An interesting observation that we have made on Fox Snakes during our radio-telemetry study is that they seem to be very active in May and June and then become very secretive later in the summer. Even with radio-transmitters implanted inside them, it is rare that we get to see the snakes we are tracking during July and August. This may be why you caught two new Fox Snakes by your house earlier in the year, and haven't seen the other two 'residents' around lately. That's my best guess anyway! I haven't quite mastered "Parcel Tongue" yet! Let's both keep our fingers crossed that they are hiding out somewhere and that nothing bad has happened to them.

So how does one tell the difference between male and female snakes? For many snake species the easiest way you can tell adult males from females is their body size. In several species that we are familiar with on the islands (e.g. Garter snakes, Brown snakes and Lake Erie water snakes), females are quite a bit larger than males.

Unfortunately, this doesn't hold true for all snakes, including Fox snakes. Fortunately, there is another character difference between male and female snakes for most species and that is the length of their tail. Some people think that a snake is just one big giant tail, but really the actual 'tail' of a snake is the distance from their anal opening (called a cloaca in reptiles and amphibians) to the distal end of the snake (the point furthest away from the head). In male snakes, the tail is usually longer than the females. This is because male snakes hold their reproductive organs (called hemipenes) in the base of their tail. If you have seen LOTS of snakes like I have, then you can usually tell if it is male or female just by looking at the length of the tail. If you aren't sure, then the proper way to determine the sex of the snake is to use a probe (which is a thin metal rod that is rounded at the end) and insert it downward into the cloaca. If the probe goes down into the tail (usually about an inch) then this would indicate the presence of the hemipenes and it is a male snake. If the probe will not go into very far down the base of the tail, then it is a female snake. I have always found it funny that many people who have pet snakes never found out whether they had a boy or girl because they never knew how easy it was to figure out. One thing to keep in mind for you or anyone who does want to have their snake sexed; it's probably best if you only have someone (like a Veterinarian) who has used a probe before do this test for you. If used improperly, even a round probe could cause an injury to the snake.

I hope I have answered your questions and I'll look forward to hearing back from you when you find your Fox snakes again!

All the best,
Kristin

Kristin M. Stanford

~>^>"The Island Snake Lady"<^<~

Lake Erie Watersnake Outreach &

Research Coordinator

Northern Illinois University & OSU

F.T. Stone Laboratory

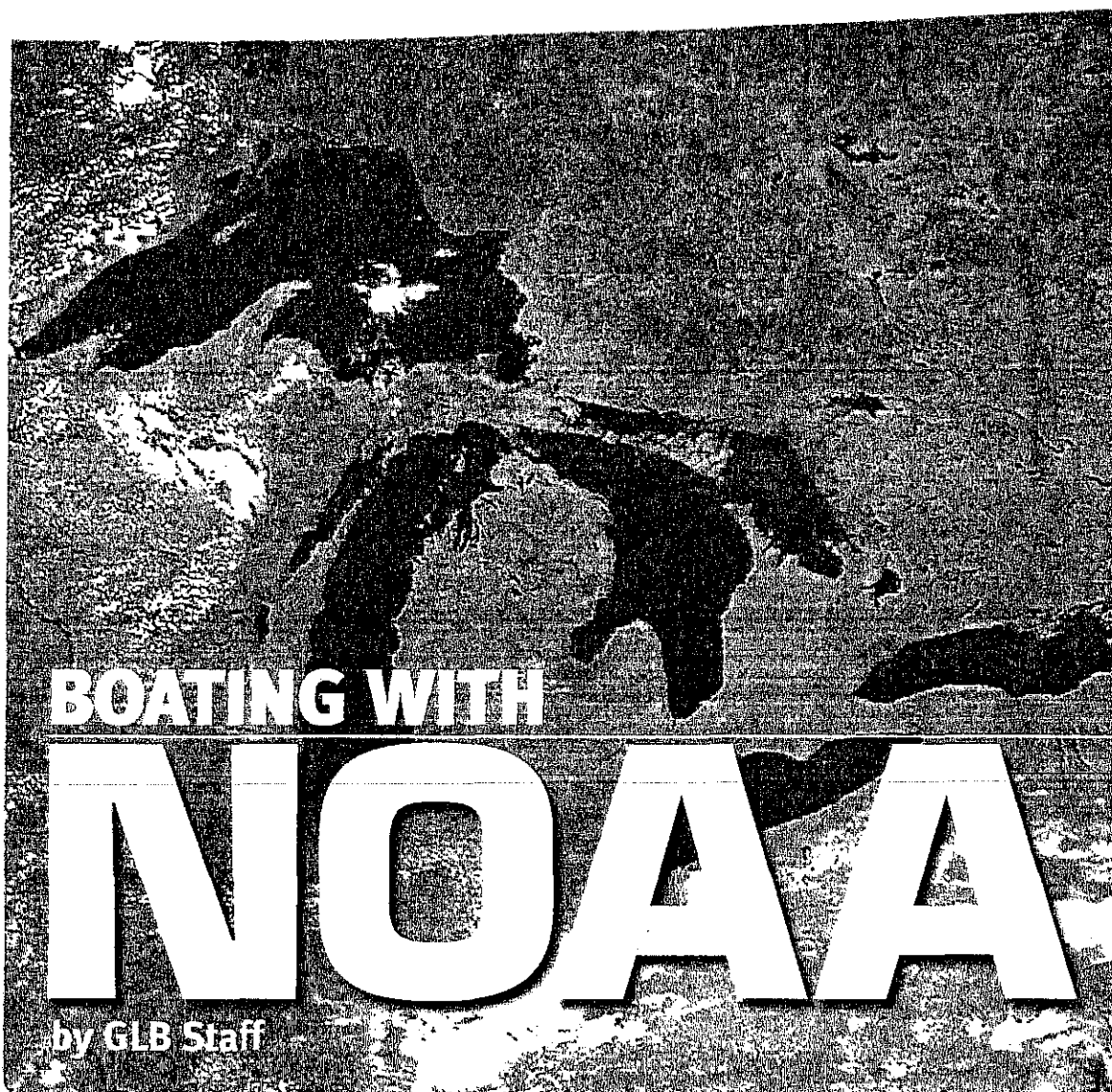
P.O. Box 119

Put-in-Bay, OH 43456

Office: 419-285-1847 or 419-285-2341

Fax: 614-247-6578

October



When Great Lakes boaters plan an outing, many listen to the National Weather Service Weather Radio. Then they may launch from a public access ramp or a Clean Marina in their community. Once they return to land, they may check their boat and gear for zebra mussels to avoid spreading Aquatic Invasive Species from one lake to the next. All of these activities share the common thread of NOAA - the National Oceanic and Atmospheric Administration.

This new sportboat line possesses the quality and unique touches you've come to expect in a Doral boat, but with a few added touches such as an optional cabaret interior, rich mahogany wood, electric aft, expandable sun deck and helm seats designed exclusively for Doral with the most advanced technology. The dead rise angle is more pronounced than in previous models.

The 26-foot-six-inch Elite 265br has a deluxe wood steering wheel and dash panel with full instrumentation. It comes standard with 316 grade stainless steel gunwale molding, marine hardware, recessed oversized cleats and custom ski-tow eye. It is made up of a wood-free composite structural hull grid stringer system and has a fiberglass structural hull liner with a gel coat finish. The 265br has a Doral core hull and deck and an integrated, extended swim platform.

The main cockpit features a full fiberglass self-draining cockpit, diamond textured antiskid, L-shaped cockpit seat and twin adjustable swivel bucket seats with booster. There is plenty of below-seat storage, which

has a fiberglass finish. There is plenty of storage in the main cockpit and swim platform, which include rubber-lined ski storage, extra-large rope and fender storage and an extra-large cockpit ski locker with two access hatches, stainless steel latches and gas cylinders. A swim platform to the cockpit door and lateral fiberglass swim platform step extensions allow for easy access.

Also included are a stainless steel four-step telescopic ladder, electric assisted engine hatch and the ability to extend the aft sunpad with the push of a switch – a Doral exclusive. An anchor locker with retractable anchor roller and recessed cleat, beverage holders, bow seat storage and ergonomically designed bow seats are some of the standard features of the bow cockpit.

The 265br has an enclosed head with an electrical toilet, sink and pressurized water system, fiberglass privacy door and storage and paper holder. There is large below-helm storage with lighting and a stainless steel porthole.

This entity within the U.S. Department of Commerce celebrates its 200th year in 2007 —in 1970 several long-existing agencies merged to collectively become NOAA. Although it is considered the nation's oldest scientific agency, it is unlikely most people have a strong grasp on all that it represents in its roles of supplier of environmental information products, provider of environmental stewardship services and leader in applied scientific research, nor that it greatly influences many aspects of the boating experience.

Among all NOAA encompasses, we will explore three specific programs of which mariners should be aware: the National Weather Service, Coastal Zone Management and Sea Grant. These segments of NOAA provide information about maritime weather and education on topics such as Aquatic Invasive Species, boating safety and environmental impact. They research and improve public access, how water and weather conditions are reported and the state of our coastal zones. And as an arm of the sea, the Great Lakes fall under NOAA's jurisdiction.

Great Lakes boaters, meet NOAA.

NATIONAL MARINE WEATHER SERVICE

The National Marine Weather Service is where the oceanic meets the atmospheric. This segment of the National Weather Service addresses maritime conditions and forecasts so that anyone enjoying the waters may plan accordingly.

As part of NOAA's National Weather Service, the National Marine Weather Service leads U.S. coastal and marine weather forecast and warning programs. More specifically, NOAA National Weather Service provides Great Lakes Marine Weather Services (GLMWS), which includes weather forecast offices around the Great Lakes region.

Great Lakes commercial and recreational boaters and sailors usually depend on the GLMWS to receive NOAA Weather Radio, text and CB fore-

casts. However, technology updates make receiving current and accurate information on weather and water conditions even easier. Within a few short months, GLMWS plans to unveil some big changes, according to Ed Fenelon, the meteorologist-in-charge of the NOAA National Weather Service forecast office in Chicago.

For several years GLMWS has offered two primary forecasts: open lake, which included one for each of the five lakes per direction, and near shore, which included pre-set zones. Now the services will gravitate toward other areas, providing greater flexibility.

As opposed to the fixed forecasts on average conditions of the past, new methodology promises far more powerful hour-by-hour forecasts that target what Fenelon says is quite literally the specific spot a boater is interested in. Since many marinas now have Wi-Fi and forecasts are becoming more accurate, and therefore must be checked more often, everything is primarily Web-based.

GLMWS is also developing a Web portal for the Great Lakes that will include a regional image showing hazards, gale wind advisories and small craft advisories. Users will be able to click on a landmark and get a 5 km-by-5 km view showing things such as wind speed and direction, wave height and direction and weather types. This may later include things such as relative humidity, sky cover, water temperatures and water levels, depending on the response and needs of users.

"These tools are useful in planning and once you're on the water," Fenelon says.

Fenelon stresses that NOAA Weather Radio, which requires a special radio receiver, text forecasts and CB radio are still, and will continue to be, available and accessible. The National Weather Service is looking to make forecasts compatible with PDAs and cell phones, as well.

"Providing observation is an emphasis for us," says Richard B. Wagenmaker, meteorologist-in-charge

of NOAA's National Weather Service forecast office in Detroit. "The more information, the better off you are."

With this mission in mind, 13 new observation platform sites have been added to the Great Lakes region, with more to come. As many as 32 additional weather data collection platforms will be installed in the Great Lakes.



Both Wagenmaker and Fenelon stress the importance of getting a good briefing on conditions prior to going out on the water and keeping a weather radio onboard. Though the National Weather Service's new products may take some getting used to and are more high-tech than ever before, they are trying to make them as easy to use as possible. In the end, the result will be more accurate and detailed information for boaters.

COASTAL ZONE MANAGEMENT

Along the shores of Lakes Michigan on the Boardman River, a vacant plot of land where an ironworks company once resided became a mixed-use development complete with condominiums, restaurants and a boardwalk. Citizens and visitors of Traverse City, Mich., now live and recreate on this three-block stretch of prime waterfront property near the heart of downtown. It seems a harmonious existence

considering that along coastlines across the Great Lakes region, developers and the public are clamoring for custody of the waterfront, while environmentalists are encouraging responsible use.

The coastal zone is a precious commodity. Fifty-four percent of Americans live on the coast, which only makes up 10 percent of our nation's landmass. Striking a balance between the coastal zone's environment, development and access is constantly an issue. The Coastal Zone Management Program (CZMP), which is part of NOAA's Office of Ocean and Coastal Resource Management, exists to do just that.

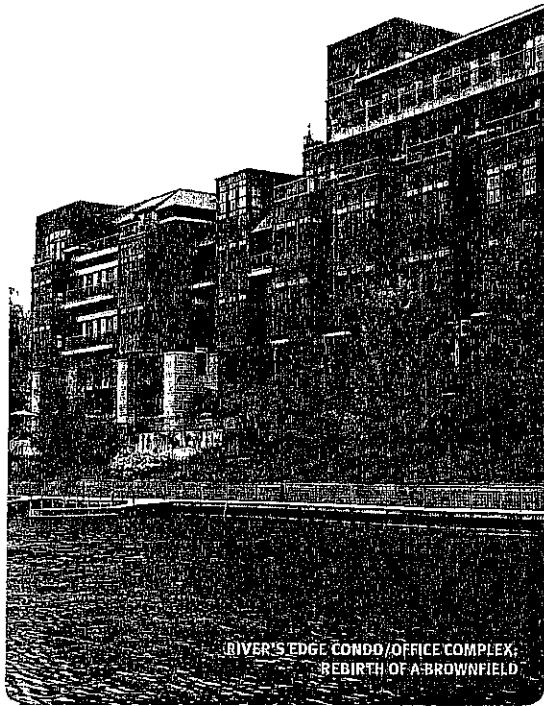
And though the Great Lakes waters are not salty like those of their ocean kin, they are considered coastal zone under the Coastal Zone Management Act (CZMA) of 1972 and therefore fall under its umbrella. The CZMA defines coastal zone as: the coastal waters, including the land in and underneath, as well as the adjacent shore lands, including the waters in and underneath, strongly influenced by each other and in proximity to the shorelines of several coastal states. Each state has its own inland coastal zone boundary subject to CZMA definition, and each sets the boundary differently.

Since the establishment of the CZMA, which provides for management of the nation's coastal services and balances economic development with environmental concerns, all Great Lakes states, excluding Illinois, have developed CZM programs. Currently, Illinois is working with NOAA to develop a program.

Much of what the CZMP does relates to boaters in the general sense that it creates a more pleasant boating experience. The boating community benefits greatly from the program's protection of coastal wetlands, habitats and water quality, as well as more direct actions.

Lott says that almost all Great Lakes states receive low-cost construction grants for building and fixing boat ramps and piers on public land to increase public access. Some states also conduct studies to ensure public access matches public demand, while others may develop consistent signage for public access points.

"Our goal is not to stop commercial development but to strike a balance," Lott says, explaining that is the crux of the program.



RIVER'S EDGE CONDO/OFFICE COMPLEX.
REBIRTH OF A BROWNFIELD

State CZM programs conduct community workshops on dock and pier building, study the impact of recreational dock building using different techniques and examine demand for public water access verses its availability.

NOAA also addresses the redevelopment of vacant industrial sites, commonly known as brownfields, for water access and recreation. Though there is no specific program for brownfield redevelopment under CZM, there is Portfields, a port and harbor pilot program through CZMP partnerships, which focuses on revitalization of port communities and marine transportation, as well as protection of the coastal environment. It's not yet in the Great Lakes, but the region has expressed interest in taking it on, according to Kenneth Walker of NOAA's National Ocean Service Office of Ocean and Coastal Resource Management.

In other places, the project has already prompted several successful waterfront developments, according to Dick Munson, executive director of Northeast-Midwest Institute, a Washington-based private, nonprofit, nonpartisan research organization that has been a leader in brownfield policy development and information since the early 1990s.

"There's substantial potential in the Great Lakes basin — utilizing NOAA's Coastal Zone Management and Sea Grant programs — for additional portfield developments that could offer public access for boaters," Munson says.

The Traverse City waterfront revitalization project came to fruition due to the Michigan CZM program's assistance with the creation of a marketing proposal to get developers interested. But public access is a goal of all state CZM programs, not just Michigan's.

SEA GRANT

While NOAA's 30 Sea Grant College programs (one in every coastal and Great Lakes state and Puerto Rico) help protect and preserve the environment in and around the Great Lakes, they also make life better for the boating community that uses them.

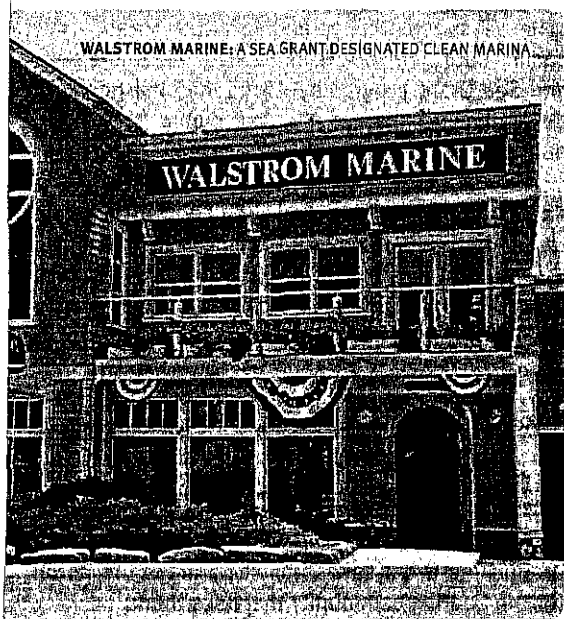
Nationally, more than 300 schools and 3,000 scientists, engineers, educators, students and outreach experts are involved with Sea Grant, whose mission is to "share research, outreach and education to solve old problems and explore new uses for the world's marine, Great Lakes and coastal research." About 32 of the involved schools are in the Great Lakes Region.



"It is a very broad effort," says Jeffrey Reutter, director of the Ohio Sea Grant College Program, F.T. Stone Laboratory, Center for Lake Erie Area Research and the Great Lakes Aquatic Ecosystem Research Consortium, the Ohio State University, noting that Sea Grant collaborates on projects with as many other organizations as possible since there are so many issues to be addressed.

Though many basic access issues, such as launch ramps, were addressed years ago, Reutter says, currently reasonable access is an issue for Great Lakes boaters. The Ohio Sea Grant program is currently addressing marina access for transient boaters. While Lake Erie has a circle tour easily navigated on land, Reutter says, the state also needs a wet circle tour that provides more spaces for traveling boaters to dock. And more than boaters benefit from access projects, their localities do as well. Boating's economic impact in the United States is roughly \$20 billion.

Currently, one of Sea Grant's national priority areas is the ever-pressing issue of Aquatic Invasive



Species (AIS). Reutter informs that statistics show a new species introduced to the Great Lakes every eight months. Sea Grant provides boaters and the public with literature that educates them about how to avoid becoming a vehicle of transfer for AIS.

Sea Grant's Clean Marinas and Clean Boater programs encourage both parties to use the waterways responsibly. State programs hold training sessions to help marinas learn how to become Clean Marinas. Prior to certification, marinas must first make a pledge and are later put under review to be sure they meet Clean Marina criteria.

Certified marinas can benefit from marketing themselves as such. Sea Grant then encourages boaters to dock at Clean Marinas, marinas to become Clean Marinas and boaters to become Clean Boaters.

"The idea is to get them thinking about the environment," Reutter says of the program.

There are many other boater education programs. In the 1980s, Michigan Sea Grant started boater education programs focusing on hypothermia, cold water near drowning and marine safety. There is also a lot of work being done throughout the program to enhance the economic impact of boating while minimizing the environmental impact of boaters.

A wealth of information awaits boaters on the Sea Grant Web sites. Sea Grant is also working on a Great Lakes Observation System, which will make a variety of information available to boaters and

the general public in a manner that is user-friendly and not too scientific. Many agencies are involved in helping Sea Grant establish this system that will help track things like weather, water quality, fish populations and wave height. Historical data and current conditions and forecasts will be tracked.

The NWS, CZMP and Sea Grant represent a fraction of the work NOAA does. Through this agency, thousands of people work hard to maintain a better environment in and around the water for everyone, boaters included.

"I consider NOAA, with all the tools it has available, to be boating's best friend, and it is unfortunate that not many boaters know about all it does to help boating grow," says F. Ned Dikmen, chairman of the Great Lakes Boating Federation and publisher of *Great Lakes Boating* magazine. "We hope to see NOAA become more visible and devote more time and money to boating access and boater-related issues."

Just as space has NASA, boating has NOAA. The two go hand in hand, and the two can carry the pastime into a clean, safe, accessible and economically plentiful future.

For more information about NOAA and other programs listed in this article, visit www.noaa.gov.

Lake Erie Lighthouses and Maritime Adventures

Travel the Lake Erie Coastal Ohio Trail and discover the majesty and mystique of Lake Erie's lighthouses. These lighthouses that dot this national scenic by way designated by the Federal Highway Administration in 2005, served important maritime duties. For some, these duties have diminished over the years as technology increased. Even those lighthouses whose duties are replaced with hi-tech innovations still serve as valuable landmarks for boaters and mainland visitors.

Lighthouses on the Great Lakes

Lighthouses in the United States began appearing as early as 1716 along the Atlantic coast, a time when the Great Lakes region was largely vast wilderness. As settlers later arrived to the Great Lakes, boat traffic increased with the need for transportation and commerce. The first two lighthouses on the Great Lakes were built in 1818 at Buffalo and Presque Isle in Erie, Pa. The oldest continuously operating lighthouse on the Great Lakes is Ohio's Marblehead Lighthouse, operating since 1822.

Who Kept the Lights?

The federal Treasury Department first managed lighthouses. By 1820, local supervisors kept watch over the beacons; however, government employees in Washington still made many decisions regarding their management. In 1852, after years of dealing with issues reported by inspectors, Congress created a nine-member board, the United States Light House Services. This board established 12 lighthouse districts, each with its own supervisor. An army engineer officer supervised new construction and repairs, and regional distribution centers provided many supplies.

In 1910, the Bureau of Lighthouses was formed. This civilian group oversaw a period of rapid technological development. Automation, electricity, radio and electronic buoys transformed the efficiency and effectiveness of lighthouses. The U.S. Coast Guard eventually took charge of overseeing the nation's lighthouses.

The last 50 years included rapid advancements in radio and satellite navigation technology. Faced with rising costs of operating and maintaining lighthouses under their care, the U.S. Coast Guard began looking for organizations interested in taking over some of these beacons. As these lighthouses

become available, local nonprofit groups have stepped forward to purchase and preserve these important icons.

Types of Great Lakes Lighthouses

The Great Lakes created unique challenges for lighthouse construction. Although Great Lakes lighthouses don't have to worry about corrosive salt water, lighthouse builders needed to develop structures capable of withstanding the brutal combination of ice, waves and wind.

Beginning in the 1870s, crib foundation construction was used extensively on the Great Lakes. Workmen constructed wooden cribs — like that used at Toledo Harbor Lighthouse — on shore, towed them to the site, and filled them with stone. Once the crib settled to the lake's bottom, workmen capped it with concrete or other masonry.

Marking breakwaters protecting shipping channels presented other challenges. Breakwater lighthouses had to be light enough to not stress the foundation, yet sturdy enough to withstand waves. Many times, keepers stayed on the mainland because breakwaters were too small to attach keeper's quarters to a tower.

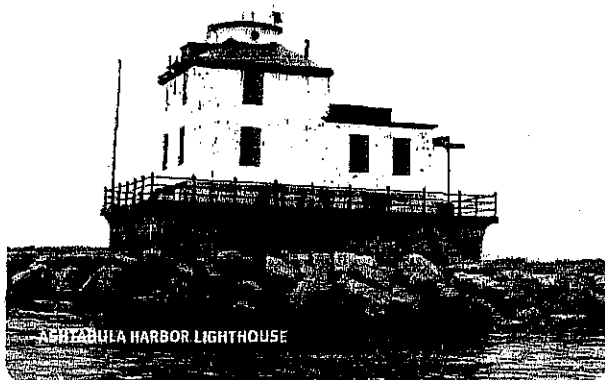
What is a Fresnel Lens?

Start studying Great Lakes lighthouses and you'll soon hear the phrase, "Fresnel Lens." Augustin Fresnel, a French physicist, invented a new way of capturing light rays in 1822 using crystals set into metal frames. American lighthouses began converting to Fresnel lenses in the 1850s.

Seven "Orders" were developed. The higher the Order number, the shorter the range of light. The first three Orders were the strongest, used primarily for seacoast lights. Orders four through six grew progressively weaker and were used for lakes and bays. A special 3.5 Order was developed for the Great Lakes. Most Great Lakes lights used 3, 4 or 5 Orders.

1. Conneaut Harbor Lighthouse

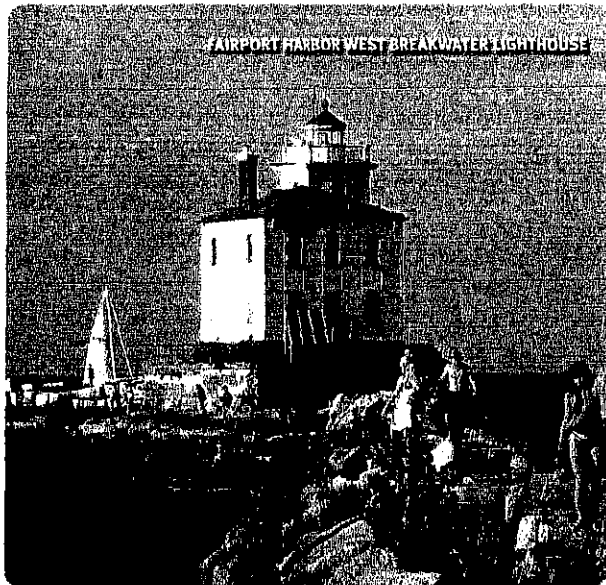
Conneaut Harbor traded in whiskey, lumber and grain. Today, this port transports coal, iron ore and stone. The present lighthouse was built in 1936 and features a 60-foot steel tower with a black band that serves as a navigational aide during the day. Pier lights illuminated this harbor until 1885 when the first lighthouse was built.



2. Ashtabula Harbor Lighthouse

During World War II, Ashtabula received more iron ore than anywhere else in the world. This port still ships and receives goods from across the globe, including limestone, taconite, coal and agricultural potash. Lighthouses underwent many changes as technology advanced and boat traffic on the Great Lakes increased. This lighthouse was the last one manned on Lake Erie and was built in 1905, moved to its present location in 1916 and automated in 1973.

For more information, visit www.ashtabulalighthouse.com.



3. Fairport Harbor West Breakwater Lighthouse

Fabricated in Buffalo, this picturesque steel lighthouse was transported by the steamer *WOTAN* and began operations in 1925. The tower and lantern room were built on-site. Fairport Harbor's first lighthouse was constructed in 1825 and is said to have been a northern terminus for runaway slaves welcomed by the abolitionist keeper, Samuel Butler.

For more information, call (800) 368-LAKE.

4. Cleveland Harbor East Entrance Lighthouse

Guarding the east entrance to Cleveland's harbor, this 47-foot steel tower is still an active navigational tool. A red light flashes three seconds on, three seconds off. The original structure was a skeletal lighthouse built in 1915.

5. Cleveland East Pierhead Lighthouse

Located on a bluff where West 9th Street is today, the first lighthouse was built in 1829 near the Cuyahoga River. This 63-foot lighthouse was built by Levi Johnson, a shipwright and home builder who also built the original Cedar Point Lighthouse in 1836 and placed buoys in Sandusky Bay. At 30 feet tall, this lighthouse is an active Coast Guard station.

6. Cleveland West Breakwater Lighthouse

The West Pierhead Lighthouse is 67-feet high and built of cast iron. Constructed in 1911, it was attached to a fog signal building constructed a year earlier. The steam-driven fog signal could be heard for 12 miles. A lighthouse keeper and two assistants inhabited the small building adjacent to the lighthouse beginning in 1910. It still operates as a U.S. Coast Guard station.

7. Lorain Breakwater Lighthouse

Lorain's first "light" was a lantern hanging on a pole at the edge of Lake Erie. At least two other lighthouses stood guard over the Lorain harbor until the existing Lorain Lighthouse was constructed in 1917. This concrete building with steel walls was built to withstand Lake Erie. The walls are more than 10 inches thick, and even baseboards and window frames are made of steel.

For more information, call (440) 204-2265.



8. Vermilion Lighthouse

Known as the "Town of Sea Captains," Vermilion was without a welcoming beacon for 63 years. This replica of the 1847 Vermilion Lighthouse was built in 1992. The lighthouse has a red beacon and a 16-foot-tall octagonal cast iron tower. The original lighthouse was moved to Lake Ontario and is now known as the East Charity Shoal Lighthouse. The Vermilion Lighthouse beckoned many sailors and ship captains home.

For more information, visit www.inlandseas.org.

9. Huron Harbor Lighthouse

The modern, white, steel light marks the entrance to the Huron harbor. Its 72-foot-tall tower was built in 1936 on a pier that extends from the shore. F.P. Dillon and W.G. Will built two similar lighthouses the same year. Huron's "sister" lighthouse stands in Conneaut. The light was formerly operated by remote control from a brick station on shore, and it had a lantern at the top.

For more information, visit www.huronparks.org.

10. Cedar Point Lighthouse

The first lighthouse at this site along Sandusky Bay was built in 1839. The picturesque 38-foot Cedar Point Lighthouse standing today was built in 1862. The light, which was used for navigation until 1909, is located atop the lighthouse keeper's 6-room limestone home at the tip of the Cedar Point peninsula. The home, which is not open to the public, was restored in 2001 when Cedar Point introduced the cottages and cabins of Lighthouse Point.

For more information, call (419) 627-2350.

11. Wolcott Keeper's House

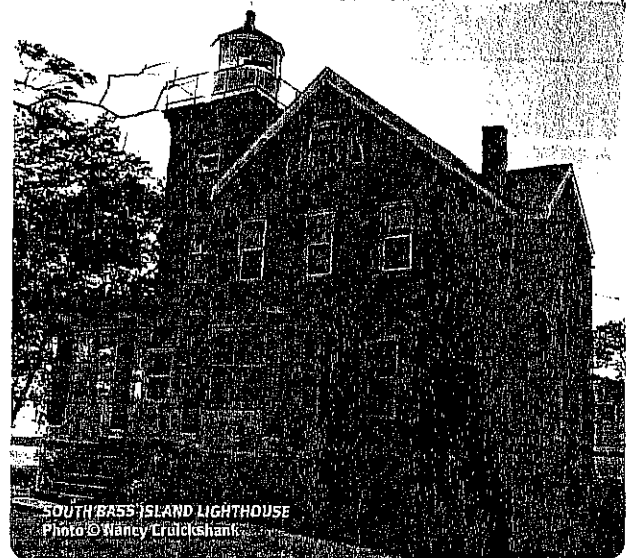
Benajah Wolcott began keeping watch over the Marblehead Lighthouse in 1822. Along with appropriations for constructing the lighthouse, the federal government offered provisions to build a house for the keeper and his family. Wolcott served as keeper until his death in 1832. His wife, Rachel, became the first female lighthouse keeper on the Great Lakes.

For more information, visit www.thekeepershouse.org.

12. Marblehead Lighthouse State Park

Overlooking Sandusky Bay and operating since 1822, the Marblehead Lighthouse is the oldest continuously operating lighthouse on the Great Lakes. Visit the keeper's house next door for displays related to lighthouse history.

For more information, call (419) 734-4424.



13. South Bass Island Lighthouse

Spacious by most lighthouse standards, this brick lighthouse contained two-and-a-half stories of living space with an attached 60-foot tower. Today, it's owned by Ohio State University and is used as living quarters for its nearby Stone Laboratory on Gibraltar Island. A NOAA satellite station was added to the property in 1983.

For more information, call (419) 285-2341.

14. Green Island Lighthouse

Once the main supply of strontium in the United States, tiny Green Island is now a state wildlife area and off-limits to visitors without prior written permission from the Chief of the ODNR Division of Wildlife. The first lighthouse, built in 1854, burned on New Year's Eve in 1864. A two-story limestone replacement was built in 1865 and operated until 1939 when the U.S. Coast Guard replaced it with an automated light on top of a tower. The lighthouse has since been gutted by fire.

15. Toledo Harbor Lighthouse

This lighthouse can only be seen by boat, or you can view it from the shores of Maumee Bay State Park. This operating 69-foot Romanesque structure has guarded Toledo's harbor since 1904 on a crib about eight miles from the mouth of the Maumee River. The three-story light was commissioned after the Army Corps of Engineers dredged a deep channel linking the western end of Lake Erie through Maumee Bay to the Maumee River and the thriving Toledo port. Efforts to restore the lighthouse and to provide access are underway.

For more information, visit www.toledoharborlighthouse.org.

Learn more about these lighthouses, as well as about more than 300 historical sites and natural areas, by visiting the Web site for the Lake Erie Coastal Ohio Trail at www.coastalohio.com.



Lake Erie Facts

www.coastalohio.com



Living on Lake Erie

- >< Explorers discovered the Great Lakes seeking a shortcut to Asia. They came later for the wealth of resources.
- >< More than 11 million people live in the Lake Erie basin and many get their drinking water from Lake Erie.

- >< Eleven major ports serve the nation and the world from Lake Erie's shores.
- >< The water provided by Lake Erie for waterborne commerce, navigation, manufacturing, and power production has led to intensive industrial development along its shore, but the basin's moderate temperatures have also encouraged recreation and agriculture.

OCTOBER 2001

Ohio Clean Marinas program certifies

Less than two years after the program began, 19 Lake Erie marinas have earned the distinction of being certified Ohio Clean Marinas. The certification comes from the Ohio Clean Marinas Program, a proactive partnership among Lake Erie Marine Trades Association (LEMTA), Ohio Department of Natural Resources (ODNR) and Ohio Sea Grant. The program is designed to encourage marinas to pre-

*The certified marinas
use quality-driven and
environmentally responsible
best practices guidelines
- in the operation of
their businesses.*

serve Ohio's natural resources. The certified marinas use quality-driven and environmentally responsible best practices guidelines in the operation of their businesses. An additional 16 marinas have pledged to become certified through this expanding program. "These certified marinas, and those in the process of becoming certified, are showing their commitment to the future of Ohio boating.

19 Lake Erie marinas

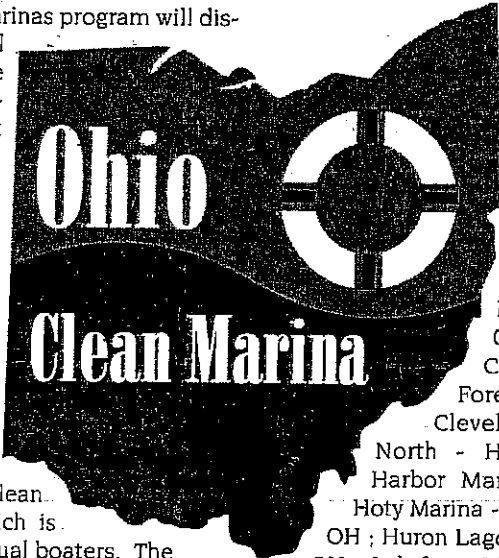
We're encouraged by their initiative," said Gary Comer Jr., Ohio Clean Marinas Program coordinator.

The Ohio Clean Marinas program will display educational materials at the North American In-Water Boat Show at Cedar Point, September 13 - 17. In 2003, the Ohio Clean Marina Program celebrated its kick-off here with more than half a dozen marinas pledging to become certified. The display at this year's show will also offer information on the Ohio Clean Boater's Program which is

geared toward individual boaters. The space will be shared with the Ohio Department of Natural Resource's Division of Coastal Management.

For more information on this program contact Gary Comer Jr. at (419) 609-4120 or visit www.ohiocleanmarina.osu.edu to download a brochure, review a best practices guidebook or take the Pledge.

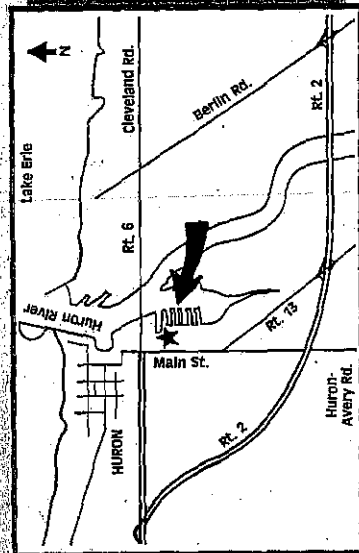
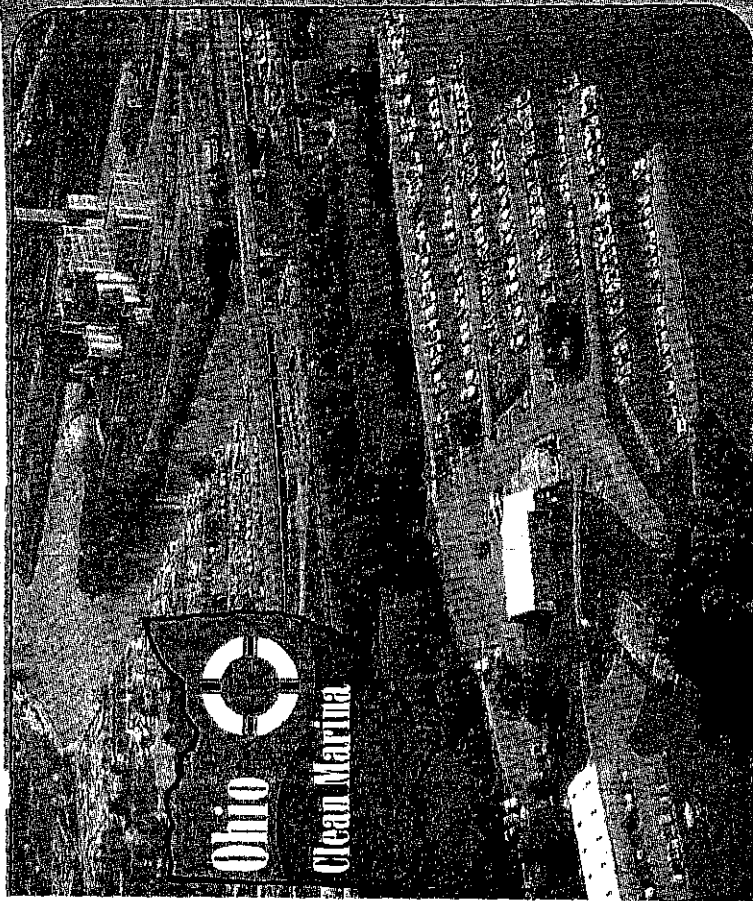
The following are certified Ohio Clean Marinas as of August 21, 2006:



Battery Park Marina - Sandusky, OH ;
Beaver Park Marina - Lorain, OH ; Beaver Park North Inc - Lorain, OH ; Cedar Point Marina - Sandusky, OH ; City of Huron Boat Basin - Huron, OH; The Dock of the Bay Marina - Sandusky, OH ; Edgewater Yacht Club - Cleveland, OH ; Forest City Yacht Club - Cleveland, OH ; Harbor North - Huron, OH; Holiday Harbor Marina - Huron, OH ; Hoty Marina - Son Rise - Sandusky, OH ; Huron Lagoons Marina - Huron, OH ; Lakefront Marina - Port Clinton, OH ; Marina Del Isle - Marblehead, OH ; Middle Bass Island Yacht Club - Middle Bass Island, OH ; Sandusky Harbor Marina - Sandusky OH ; Sandusky Yacht Club - Sandusky, OH ; Spitzer HarborWalk Marina & Rack Storage - Lorain, OH ; Spitzer Lakeside Marina - Lorain, OH

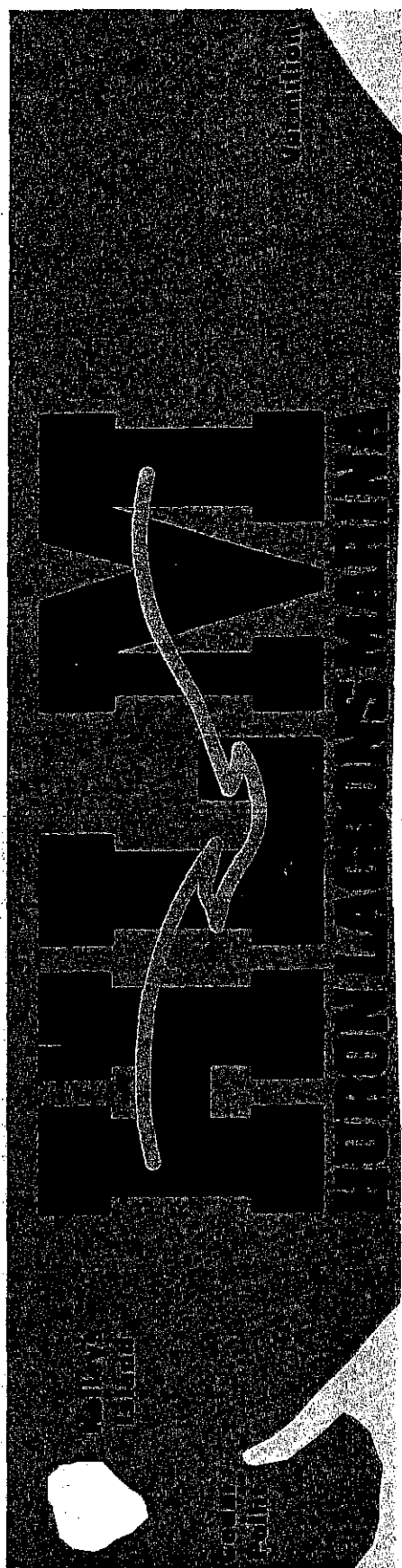
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Expect Hot Catches As the Weather Cools

By Kelly Riesen
Ohio Sea Grant

September is a special time for Lake Erie anglers. The kickoff of fall football season is also the kickoff for fall fishing. This month marks the beginning of a yellow perch, walleye, smallmouth, and steelhead fishing extravaganza.

The Central Basin holds large numbers of jumbo perch, which makes finding these fish fairly easy. Anglers are enjoying consistent and rapid-fire angling in the nearshore areas and harbors from Conneaut to Huron.

Perch fishing often seems to get better when more lines are down and more bait is in the water. Look for packs of boats that are hooking perch and join in the fun.

In the early fall, perch are schooling up and beginning to move back toward shoreline areas in preparation to over-winter near their spawning grounds. Going into late fall, hot perch fishing will be found around harbor mouths from Conneaut to Huron.

Some of the top fall spots for perch fishing as you get further west are the east sides of Kelleys Island and Kelleys Island shoal, a mile or two offshore of the Marblehead lighthouse, and around Green and Rattlesnake Islands. The C Can to Niagara Reef area and Maumee Bay are also good spots to try.

Walleye are also on the move during the fall. Many of the fish, which may have moved as far east as Buffalo, New York, will migrate from the Eastern and Central Basins back toward their spawning grounds in the Western Basin.

Central Basin anglers had a phenomenal August for walleye fishing and this trend should continue into the fall throughout the Central and Western Basins as the walleye migrate west.

During the 1980s, September was a top month for finding walleye on Western Basin reef tops. With the current fishery reverting back to its 1980s form, many of the reef tops should be hot again this September.

Reefs that have been consistent producers are Crib, Niagara, and Round reefs. Cone and Flat Rock have also been producing good numbers. The shallower waters can be fished using weight forward spinners tipped with night crawlers.

Much of the fishing in the open waters of the Western Basin will be done by trolling. Trollers will probably find continued success in the broad area between West Sister and Rattlesnake Islands.

On calm evenings, walleye will move in close to shore to feed on shiners. At these times, shoreline fishing can be a very successful method of catching walleye from Lorain to Catawba Island. Use shallow-running crankbaits and minnow imitations.

Steelhead anglers eagerly anticipate September's early runs of fish into streams from the Huron River to Conneaut Creek. Runs may be early and especially good this year because of the increased amounts of rain northern Ohio has received.

During September, stay close to river and stream mouths and cast live minnows. Steelhead often stage just offshore of river outlets, so try fishing off of a break wall or beach near one of these outlets.

Some places to try for early fall steelhead are the mouth of Conneaut Creek in Conneaut Harbor, the mouth of the Grand River at Mentor Headlands Beach, the mouth of Arcola

Creek, and the Rocky River at the Emerald Necklace Marina.

Fall is also among the best times to fish for smallmouth bass on Lake Erie. Smallmouth that spent midsummer in deep water begin forming larger schools during early autumn. Fall smallmouth tend to hang on small humps offshore in 20 to 25 feet of water.

Bass will feed heavily at this time of year to prepare for winter. Jigs tipped with live baits or tube jigs are often very successful, as are spoons jigged off the bottom. Small soft shell or hard shell craws also yield good catches.

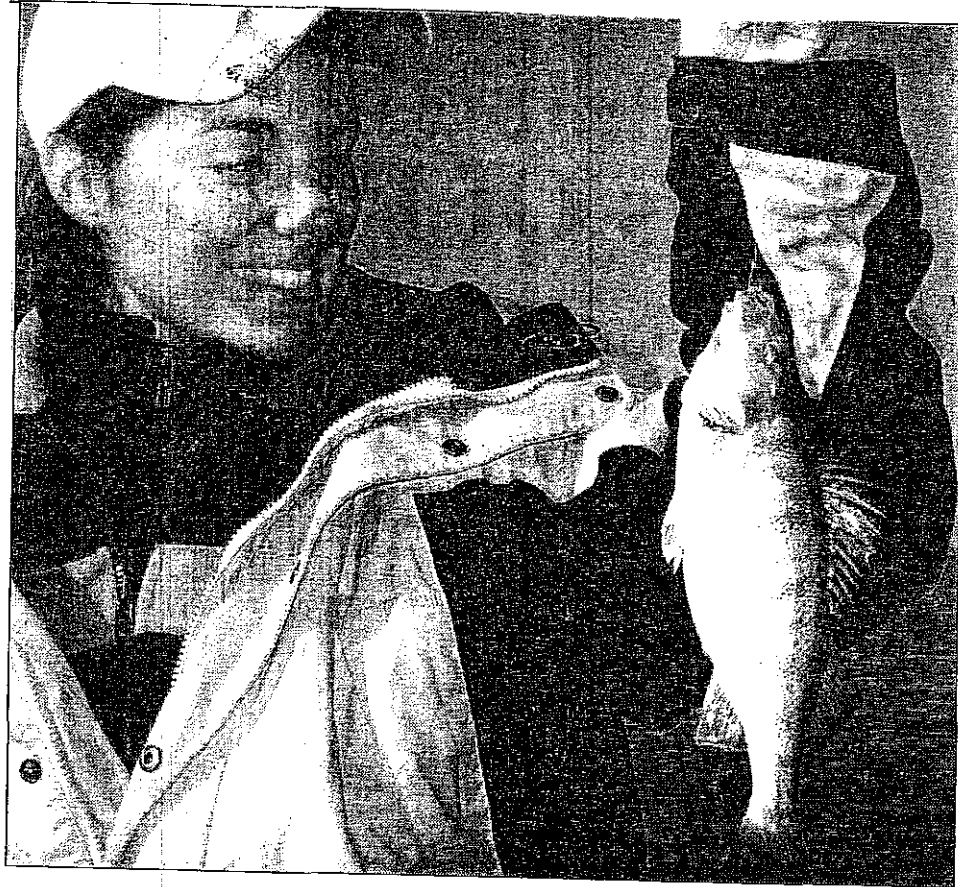
Smallmouth fishing on any of the artificial reefs in the Central Basin can be dynamite in September. Deep water humps and shoals around the Bass Islands are also excellent spots. Look for these areas on the navigation chart and use your sonar when you are on the water to pin-point your spots.

Some good places to start are West Reef, Kelley's Island shoal, Gull Shoal, and many anglers are beginning to fish Crib and Niagara Reefs for smallmouth.

Current and weather play important rolls in fishing for smallmouth on Lake Erie. Often, the best fishing occurs during adverse weather conditions. A good rule of thumb is to fish the windy side of any structure.

Keep an eye on bait fish schools as well. As the water cools, bait fish will tend to move deeper and this often signals good smallmouth fishing.

Late summer and early fall fishing can get pretty exciting on Lake Erie. It's a little quieter since fewer boaters are on the water, and the weather is more predictable than in late fall and early winter. But for the fish, falling water temperatures sound a clear wake up call.



September kicks off Lake Erie's fall perch fishing and anglers can expect lots of jumbos in this year's catch.

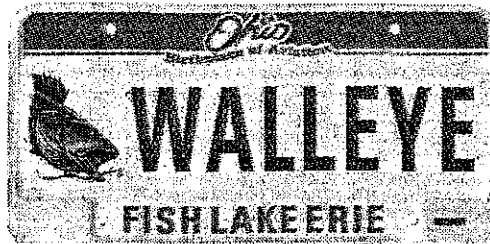
New plate supports scholarships, research

The Ohio Sea Grant College Program has a new "Fish Lake Erie" license plate for sale through the Ohio Bureau of Motor Vehicles, with \$15 of the total plate fee designated for Lake Erie research and scholarships.

Applications forms are available online at: http://bm.v.ohio.gov/vehicle_registration/fish_lake_erie.htm

"We are pleased to offer Ohioans an easy way to support student scholars and Lake Erie researchers," says Dr. Jeff Reutter, director of Ohio Sea Grant and Stone Laboratory. "These plates also benefit programs to enhance tourism on the north coast and to increase fishing participation and the sale of fishing licenses."

Stone Laboratory is The Ohio State University's Island Campus on Lake Erie. Teachers, high school students, and college students take college credit courses at Stone Lab, the nation's oldest



freshwater biological field station.

Annually, more than 5,500 students ages 9 through adult take aquatic science workshops and fieldtrips at Stone Lab. The Great Lakes Sea Grant Network is part of NOAA-National Sea Grant, a network of 30 Sea Grant programs dedicated to the protection and sustainable use of marine and Great Lakes resources.

Village water being hauled to Gibraltar

In case you were wondering about the unfamiliar barge with the water tank on board docked at Gibraltar Island, it's being used to haul treated water produced by the village in support of Stone Lab's fall aquatic science workshop school group season.

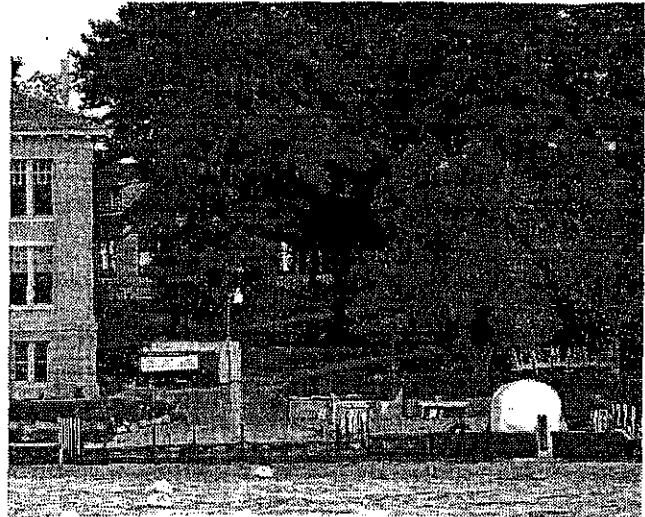
Since 1989, the water drawn from the well on Gibraltar has been treated by softening, reverse osmosis, chlorination and charcoal, and since 2005, ultraviolet light without any water-borne illnesses ever reported. Yet, this water was only allowed for flushing toilets, showering and washing dishes (with an additional disinfectant) since the spring of 2005 under an order by the Ohio EPA that provided an 18-month extension beginning in April, 2005. After Sept 15th, 2006, this water was no longer allowed for these uses either and choices needed to be made as to whether to accept the terms of an additional extension, haul water or close until water lines could be run to the lab.

Fortunately, for the hundreds of school kids still scheduled to visit Gibraltar Island after Sept. 15, the University chose to keep the lab open by hauling water (at great expense) this fall, to meet the demands of the users visiting the facility there to learn about Lake Erie's ecology. The last group of the season is scheduled to depart October 25.

One has to wonder the degree of risk associated with using well water softened, treated with reverse osmosis,

chlorination, ultraviolet light and charcoal to dis-allow the continued use for flushing of toilets, showering or washing dishes?

In light of the fact there were no confirmed, new, water-borne sicknesses in Put-in-Bay in 2005 or 2006; it seems common sense would have allowed an automatic extension under the same terms of the 18 month operating agreement until the planned, imminent water lines could be put into place, to save lots of money for those affected.



LEFT: You can see the big white water tank on the barge at the dock in front of Stone Lab on Gibraltar Island. Treated water is used to flush toilets, while students are allowed to wade into the lake. We couldn't verify it as fact, but one story going around the island is the cost of hauling the water to Gibraltar for this fall's classes will be about \$60,000. That's OK, it doesn't take a whole lot of OSU football game ticket sales to pay for it.



These student volunteers from the mainland used a row boat to help pick litter off the bottom of the lake while divers with scuba gear searched the waters away from the shoreline during this September's Put-in-Bay Harbor Cleanup.

Harbor cleanup nets 1,468 pounds

This year's Harbor Cleanup took place on Monday, Sept. 18th. Divers and land support volunteers processed 1,468 pounds of trash that were pulled from around the three public docks in front of the village park.

One young volunteer was quoted as saying, "I'm just surprised -- with how much trash we found in the first second of diving -- that the lake isn't just nasty. Student volunteers came from Sandusky, Danbury and Port Clinton to help.

Among the trash were plenty of cell phones, sunglasses, bottles and cans. The unusual items pulled from the deep included a driver's license, credit card, a spud bar lost last winter by a village worker, a folding beach chair, a full miniature bottle of brandy, a Christmas tree, a desk pencil holder, a pirate flag on a piece of plastic tubing which read "Surrender the Booty," a fishing pole and a tractor tire.

There were about 70 divers who searched the harbor bottom for trash. Another 250 land volunteers helped clean, sort, itemize and weigh the trash.

Steve Heschel and his help from Port Clinton served up lunch after the dive was complete. Representatives from the Monument came to judge the most unusual items found. Divers who won received prizes.

The Western Lake Erie Basin Partnership

A Cooperative Conservation Collaboration to Improve the Watersheds on the Western End of Lake Erie

by Steve Davis, USDA-NRCS

Tony Friona, U.S. Army Corps of Engineers - Buffalo District

In 2005, the USDA Natural Resources Conservation Service and the U.S. Army Corps of Engineers (USACE) initiated a partnership with the goal of solving land and water resource problems impacting the Western Lake Erie Basin (WLEB). The Maumee, Portage and Ottawa River watersheds are the primary focus of this partnership effort.

Partnership Activities

A kick-off meeting with various stakeholders in the watershed was held in Defiance, Ohio, in November 2005. Fourteen partners, including Federal, State and local governmental agencies and non-profit organizations from both the agricultural and urban sectors,

attended the meeting and joined the leadership committee for this effort.

In January 2006, a second meeting was held in Oregon, Ohio, to finalize a project mission statement and objectives. By-laws and a logo were approved at a subsequent meeting in Ft. Wayne, Indiana, on March 29, 2006.

The WLEB Partnership is now governed by a leadership committee which consists of partner organizations and an operations committee consisting of partner organization staff. NRCS and USACE jointly chair both the leadership and operations committees. In addition, four committees, covering outreach, projects, funding, and research, have been established. The committees



John Hageman (OSU Sea Grant) and Michael Johnson (NRCS East NTSC) discuss Lake Erie Water Quality Issues and Economic Benefits of the Lake. Photo courtesy of Steve Davis, NRCS.

are staffed with volunteers from the WLEB partners and other resource management organizations in the watershed. The committees report to the leadership committee via the operations committee.

Recently, environmental coalition representation (Ohio Environmental Council) has been added to partnership operating committee. The Ohio Environmental Council will also provide representation and support for their counterpart organizations in Indiana and Michigan.

NRCS has entered into agreements with various entities to fund work which supports both the NRCS mission and the WLEB Partnership. These entities include the University of Toledo, National Center for Water Quality Research at Heidelberg College, local Soil and Water Conservation Districts, Conservation Action Project, the Maumee Valley RC&D, Ducks Unlimited, and the Ohio Department of Natural Resources. Partnerships are in the formative stages with US Geological Survey, US EPA, and the Lucas County Soil and Water Conservation District.

Cooperative agreements have been signed with all Soil and Water Conservation Districts (SWCD) within the basin, including Ohio, Indiana, and Michigan. SWCDs will support the project via several activities within the agreement.

The Environmental Defense Organization will bring people and dollars into the basin for support of the efforts in the Tiffin and Blanchard sub-watersheds. Nutrient management, residue management, and tree plantings are the focus of the partnership effort with this organization.

A Conservation Innovation Grant (CIG) was approved for the St. Joseph watershed, a sub-watershed of the Maumee watershed, during the summer of 2006. Several non-NRCS local, State and Federal partners will develop a management plan which will target habitat restoration for aquatic habitat, terrestrial habitat and threatened/endangered species for the St. Joseph watershed.

Rapid Assessments

Rapid resource assessments are underway in an effort to develop a comprehensive compilation of watershed data for the 8-digit Hydrologic Unit Areas (HUA). This data will be used to assist decision-makers in formulating watershed management plans. The first assessment is currently underway in the Blanchard River water-



shed. NRCS is assessing erosion, drainage, agricultural, forestry, and water quality issues and relating these to conservation needs for USDA Farm Bill programs within the watershed.

A local stakeholder meeting was held in the Blanchard watershed in May 2006 to discuss the rapid assessment. Representatives from 14 agencies and over 30 additional individuals attended the meeting, which was reported on in the local media. A follow-up stakeholders meeting will be scheduled soon to present the draft GIS products to local stakeholders for comments and input. NRCS is working concurrently with the US Army Corps of Engineers to assess each HUA.

USACE Feasibility Study

At the same time, the USACE is conducting a broad feasibility study which will build on the local assessment data. This study will look at developing measures to improve navigation, flood damage reduction, fish and wildlife habitat, water quality, and recreation in the WLEB. The feasibility study will be a broad compilation of the assessment of each Hydrologic Unit and will identify watershed improvement needs and projects and provide a series of recommendations for action within the watersheds.

The efforts of the WLEB Partnership have already demonstrated the strength of working together to protect Lake Erie and the environmental quality of the communities within the western end of the Lake Erie basin. In the coming years, expect to see increased adoption of conservation practices and a comprehensive approach to solving our watershed challenges.

10.03.2006. "Fish Lake Erie." TOLEDO BLADE

. . .September survey trawls in western Lake Erie by the Ohio Division of Wildlife essentially duplicated the poor result of August, confirming an initial forecast that the 2006 walleye crop will be nothing to write home about.

"We trawled something like 14 sites and consistently caught average to below-average numbers of young perch and caught zero walleye," summed Travis Hartman, a biologist with the division's Lake Erie Fisheries Research Station at Sandusky.

Last and not least, a new "Fish Lake Erie" license plate featuring a trophy walleye now is available through the Ohio Bureau of Motor Vehicles. Each set of plates sold will mean \$15 designated for Lake Erie research and scholarships.

For details, visit online at http://bmv.ohio.gov/vehicle_registration/fish_lake_erie.htm.

10.09.2006. "Metro High students attend Stone Lab workshops. OSU TODAY

METRO HIGH STUDENTS ATTEND STONE LAB WORKSHOPS

Stone Laboratory, Ohio State's Island Campus on Lake Erie, is hosting 99 ninth-grade students from the Metro High School, a Columbus-area school emphasizing math, science and technology, for a two-day aquatic science workshop starting today (10/9). Students will participate in hands-on activities such as Lake Erie cruises on research vessels, fish seining, invertebrate and bird hikes, and a fish and plankton lab session. The sessions will begin in the morning and run through the afternoon, with students spending the night on Gibraltar Island and completing their instruction the next afternoon.



By Kelly Riesen
Ohio Sea Grant Extension

Whether your favorite flavor is steelhead, smallmouth, walleye or perch, October offers a chance to head to Lake Erie for some of the biggest fish of the year.

Spring-spawning fish are starting to mature their eggs right now, and that means they need lots of food. That's also why fall fishing on the big lake can be action-packed.

Steelhead are stocked yearly by ODNR Division of Wildlife to provide excellent fall, winter, and spring recreation in northern Ohio rivers. The Manistee steelhead strain, which is a hard-fighting, spring-spawning variety, is stocked in Lake Erie tributaries from the Vermilion River to Conneaut Creek.

Though these fish are spring spawners, they begin entering the rivers during autumn as water temperatures begin to drop. Reports already have come in from anglers bagging steelhead in Cleveland's Rocky River.

Cool, rainy weather will bring steelhead into rivers from Huron to Conneaut. Conneaut is often a good place to start the steelhead season because Conneaut Creek is stocked by both Ohio and Pennsylvania.

During autumn the water is cold enough to comfortably support steelhead, yet not so cold that activity is decreased. Translated, October steelhead will smash flies or bait and perform the lively acrobatics for which these fish are so well-known.

At this time of year anglers should stay relatively close to river mouths, as steelhead have not moved far upstream. If the water is deep enough, try casting and retrieving spinners and crankbaits.

Many public access areas on rivers including the Grand, Rocky, and Chagrin have low-head dams or ford areas. These are great places to cast and retrieve artificial lures.

If you prefer to use live bait, minnows can work wonders at this time of the year while steelhead are still actively feeding to put on weight. Spawn sacs are another popular bait which will work nearly any time of year.

Fly fisherman will be successful with larger sized woolly buggers, clouser minnows, and egg patterns. All steelhead anglers, whether fly or spin fishing, should make sure their baits or lures are near the bottom to keep them in front of the fish.

Anglers who still have their boats in the water also have some exciting fishing opportunities in store for the month of October. Some of the best smallmouth fishing of the year will be over the next month. Keeping an eye on bait fish can be a key to finding bass.

As the water cools, bait fish will begin to hug the bottom in 15 to 30 feet of water, and the bass will follow. Using jigs tipped with minnows can be particularly effective, as well as fishing crayfish or shiners straight down on a simple split shot and hook rig.

Excellent fall smallmouth fishing can be found from Avon Point to the Bass Islands. Some productive places to try are the C-shaped structure off Avon Point, the artificial reefs offshore of Cleveland and Lorain, Gull Island Shoal, and West Reef.

Jumbo walleye are an October feature on Lake Erie, but you may have to brave some wind and cooler temperatures. Walleye feed heavily during autumn to prepare for a long winter but also begin moving toward springtime spawning areas.

The westward migration from the Central to the Western Basin is in full swing and the waters offshore of Huron and Vermilion are home to an annual trolling fest. Planer boards and diving planes pulling the same small spoons used all summer are a top offering, but as the water cools, crankbaits also regain their effectiveness.

Shoreline anglers are also successful in catching big walleye at this time of year. Schools of bait fish move into shoreline areas at night, and hungry walleye follow them. The best time to fish is

Kelly's Catch: Lake Erie Fishing Can Heat Up Your Fall



Steelhead are entering Lake Erie tributaries right now and will provide action throughout next spring.

after dark on a relatively calm evening.

Casting and retrieving minnow-shaped crank baits takes most of the shoreline catch. Some good places to try evening shoreline fishing for walleye in October are the Marblehead lighthouse, Catawba Island, Huron Lighthouse pier, and Fairport Harbor breakwall. Nearshore fishing from Lorain to Catawba will be good all winter, or at least until ice-up.

Yellow perch fishing will continue to be good outside of most harbors from Fairport to Port Clinton. Try fishing in 25 to 35 feet of water in the Western Basin, and slightly deeper in the Central Basin.

If you're not sure where to start, watch for packs of anchored boats. These anglers are likely targeting yellow perch, and a big pack is a good sign that a particular area is producing.

Perch usually move in closer to shore later in the season. This gives shoreline anglers the opportunity to get in on some of the action as well.

Fall offers phenomenal fishing opportunities on Lake Erie. Just

remember that the weather can be unpredictable and the lake can turn dangerous very quickly. Exercise caution and have a great time filling the freezer.



Crayfish dangled a foot off the bottom produce autumn smallmouth on Lake Erie reefs.

KELLY's Catch -- November 2006 Oct. 13, 2006 STAFF REPORTS

1 of 2

CLEVELAND -- Lake Erie Fishing Report:

Lake Erie's Cool Fall Fishing

(By Kelly Riesen):

"Ohio Sea Grant Extension"

The rule of November fishing is that the weather rules. Late fall can be a tumultuous time on Lake Erie, but if the weather is good, it's one of the best months of the year for perch, smallmouth, and big walleye.

November is hard to beat for filling a cooler with jumbo yellow perch. On average, the late fall bite is faster and the fish are larger.

Perch can be found outside of major harbors where they already are congregating to be ready for spawning next spring. In the Western Basin, try fishing 25 to 35 feet of water, and in the Central Basin, 35 to 50 feet. Some schools of perch move into shore close enough to be caught by anglers fishing from piers.

The best bait for attracting yellow perch is live emerald shiners. If shiners are not available, try pieces of night crawlers, wax worms, or small chubs.

The key to November smallmouth fishing is figuring out the depth at which bass are holding. As the water cools, bass will remain near deep water humps offshore of their springtime spawning areas.

Any of the reefs around the Bass Islands are good places to find smallmouth. Start looking in 20 to 25 feet of water for a hump or other prominent structure that's different from the surrounding area. Some good places to try are Kelleys Island Shoal, the western side of North Bass Island, and Lucy's Point off the northeast end of Middle Bass Island. Niagara, Crib and Cone Reefs also have become popular for smallmouth in recent years.

In the Central Basin, try the artificial reefs off Cleveland, Lakewood, and Lorain. These manmade structures are in about 25-26 feet of water and seem to attract bass increasingly as fall progresses.

Smallmouth will often hold on the windy side of a structure because a current forms there. After a hard blow, disoriented bait fish and higher turbidity will often send bass into a feeding frenzy.

Tube jigs and round goby imitations are popular at this time of year for catching smallmouth. But fishing live minnows or soft craws straight down will probably yield the best results in late fall.

November nights also see shoreline walleye fishing get hot. Piers from Cleveland to Toledo that put you in casting range of deeper will produce big fish that are feeding to put on weight for winter.



If the wind has really been kicking and the waves are huge, don't bother. But if the lake is fairly calm, it's time to try for walleye. Trollers will also have luck catching walleye in these near shore areas in November.

The best time to fish for walleye from shore is in the early evening just after the sun has gone down. Walleye are in nearshore areas chasing gizzard shad and will often strike crank baits cast from shorelines or piers.

Some places to try in the Western Basin are Cullen Park in Toledo, Catawba State Park, the Lakeside Pier, Marblehead Lighthouse, and the Jackson Street Pier in Sandusky.

In the Central Basin try Huron Pier and the Nickel Plate Beach Pier in Huron, Main Street Beach in Vermilion, the Port of Lorain, and Cleveland Lakefront State Park.

For those with an adventurous streak looking for new game, try Lake Erie whitefish. Whitefish, a tasty and popular commercial fish in the upper Great Lakes, have increased in numbers in Lake Erie.

Whitefish move onto the reefs of Lake Erie's western basin during late fall to spawn. Walleye, bass, and yellow perch anglers rarely catch these fish because their baits are too large.

Whitefish eat very small organisms. To catch whitefish this fall, use the small jigs normally reserved for ice fishing and tip them with a maggot. Jig this setup just off the bottom. Niagara and Crib reefs are logical starting places.

Fall steelhead fishing peaks in November. Many of these silvery, lake-fresh fish have moved into the rivers and streams and will remain there throughout the winter.

Choose a day when river flows are not too high or too low. If the water has a greenish tint, it's time to fish.

Remember that even though certain rivers are not stocked, they still receive runs of steelhead. Arcola Creek, the Cuyahoga, Black, and Huron Rivers produce good catches.

Joe Moravec, veteran steelhead angler and president of the Ohio Central Basin Steelheaders club, says "By November we usually have several rain events and cooler temperatures that push fish up stream. The Grand River has excellent access at Recreation Park in Painesville and at Helen Hazen Wyman just south of Painesville."

"The Chagrin River has excellent access at Daniels Park, Todd Field and Chagrin River Park. By November the fish are in strong all the way up to and past Route 90," says Moravec.

Use baits or flies that are right for the water conditions. If the water is high and muddy, Moravec uses larger and more colorful flies or switches to spinning gear and bait.

It's essential to use caution when fishing on Lake Erie in November as conditions can change rapidly. Use good judgment and have a great time catching autumn's Lake Erie bounty.

NEWS FROM EXTENSION WATERSHED AND SEA GRANT PROGRAMS – JOHN HAGEMAN, SEA GRANT & STONE LAB

WEST REGIONAL CD MEETING

On August 24, the West Regional Community Development staff attended a meeting at the Hancock County Extension Office in Findlay to get caught up with each others current projects and receive administrative updates from Ken Martin. Two formal presentations were given. Joe Bonnell talked about the progress of watershed resources for CD programming such as distance education, skills of team members, maps, grant opportunities, networks and organizations that may be useful. Joe can be contacted at bonnell.8@osu.edu for further information. Joe followed F. T. Stone Laboratory manager John Hageman, who gave a power point presentation of the lab's aquatic science workshop program on Lake Erie at Put-in-Bay. The show can be viewed at: http://ohioseagrant.osu.edu/_documents/stonelab/workshops/presentation.pps

PUT-IN-BAY UNDERWATER CLEAN UP

On Monday September 18, 2006 John Hageman was once again the local coordinator of the 14th Put-in-Bay Underwater Clean Up. Over 60 SCUBA divers and over 200 land volunteers teamed up to remove sunken trash from the Put-in-Bay Harbor. Prizes were given for the most unusual, valuable, largest, smallest items retrieved and the best zebra mussel sculpture. Hundreds of pounds of trash including beverage cans, cups, bottles, grills, towels, sunglasses, cell phones, and a wallet were recovered. The trash was weighed, then disposed of into the dumpsters, the wallet forwarded to the local police and a few items claimed as "treasure." Stone Laboratory provides rowboats and dip nets, ladders to enter and exit from the water, hoses to wash mud off the trash before disposal and donated onion bags that are used underwater to carry the recovered trash. Since the first clean up in 1992, over 10 tons of trash have been removed from the Lake!

Feeling balanced

Faculty, staff have solutions when work/life issues arise

ADAM KING onCampus staff

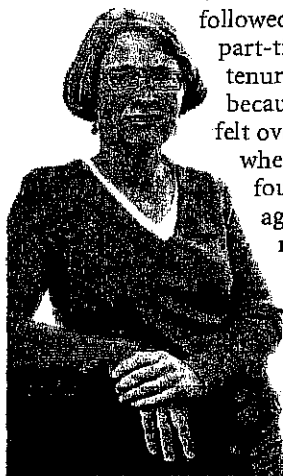
Professor Elena Irwin has championed an emerging trend among faculty — following a part-time tenure track while raising a family.

Likewise, Vicki Pitstick and Shannon Dowdall are pioneers at Ohio State. They are the first to use the university's work/life rules to share the same position, giving them the flexibility to be stay-at-home mothers and professional women.

The trio is an example of how Ohio State strives to keep employees' lives balanced as the Office of Human Resources celebrates National Work and Family Month in October.

Breaking the mold

Irwin, an associate professor in the Department of Agricultural, Environmental and Development



Elena Irwin, an environmental and development economics professor, took advantage of the part-time tenure track option.

Economics, followed a part-time tenure track because she felt overwhelmed four years ago while raising her first son

(she now has two) and working 60-hour weeks.

She admits she was ready to quit before discovering the part-time option, which Ohio State first implemented in 1996. Retaining women faculty remains a problem at OSU, where only 57 percent of female assistant professors remained through their sixth year compared to 68 percent of men.

"I essentially said to my department chair, Alan Randall, 'Even though I know it's impossible, here's what I'd like to do,'" Irwin said. "And he said, 'Whoa, let's find out first if it's impossible.' He came back and said there were rules on the books that deal with this issue, and we were both astounded. We never knew it was even available."

Very few faculty do, it seems — only 155 have used a part-time tenure track since fall quarter 1997. Irwin said she could see the option not being for everyone, especially if faculty have major start-up or fixed costs to do their work, such as maintaining a lab.

"How do you do that on a part-time basis?" Irwin said. "You might share it with somebody, but it makes it tougher to work out. My research, as long as I have data and a computer, I'm fine."

Plus, she said, not every faculty feels the need to go part-time.

"It's about making the choices you want to make," Irwin said. "It's great to have the option for working less than full-time and not having to give up the tenure-track position, but it also comes at a cost.

See *Balanced*, page 10



Vicki Pitstick, right, and Shannon Dowdall share a position as program manager in the University Honors and Scholars Center in Kuhn Hall. In the background, Dowdall's children, son Finn and daughter Riley, play at their mother's desk during her day off.

For my husband (also a professor in Irwin's college) and me, it was a quality of life choice."

Matt Platz, vice provost for Academic Policy and Faculty Resources, said Irwin's success in using the part-time tenure track should serve as a role model for all faculty and staff.

"Through this policy and the support of her dean and chair, the university retained a talented female faculty and dissuaded her from leaving the profession or settling for a position as a lecturer," Platz said.

Seeking balance

Pitstick works 60 percent full-time while Dowdall works 50 percent as program manager in the University Honors and Scholars Center in Kuhn Hall. They each work three days, and their hours overlap on Tuesday and Thursday while both are off on Friday.

It's an arrangement that has been a blessing and a necessity. Without it, they say, neither would work at Ohio State.

When Dowdall had her first child, son Finn, she worked full time until he was 1-1/2 and switched to working 75 percent. She felt guilty leaving him in daycare and wanted to spend all her time with him before putting him to bed. That meant household chores and quality time spent with her husband were neglected.

Then she had her daughter two years ago, and the feeling of missing out on her children's lives, even with Fridays off, was too much to bear.

"I realized I couldn't do this again. I can't do four days of work and still feel balanced," Dowdall said.

Pitstick, who has known Dowdall since graduate school, worked part time for a different scholars program at Ohio State. She was feeling time-pressed as well with three kids, now 4, 5 and 7.

Over lunch in October 2005, Pitstick and Dowdall thought up the job share idea. Both grew up with stay-at-home moms, but neither wanted to make that commitment if they didn't have to.

"For my family, we need both incomes," Pitstick said. "My husband has a good job and it pays fine, but it doesn't pay great. My mom was a stay-at-home mom, but my dad was an educator, so we were brought up to know that education was very important, and I like using my education. I'm a better mom because I work outside the home."

Making it work

The two women convinced Linda Harlow, Dowdall's supervisor and associate provost of the Honors and Scholars Center, the job share idea would work.

"I was not resistant to the idea, but I was hesitant because you never know how it's going to work out," Harlow said.

Harlow and the Office of Human Resources' Organization and Human Resource Consulting were able to write a job description for the two women after looking at policies at other universities.

"Nobody else at the university had done this," Harlow said.

She said some of her main concerns as a supervisor were addressed in the agreement.

"One of these two might want to leave at some point, then you have to decide, are you going to fill the halftime position with someone else or revert the other one to full time?" Harlow said.

After the first few months, Harlow was still adjusting to the change and wondered if she had done the right thing. That didn't last long.

"Now I'm not sure I would rather have one staff person in that position," she said. "I've gotten to enjoy having both of them here. With this particular job, everything is shared, and if one of them isn't there, the other one is. And if they can't answer a question, they can get the other person quickly. Communication between them is incredibly key."

Harlow gives them separate performance reviews and merit pay is negotiated separately as well.

Dowdall and Pitstick agree it's a great arrangement for the Honors and Scholars Center.

"Where two heads are better than one is when we're brainstorming things or when things become overwhelming," Dowdall said. "One of us finds a way to do it more efficiently. We have different strengths."

The Office of Human Resources encourages the university community to consider offering flexible work arrangements to faculty and staff as part of Ohio State's drive to become an employer of choice, said Mona Fitzer, project manager for Work Life.

"Elena, Vicki and Shannon are great examples of how these arrangements can be a win-win situation," Fitzer said. "They have shown that it's possible to seek balance and still succeed in whatever life brings them."

New Ohio License Plate Supports Lake Erie Scholarships and Research

The Ohio Sea Grant College Program has a new "Fish Lake Erie" license plate for sale through the Ohio Bureau of Motor Vehicles, with \$15 of the total plate fee designated for Lake Erie research and scholarships. Applications forms are available online at: <http://bmj.ohio.gov/vehicle-registration/fish-lake-erie.htm>.

"We are pleased to offer Ohioans an easy way to support student scholars and Lake Erie researchers," says Dr. Jeff Reutter, Director of Ohio Sea Grant and Stone Laboratory. "These plates also benefit programs to enhance tourism on the north coast and to increase fishing

participation and the sale of fishing licenses."

Stone Laboratory is The Ohio State University's Island Campus on Lake Erie. Teachers, high school students and college students take college credit courses at Stone Lab, the nation's oldest freshwater biological field station. Annually, more than 5,500 students ages nine through adult take aquatic science workshops and fieldtrips at Stone Lab. The Great Lakes Sea Grant Network is part of NOAA-National Sea Grant, a network of 30 Sea Grant programs dedicated to the protection and sustainable use of marine and Great Lakes resources.

SECTION: LOCAL; Pg. A6

LENGTH: 475 words

HEADLINE: With population below 2,000 in 1999, water snake returns

BYLINE: By Steve Bennish Staff Writer

BODY:

SOUTH BASS ISLAND — The Island Snake Lady is a title that effervescent 30-year-old biology doctoral candidate Kristen Stanford wears well.

When she showed up at Put-in-Bay in 2000, the year the water snake was designated as endangered in Ohio, she had quite a mission — to save a strangely despised but unique part of the Lake Erie islands landscape, the Lake Erie Water Snake.

The snake for decades had been hunted, attacked and killed by those who didn't understand it, Stanford said. A popular sport was shooting it from dockside. Snakes, curled up during hibernation, were even set afire by some.

When the snake's population dived below 2,000 in 1999, it earned a place on the endangered list. With funding from the Ohio Division of Wildlife, Stanford set to work on a community campaign for local residents. Hundreds of signs began to appear on the island, signs that are now something of a collector's item. Soon, locals began calling her the snake lady. Youngsters sought her out for tidbits of snake lore.

"My message was live and let live," Stanford said. "I'd tell them, 'I don't want to make a snake lover out of you, but just have respect for that animal.' They should enjoy that they have this unique animal in their backyard."

The snake helped make the islands what they are. Early explorers called them "Islands of Serpents" because they were known for having plenty of snakes, Stanford said. The hatred directed toward the snake was misconceived, she told residents.

First, the nonvenomous snake is harmless to humans. Second, it's a predator of the round goby, a fast-spreading bottom-dwelling fish that looks like a tadpole. The round goby needs predators because it is a pest that wound up in the lake after it hitched a ride in the ballast of a ship from Europe. Gobies devour fish eggs from native species such as smallmouth bass, threatening sport fisheries.

"The water snake is now eating gobies almost exclusively," Stanford said proudly. Perceptions have changed. State wildlife experts now emphasize boat dock construction that is more snake-friendly, and boaters have taken the cues.

Today, the snake population has rebounded. Estimates are that 7,000 now dwell on the U.S. islands of North, Middle and South Bass islands and Kelleys Island, Stanford said.

Carolyn Caldwell, program administrator in wildlife management and research for the Division of Wildlife, said Stanford "has done an incredible job in public relations and outreach to make folks recognize the value of the species. It's not a question of liking it or loving it, but respecting that it has a place in the environment."

The Discovery Channel recently visited Stanford to highlight her work as part of its Dirty Jobs series. She showed how the snakes are caught, weighed and tagged.

"It is dirty," she said. "That doesn't mean it isn't fun and that I don't like it."

SOUTH BASS ISLAND - The Island Snake Lady is a title that effervescent 30-yearold biology doctoral candidate Kristen Stanford wears well.

When she showed up at Putin-Bay in 2000, the year the water snake was designated as endangered in Ohio, she had quite a mission - to save a strangely despised but unique part of the Lake Erie islands landscape, the Lake Erie Water Snake.

The snake for decades had been hunted, attacked and killed by those who didn't understand it, Stanford said. A popular sport was shooting it from dockside. Snakes, curled up during hibernation, were even set afire by some.

When the snake's population dived below 2,000 in 1999, it earned a place on the endangered list. With funding from the Ohio Division of Wildlife, Stanford set to work on a community campaign for local residents. Hundreds of signs began to appear on the island, signs that are now something of a collector's item. Soon, locals began calling her the snake lady. Youngsters sought her out for tidbits of snake lore.

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The snake helped make the islands what they are. Early explorers called them "Islands of Serpents" because they were known for having plen-

GRAPHIC: Kristin M. Stanford, Lake Erie Water Snake outreach and research coordinator, came up with handfuls of snakes during an annual population census on Sugar Island. Contributed photo by Kristin M. Stanford

Great Lakes fish hauling stopped to combat virus
Rule affects industry, bait shops

By **STEVE POLLICK**
BLADE OUTDOORS EDITOR

Transport of live fish among the Great Lakes states and their importation here from the Canadian provinces of Ontario and Quebec - an industry valued at tens of millions of dollars annually - came to a screeching halt this week with a federal order aimed at preventing the spread of a virus that kills fish.

The order, issued by the Animal and Plant Health Inspection Service of the U.S. Department of Agriculture, caught Great Lakes state fisheries authorities by surprise when it went into effect Tuesday.

Briefings for industry representatives and fisheries agencies personnel on the order are set for two days next week in Washington.

Viral hemorrhagic septicemia does not affect humans. The federal order doesn't affect commercial sales or consumption of processed fish, such as yellow perch or walleye.

The order affects bait dealers and bait shops, commercial fish propagators who raise fish for lake and pond stocking, and related businesses along with state fish and wildlife agencies. It also will affect sport fishermen who buy minnows for bait.

The order is intended "to prevent the spread of viral hemorrhagic septicemia into aquaculture [fish-farming] facilities," the Animal and Plant Health Inspection Service stated. An alert issued by the agency in August calls the disease "an extremely serious pathogen of fresh and saltwater fish and is causing an emerging disease in the Great Lakes region of the United States and Canada."



Brian Baker moves minnows at Butch and Denny's Bait Shop, which is adjusting to the order on Great Lakes fish.



Dan Baker of Butch and Denny's Bait Shop in Jerusalem Township hadn't heard of the new rule.

"This is a big hammer [the agency] is swinging," asserted Fred Snyder, an Ohio Sea Grant extension agent for western Lake Erie. "People don't realize this is going to affect everybody. It's the nightmare that you hoped wouldn't happen."

Mr. Snyder said he has been tapped to represent the Ohio Aquaculture Association's opposition to the order next week in Washington. He said he has not had time to perform a detailed economic analysis, but said that lakes-wide the impact of the order easily could mean "tens of millions of dollars annually."

At the angler level, he added, "the price of minnows is going to go up."

Dan Baker, owner of Butch and Denny's Bait in Jerusalem Township, said he had not yet heard of the order. But he added: "That's going to put the hurts to the availability of bait."

Ray Petering, executive administrator for fish management and research for the Ohio Division of Wildlife, called the order "a bombshell," vowing, "we're going to try to make it go away from any direction that we can."

Mr. Petering contended that the fish health committee of the Great Lakes Fishery Commission already was drafting a strategy to deal with the disease and it had told the agency that "in no uncertain terms, 'we're driving the boat on this.'"

Kurt Newman, Lake Erie basin manager for the Michigan Department of Natural Resources, said DNR director Rebecca Humphries and two others will go to the Washington briefing.

"We were surprised," Mr. Newman said of the sudden federal action. "Communication was not sufficient to keep everybody in the loop."

The disease was blamed for killing tens of thousands of sheepshead or freshwater drum and thousands of yellow perch in Lake Erie last summer.

The virus has been confirmed so far in Lake Huron, Lake St. Clair, Lake Erie, and Lake Ontario, and the St. Lawrence River, and fisheries authorities suspect it will be found more widely as detective work continues.

In the past, APHIS said, the disease was thought to be a concern only for trout and a few other freshwater fish raised commercially in Europe. But the recent outbreaks in the Great Lakes appear to represent a new strain of the virus and has been responsible for dieoffs of muskellunge, smallmouth bass, northern pike, drum, gizzard shad, yellow perch, black crappie, bluegill, rock bass, white bass, redhorse sucker, bluntnose sucker, round goby, and walleye.

The transport ban covers live fish of 37 species, but the agency said it reserves the right to add any other species that test positive for the disease. The agency said it is not known how the disease got into the Great Lakes or how long it has been present. It was first identified in drum in Lake Ontario's Bay of Quinte in 2005.

Jim Rogers, an agency spokesman, said the transport ban was issued "just to hold this until we can go through rule-making."

He added that "a lot can be decided next week, and a lot can be modified in the order even before rule-making." However, the spokesman stressed, "whenever you see a federal order you can assume a sense of urgency."

That urgency, he explained, is fueled by the rapid expansion of the disease from 2005 to 2006, geographically and among species, and the results of research into the disease.

"We don't want to shut down markets," Mr. Rogers stated. "We want to protect markets." The order affects a broad spectrum of live-fish businesses.

For example, the annual supply of Lake Erie emerald shiners, popular bait minnows, essentially is expended by this time of year and bait shops and dealers look to other Great Lakes states to supply winter and early spring ice fishing and post ice-out fishing demands. So shipments of minnows from, say, Minnesota or New York, are banned.

Ohio fisheries managers trade Michigan steelhead trout eggs for Ohio fingerling channel catfish. The egg shipments still are allowed but not the fingerling catfish, said Jeff Tyson, supervisor of the state's Lake Erie Fish Research Station at Sandusky. Mr. Tyson also said the order affects the state's muskellunge-rearing program. "A lot of the shiners we use in the hatching program for grow-up are from Minnesota." He also noted that until now a lot of commercial netters shipped live white bass and channel catfish to pay lakes in Indiana and elsewhere.

Nor can licensed bait dealers transport live baitfish into or out of Ohio within the Great Lakes.

It was clear by yesterday afternoon that the issue had gained national political and international notoriety.

Statements of concern were issued in Washington, for example, by the offices of U.S.

Rep. Marcy Kaptur (D., Toledo), and U.S. Sen. George Voinovich (R., Ohio), both longtime Great Lakes program supporters.

Miss Kaptur pledged daily contact with the Animal and Plant Health Inspection Service as the issue unfolds and has asked advice from the University of Toledo Lake Erie Research Center. Mr. Voinovich, an avid angler, said he wants to ensure stability of the lakes and a quick resolution of the issue.

John Cooper, a spokesman for the Ontario Ministry of Natural Resources, said representatives of the Canada Food Inspection Agency, the APHIS counterpart, would be working closely with the U.S. agency not only with an eye to cooperation in halting the spread of the disease but also to seek modifications to the order.

Contact Steve Pollick at: spollick@theblade.com or 419-724-6068.

Ban threatens Great Lakes fish farms

U.S. ruling that takes aim at virus puts hold on sales

By John Fleisher
ASSOCIATED PRESS

TRAVERSE CITY, Mich. — A government crackdown on live-fish shipments from the Great Lakes states is intended to check the spread of a deadly aquatic virus, but critics say it could devastate the region's fishing industry.

In an emergency order last week, the U.S. Department of Agriculture's Animal and Plant Health Inspection Service banned interstate transport of 37 species of live fish from the eight states adjacent to the Great Lakes. Importing those species from the Canadian provinces of Ontario and Quebec also was prohibited.

The agency's target is viral hemorrhagic septicemia, which poses no risk to humans but causes internal bleeding in fish. The disease was discovered in the region last year and is blamed for fish kills in Lakes Erie, Ontario and St. Clair and the St. Lawrence River.

Among species susceptible to the virus are popular sport fish such as chinook and coho salmon, rainbow trout, walleye and yellow perch.

Federal officials do not know how the virus, long a problem in Europe, reached the Great Lakes. But state fishery managers think it came in ballast tanks of oceangoing cargo ships, considered a leading source of exotic species such as zebra mussels that are damaging the lakes' ecology.

The federal agency has scheduled a meeting with state

and industry representatives for Tuesday in Washington, D.C., to discuss regulations aimed at containing the virus.

The emergency order "just puts everything on hold until we can figure out what we're going to do," spokesman Jim Rogers said.

But some in the region said they were blindsided by the order, which could be especially hard on commercial fish farms and live-bait vendors. It also could hamper stocking programs essential to the region's \$4.5 billion fishery, critics said.

"This order will completely eliminate long-established trades of sport fish between state agencies that are crucial to the maintenance, restoration and enhancement of sport fish programs" in the region, wrote Sam Flood, acting director of the Illinois Department of Natural Resources, in a letter to the federal agency.

Dan Vogler, who raises rainbow trout in Harrietta, about 30 miles south of Traverse City, said the order had taken away 70 percent of his customers. He sends live fish to other states for sale in restaurants and markets, and for stocking lakes and rivers.

The virus hasn't been detected on any fish farm in the Great Lakes region, Vogler said. Michigan has 47 fish farms, with combined sales of \$2.4 million in 2005, according to the Agriculture Department.

Greg Oswald, president of the Minnesota Aquaculture Association, sells his fathead minnows for sport-fishing bait across the nation. He estimated his business could lose \$600,000 this year and more in 2007 if the interstate ban continues.

Federal ban on interstate fish trade

A government crackdown on live-fish shipments from the Great Lakes states is intended to check the spread of viral hemorrhagic septicemia. Banned fish susceptible to the virus, which poses no risk to humans but causes internal bleeding in fish, are:

Atlantic cod	Muskellunge
Black crappie	Pacific cod
Bluegill	Pike
Bluntnose minnow	Pink salmon
Brown bullhead	Pumpkinseed
Brown trout	Rainbow trout
Burbot	Redhorse sucker
Channel catfish	Rock bass
Chinook salmon	Rockling
Coho salmon	Round goby
Chum salmon	Smallmouth bass
Emerald shiner	Sprat
Freshwater drum	Turbot
Gizzard shad	Walleye
Grayling	White bass
Haddock	White perch
Herring	Whitefish
Japanese flounder	Yellow perch
Largemouth bass	

Source: Animal and Plant Health Inspection Service

Industry spokesmen said the ban could mean live-bait shortages and higher prices.

Dealers who supply bait shops in Ohio buy about half their stock from other states, said Fred Snyder, an Ohio State University extension agent. Ohio's trout farmers get young fish to raise from other states.

Meanwhile, trout farmers in Minnesota and Wisconsin have millions of pounds ready for stocking lakes elsewhere.

"All of a sudden they can't move these fish," Snyder said. "These people are going to be financially devastated."

The National Aquaculture Association, a fish-farming trade group, asked the government for regulations to help prevent the virus from spreading, said its president, Randy MacMillan. He said the association didn't request the emergency order but understands the need.

It could take the federal agency two or three months just to write interim rules, MacMillan said. "In the meantime, the movement of potentially infected live fish would continue," he said.

10.31.2006. "County officials focus on fixing drainage problems Run Date." SANDUSKY REGISTER

By TOM JACKSON tomjackson@sanduskyregister.com

With new regulations coming down to prevent pollution from storm waters washing into Lake Erie, Erie County officials met Monday night to learn more about how to comply with the new rules.

The Erie County Council of Governments met Monday night at the county's downtown office building for a workshop put together by the Erie Soil and Water Conservation District on how to manage storm water in the Lake Erie watershed.

Timothy Lawrence, an expert in water runoff pollution at The Ohio State University, told local officials, including officials from Sandusky, Erie County and local townships and villages, they face new regulation in the form of National Pollution Discharge Elimination System Phase II rules being enforced by the Ohio Environmental Protection Agency.

Erie County's engineer was required to turn in a storm water master plan to the Ohio EPA, and Erie County must provide an update for the plan every year, Lawrence said. He said Ohio EPA officials plan to carry out audits soon to see if counties are complying with their plans.

Under the Phase II rules, local governments must take a variety of steps to battle water pollution, including public education, monitoring discharges of pollution into water and controlling runoff of dirt from construction sites.

Monday night's workshop, featuring four different guest speakers addressing about 30 officials, is designed to give the officials "decision making tools" as they mull forming a county-wide drainage system to fight water pollution and control flooding, said Eric Dodrill, director of the soil and water conservation district.

By setting up a district or a storm water utility, county officials could create a pool of money to address drainage issues, Dodrill said.

The June floods have helped concentrate the minds of local citizens about the advantage of such an effort, County Commissioner Nancy McKeen said.

The day after the flood, many local citizens might have been ready to pay \$10 a year to clean up ditches and improve drainage, she said.

Joe Lucente, an extension agent in the Ohio Sea Grant Program, offered some background facts about Lake Erie to explain what's at stake in keeping the lake clean.

Lake Erie is the shallowest of the Great Lakes and has the least amount of volume, but it's the most biologically productive lake, supporting many different kinds of animals and fish, Lucente said.

Ohio's Lake Erie watershed -- the area draining into the lake -- consists of 122,353 square miles, 28.2 percent of Ohio's total area, Lucente said. He said 35 of Ohio's 88 counties include areas that are part of the Lake Erie watershed.

November

Grandview's 'Renaissance man' led a

As we celebrate the centennial of the incorporation of Grandview Heights, much has been written about the process but little mention has been made of the interesting and influential people who made it all happen, set the tone, and laid the groundwork for the Grandview Heights we know and enjoy today.

One such notable individual and the subject of this column is Julius Stone (1855-1947). His legacy and peoples' recollection of him have faded since he and his family left Grandview in the early 1940's for Santa Monica, California. Only the association of his original family homestead with the Stonegate Village complex on Westwood Avenue and Goodale Boulevard remains foremost in most people's minds today. Pity too, as he was truly the proverbial "Renaissance man."

Despite the fact that he left school at 13 to help support his family, Julius Stone was an extraordinarily successful entrepreneur, influential Columbus industrialist, Ohio State University trustee, president of the OSU Research Foundation, philanthropist, and conservationist. He started work at the age 13 in a granary in Papineau, Illinois and spent his rare spare time studying telegraphy.

By 16 he had obtained a job as a railroad telegrapher and rose through the ranks rapidly. By the time he was 30 he was actively engaged in the coal mining industry in Ohio, West Virginia, Illinois and Iowa. An organizational genius by nature, he began to apply his skills to manufacturing in Columbus, Ohio around 1900.

Claiming to be able to work harder than any fellow, Stone eventually became the president of the Columbus McKinnon Chain Company; Chisholm Moore Hoist Company; Case, Crane, and Colborne-Jacobs Company; and Banc Ohio. He was also chairman of the board and had controlling interest in the Seagrave



Tom Demaria
History from the Bluffs



Corporation, a manufacturer of fire equipment, as well as the Ohio Buggy Works. His often-quoted one rule for success was "Work like hell."

Self-effacing by nature, Stone's greatest love was science, especially astronomy. He spent long hours reading scientific journals and was a self-taught, highly respected astronomer. His brilliant mind was recognized by world-class scientists of his day. He was a member of the American Astronomical Society; a fellow of the Royal Astronomical Society of England, and a fellow of the American Geological Society. He provided the money for the purchase of OSU's first cyclotron and donated Lake Erie's Gibraltar Island, which he owned briefly, to the university in 1925 for the development of the Stone Research Laboratory for freshwater biology.

He served a total of 20 years

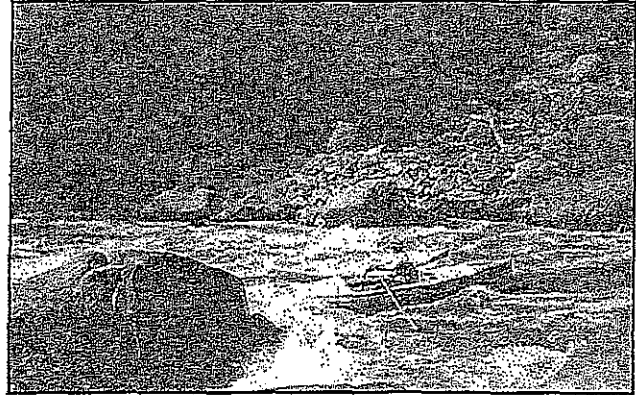


Photo of Disaster Falls from Stone's book, *Canyon Country: The Romance of a Drop of Water and a Grain of Sand*.



The Julius Stone mansion at 1065 Westwood Ave., about 1940. It was razed to develop Stonegate Village.

on the board of trustees of The Ohio State University and was awarded an honorary Doctor of Science degree in 1938.

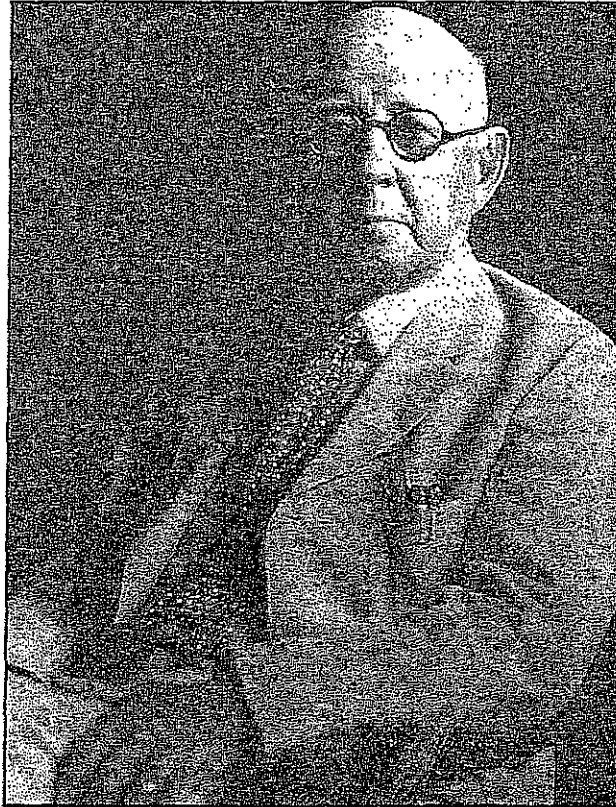
Stone's influence spread far beyond the limits of Grandview. His business ventures included an investment in the Hoskaninni Mining Company in Utah which set the stage for an association and friendships that would culminate in Stone's organization of a Colorado River expedition generally considered by historians to be the first that was undertaken purely for pleasure.

Stone was intrigued by the prospect of "running" the Green and Colorado rivers and he and four companions embarked from Green River, Wyoming in September of 1909 on a two-month, 150-mile expedition in four specially designed flat-bottomed boats. They landed in Needles, California on Nov. 19,

1909. One of the companions was Stone's brother-in-law, Robert Cogswell, a professional photographer. These "amateurs" (only one of the four had any river-running experience) traversed the rivers and canyons and took more than 300 photographs, many of which are housed and available online at the Northern Arizona University Web site www.nau.edu/~cline/spec-coll/guide/s/stone.html or at the University of Utah libraries, www.lib.utah.edu/digital/collections/galloway.

It is noteworthy that at the time of the expedition Stone was 54 years old! Twenty-eight years after the fact, when he was 82, Stone published his account of this remarkable journey, complete with 300 of his brother-in-law's photographs in a book titled *Canyon Country: The Romance of a Drop of Water and*

life full of adventure



Photos (3) courtesy of Grandview Heights-Marble Cliff Historical Society

Julius Stone circa 1938.

a Grain of Sand. The first section of the book is a detailed introduction on geology, erosion, and canyon formation. The second is a wonderfully detailed and romantic recollection by Stone of the daily events of the expedition. It is written in a journal format and describes in detail the scenery, portages, raging rapids, living off the land, and survival in the wilderness in 1909.

The narrative speaks to the drudgery and hardship of the trip including Stone treating himself during a bout of the lung ailment pleurisy and the need for frequent repairs to the boats. The book is an outstanding legacy from one of Grandview's most prominent citizens. Most of the Green River and Glen Canyon portion of the expedition is now under Lake Powell and the photographs in the book offer

a rare look of the canyons as they originally existed.

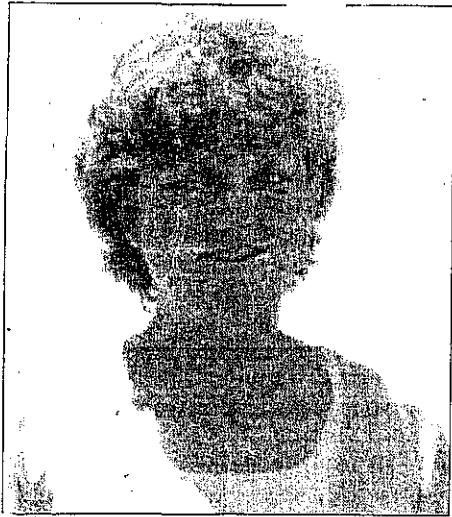
Stone, his wife Edna, and their five children resided in the home they built at 1065 Westwood until the early 1940s. In latter years, more time was spent at their California residence in Santa Monica. Stone died there on July 25, 1942.

Not surprisingly, given his penchant for organization, he had cards prepared announcing his death with a picture of a snuffed out candle that his secretary was strictly instructed to mail the day he died.

Tom DeMarja is treasurer and a member of the board of trustees of the Grandview Heights-Marble Cliff Historical Society.

History from the Bluffs is a periodic column created to commemorate the 100th anniversary of the 1906 founding of Grandview Heights.

Ohio Travel Association



The Ohio Travel Association (OTA) recently inducted Melinda Huntley, Executive Director for the Lake Erie Coastal Ohio Trail, as the new Ohio Travel Association Board President during the final day of Ohio Travel Association's Annual Conference on Tourism in Toledo. Huntley succeeds Larry Fletcher of Ottawa County Visitors Bureau.

Huntley began her career in 1986 at Cedar Point in Sandusky where she helped coordinate the theme park giant's public relations campaigns resulting in more than 60 national stories on "CBS This Evening," "Entertainment Tonight," as well as the

Elects Huntley 2007 President

New York Times, Newsweek and more.

Over the course of Huntley's 20-year career in tourism she has secured numerous grants to protect, promote and educate others about tourism and Ohio's natural resources. She is the founder of Lake Erie Wing Watch, a not-for-profit organization of tourism and wildlife specialists to promote bird watching in a three-county shoreline region. In 2005, she worked to get Lake Erie Coastal Ohio Trail designated as a National Scenic Byway through the Federal Highway Administration.

As Executive Director of Ottawa County Visitors Bureau, Huntley established the Lake Erie Islands Regional

Welcome Center, a \$2.7 million center involving public and private partnerships. Huntley is one of the many Ohio residents who have made their careers in tourism, the third largest industry in Ohio.

"Tourism IS about jobs, 560,000 of them," says Huntley. "Tourism is also about letting others know that Ohio is a great place to live, play and work. In today's New Economy, more and more business owners seek locations that offer their employees a high quality of life."

DRINKING WATER

Method Shows Promise for Removing Cyanobacterial Toxin

Toxins produced by cyanobacteria, or blue-green algae, are to an increasing extent drawing scrutiny from regulators and water utilities alike. For example, *Microcystis*—a genus of cyanobacteria native to freshwater lakes and rivers—secretes a toxin known as microcystin-LR, which can cause liver damage in humans and animals if ingested. In recent years, drinking water contaminated with microcystin-LR has been associated with cases of liver cancer in China and the deaths of dialysis patients in Brazil. In the United States, blooms of *Microcystis* have prompted health warnings in Nebraska and elsewhere in the Midwest. Blooms in Lake Erie spurred researchers at Ohio State University to investigate the extent to which a combination of powdered activated carbon (PAC) and ultrafiltration membranes could remove the toxin during the treatment of drinking water. In a recently published article, the researchers noted that a bench-scale version of the process achieved promising results.

The World Health Organization has set a provisional concentration limit of 1 µg/L for microcystin-LR in drinking water. Although the U.S. Environmental Protection Agency has not set a drinking water standard for microcystin-LR, it has placed cyanobacteria and their toxins on its Drinking Water Contaminant Candidate List, the initial step in the process for determining whether a drinking water regulation is required for a particular contaminant.

However, many traditional methods of drinking water treatment have been found to be inadequate for removing microcystin-LR, says Harold Walker, P.E., an associate professor of environmental engineering in the civil and environmental engineering department at Ohio State. For example, such processes as coagulation "can actually increase the amount of toxin in the water" by disturbing the algae and releasing the toxin, Walker explains. Chlorination can be used to destroy microcystin-LR, but, he notes, the high dosage required can generate elevated levels of disinfection by-products.

In an article published in July on the Web site of the journal *Environmental Science & Technology* and scheduled to appear in print in the December issue, Walker and Jungju Lee, a doctoral student in Walker's department, described the success of their bench-scale system, which incorporated PAC and ultrafiltration membranes in removing the toxin. The study was funded by the Ohio Sea Grant College Program.

Microcystin-LR is small enough to pass through ultrafiltration membranes, a technology that to an increasing extent is being adopted by water treatment plants across the country. However, the toxin is an organic molecule, and PAC is known for its ability to remove organic molecules. The researchers wanted to see how well a combination of the two technologies could remove the toxin.

For the study, a PAC reactor that incorporated wood-based activated

carbon was linked to a membrane filtration system. A 1 L solution containing an initial microcystin-LR concentration of 50 µg/L was added to the PAC reactor and then pumped to the membrane system. Permeate and retentate were returned to the PAC reactor. Microcystin-LR levels were sampled in the feed, permeate, and retentate at various intervals.

The membranes used in the study were of cellulose acetate (CA) or polyethersulfone (PES), two common used materials. The pore sizes of the membranes were chosen on the basis of molecular weight cutoff, that is, the size of molecules the membranes can reject (Molecular weight cutoff is expressed in daltons.) The study employed CA and PES membranes with a molecular weight cutoff of 20,000 daltons, as well as PES membranes with a molecular weight cutoff of 5,000 daltons. Because microcystin-LR has a molecular weight of 1,000 daltons, the pores in the membranes used for the study were 5 to 20 times larger than the toxin, Walker notes.

The PAC reactor and the individual membrane systems were tested separately and together. Although the highest levels of removal were achieved by a combination of the two systems, most of the toxin, as expected, was removed by the PAC. However, the study found significant differences in the ability of the two membrane types to remove microcystin-LR. For example, CA membranes with a molecular weight cutoff

of 20,000 daltons removed essentially none of the toxin. By contrast, PES membranes with the same molecular weight cutoff removed nearly 80 percent of microcystin-LR, probably adsorbing it through hydrophobic interactions.

When combined with the PAC reactor, both membrane types exhibited higher removal rates. In fact, when the amount of activated carbon was increased in the feed solution from 2 to 5 mg/L, both types of membranes working with the PAC system removed more than 95 percent of the toxin. Ultimately, the best performance—98.8 percent removal—was achieved by a system that combined PAC with ultrafiltration and employed PES membranes with a molecular weight cutoff of 5,000 daltons. Although the addition of natural organic material to the feed solution reduced the extent to which the treatment system removed the toxin, this effect can be counterbalanced by increasing the amount of activated carbon, Walker says.

The ability to remove nearly all of the microcystin-LR by coupling activated carbon and ultrafiltration is the study's most significant finding, Walker says, because it "demonstrates at least at the lab scale an effective technology for dealing with this toxin that could be widely used by water utilities."

Before that can be accomplished, however, the system combining PAC with ultrafiltration needs to undergo additional testing, Walker notes. "The next step would be to demonstrate this on a pilot scale," he says, preferably at a water treatment plant treating source water with an ultrafiltration system during an algal bloom. Because ultrafiltration systems typically are modular, such a test could involve the use of only one or two of a membrane system's modules. "Assuming that there would be positive results, I think it would be pretty ready for implementation at the full scale," Walker says.

—Jay Landers



Lake Erie's Cool Fall Fishing

**By Kelly Riesen
Ohio Sea Grant Extension**

The rule of November fishing is that the weather rules. Late fall can be a tumultuous time on Lake Erie, but if the weather is good, it's one of the best months of the year for perch, smallmouth, and big walleye.

November is hard to beat for filling a cooler with jumbo yellow perch. On average, the late fall bite is faster and the fish are larger.

Perch can be found outside of major harbors where they already are congregating to be ready for spawning next spring. In the Western Basin, try fishing 25 to 35 feet of water, and in the Central Basin, 35 to 50 feet. Some schools of perch move into shore close enough to be caught by anglers fishing from piers.

The best bait for attracting yellow perch is live emerald shiners. If shiners are not available, try pieces of night crawlers, wax worms, or small chubs.

The key to November smallmouth fishing is figuring out the depth at which bass are holding. As the water cools, bass will remain near deep water humps offshore of their springtime spawning areas.

Any of the reefs around the Bass Islands are good places to find smallmouth. Start looking in 20 to 25 feet of water for a hump or other prominent structure that's different from the surrounding area. Some good places to try are Kelleys Island Shoal, the western side of North Bass Island and Lucy's Point off the northeast end of Middle Bass Island. Niagara, Crib and Cone Reefs also have become popular for smallmouth in recent years.

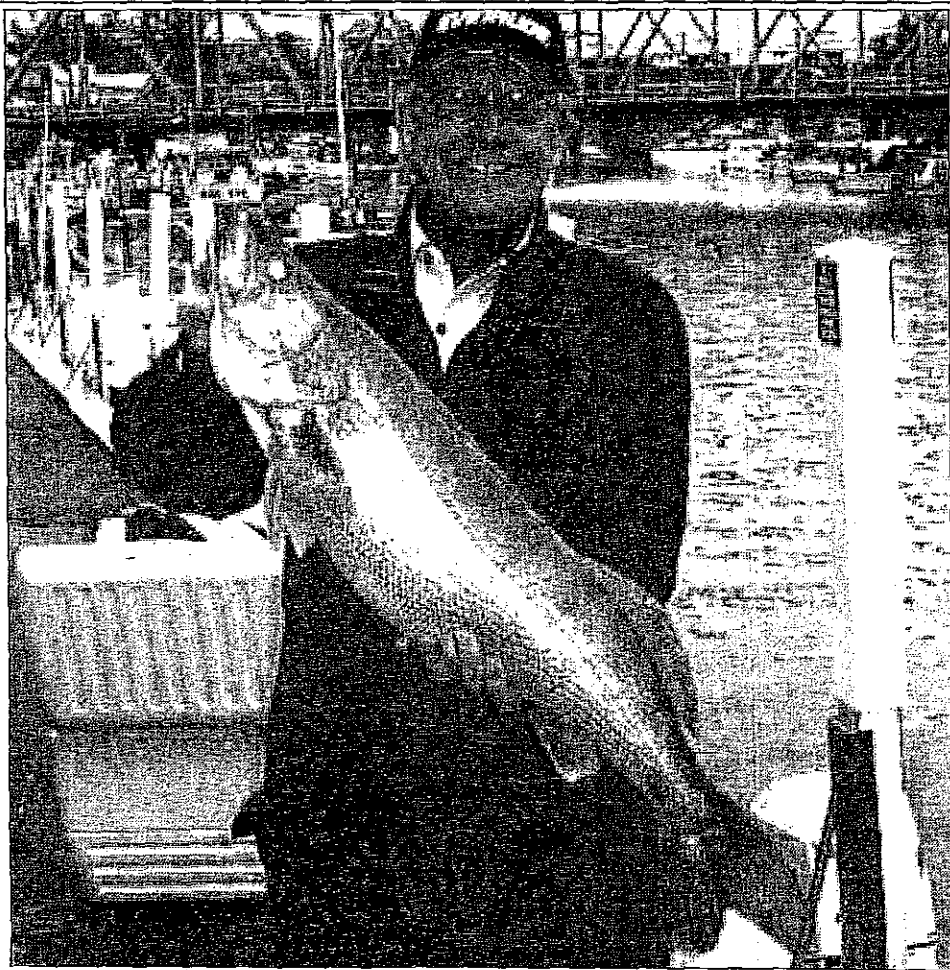
In the Central Basin, try the artificial reefs off Cleveland, Lakewood, and Lorain. These manmade structures are in about 25-26 feet of water and seem to attract bass increasingly as fall progresses.

Smallmouth will often hold on the windy side of a structure because a current forms there. After a hard blow, disoriented bait fish and higher turbidity will often send bass into a feeding frenzy.

Tube jigs and round goby imitations are popular at this time of year for catching smallmouth. But fishing live minnows or soft craws straight down will probably yield the best results in late fall.

November nights also see shoreline wall-

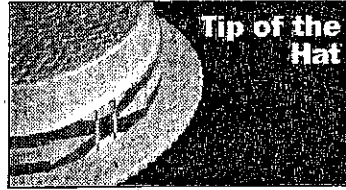
(Cont'd on page 28)



Late fall is one of the best times of year to find Lake Erie's biggest walleye in full feeding mode.



Jumbo perch make filling the freezer easy as autumn's cooling water puts them on the feed.



Area marina receives 'clean' certification

Sima Marine Sales of Eastlake has received certification as an Ohio Clean Marina, according to the Ohio Sea Grant Program, which developed the Ohio Clean Marinas program in partnership with the Ohio Department of Natural Resources (ODNR).

The Ohio Clean Marinas Program is a proactive partnership designed to encourage marinas and boaters to use simple innova-

tive solutions to keep Ohio's coastal and inland waterways clean.

The Ohio Clean Marinas Program assists participating marina operators in protecting the resources that provide their livelihood-clean water and fresh air.

The primary goal of the Ohio Clean Marinas Program is to promote environmental stewardship by encouraging marinas and boaters to adopt a series of best management practices that help increase awareness of environmental laws, rules and jurisdictions.

For more information on the Ohio Clean Marinas Program, visit the web site at www.ohio-cleanmarina.osu.edu.

The Greater Cincinnati Herpetological Society

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Conservation

November, 2006 Meeting: Kristen Stanford: Conservation efforts of two Ohio species: The Eastern Fox Snake and the Lake Erie Water Snake

Date: November 1, 2006

Time: 7:00 PM

Location: Cincinnati Nature Center, Rowe Woods [directions](#)

Event Details and Additional Information

The October program will feature Kristen Stanford, who is making a long trek in from Northern Ohio to speak to us about her conservation efforts with the Lake Erie Water Snake (an Ohio Endangered Species) and the Eastern Fox Snake.

On Kelley's Island she is known as the "Island Snake Lady." Kristen Stanford is the research/outreach coordinator for the Lake Erie watersnake through Northern Illinois University, but she works out of The Ohio State University's Stone Laboratory. She has officially been in this position since 2003.

Kristen is also a PhD student at NIU. Her work focuses on the introduction of the round goby has influenced the population demographics (survival, reproduction, population growth rate) of Lake Erie Water Snakes.

Recently, she has come to the conclusion that the outreach and management aspects of what she is doing are FAR more important in terms of long term conservation of the snake than the short term research projects.

Here are a few other conservation projects that Kristen is involved with:

- Currently working (with friend Kent Bekker) on a radio-telemetry/mark-recapture project with Eastern Fox Snakes in Ohio, re-assessing their status and distribution .
- Collaborating with other researchers from Michigan and Canada in hopes of gathering and compiling new information for the Eastern Fox Snake throughout its range.
- Member of the recovery team for the Eastern Plains Gartersnake in Ohio.
- Working in the summer as a supervisor in Stone Lab's REU (Research Experience for Undergraduates) program. She has sponsored 11 undergraduates from 6 universities since last year.

Lake Erie's Cool Fall Fishing



By Kelly Riesen
Ohio Sea Grant Extension

The rule of November fishing is that the weather rules. Late fall can be a tumultuous time on Lake Erie, but if the weather is good, it's one of the best months of the year for perch, smallmouth, and big walleye.

November is hard to beat for filling a cooler with jumbo yellow perch. On average, the late fall bite is faster and the fish are larger.

Perch can be found outside of major harbors where they already are congregating to be ready for spawning next spring. In the Western Basin, try fishing 25 to 35 feet of water, and in the Central Basin, 35 to 50 feet. Some schools of perch move into shore close enough to be caught by anglers fishing from piers.

The best bait for attracting yellow perch is live emerald shiners. If shiners are not available, try pieces of night crawlers, wax worms, or small chubs.

The key to November smallmouth fishing is figuring out the depth at which bass are holding. As the water cools, bass will remain near deep water humps offshore of their springtime spawning areas.

Any of the reefs around the Bass Islands are good places to find smallmouth. Start looking in 20 to 25 feet of water for a hump or other prominent structure that's different from the surrounding area. Some good places to try are Kelleys Island Shoal, the western side of North Bass Island, and Lucy's Point off the northeast end of Middle Bass Island. Niagara, Crib and Cone Reefs also have become popular for smallmouth in recent years.

In the Central Basin, try the artificial reefs off Cleveland, Lakewood, and Lorain. These manmade structures are in about 25-26 feet of water and seem to attract bass increasingly as fall progresses.

Smallmouth will often hold on the windy side of a structure because a current forms there. After a hard blow, disoriented bait fish and higher turbidity will often send bass into a feeding frenzy.

Tube jigs and round goby imitations are popular at this time of year for catching smallmouth. But fishing live minnows or soft craws straight down will probably yield the best results in late fall.

November nights also see shoreline walleye fishing get hot. Piers from Cleveland to Toledo that put you in casting range of deeper water will produce big fish that are feeding to put on weight for winter.

If the wind has really been kicking and the waves are huge, don't bother. But if the lake is fairly calm, it's time to try for walleye. Trollers will also have luck catching walleye in these near shore areas in November.

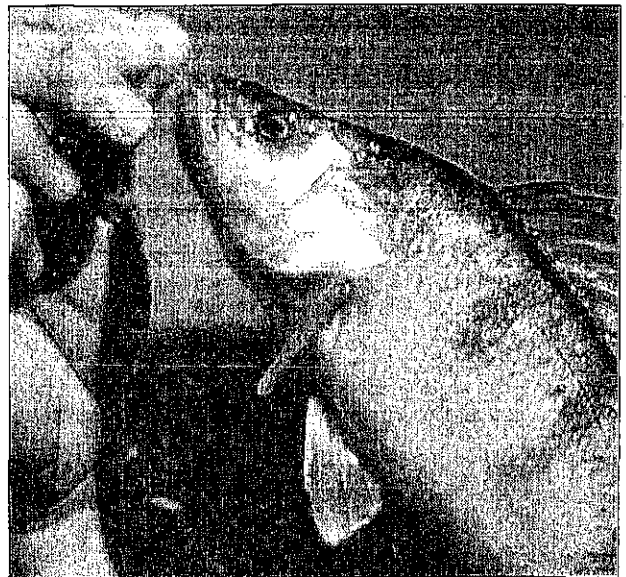
The best time to fish for walleye from shore is in the early evening just after the sun has gone down. Walleye are in nearshore areas chasing gizzard shad and will often strike crank baits cast from shorelines or piers.

Some places to try in the Western Basin are Cullen Park in Toledo, Catawba State Park, the Lakeside Pier, Marblehead Lighthouse, and the Jackson Street Pier in Sandusky.

In the Central Basin try Huron Pier and the Nickel Plate Beach Pier in Huron, Main Street Beach in Vermilion, the Port of Lorain, and Cleveland Lakefront State



Late fall is one of the best times of year to find Lake Erie's biggest walleye in full feeding mode.



Jumbo perch make filling the freezer easy as autumn's cooling water puts them on the feed.

For those with an adventurous streak looking for new game, try Lake Erie whitefish. Whitefish, a tasty and popular commercial fish in the upper Great Lakes, have increased in numbers in Lake Erie.

Whitefish move onto the reefs of Lake Erie's western basin during late fall to spawn. Walleye, bass, and yellow perch anglers rarely catch these fish because their baits are too large.

Whitefish eat very small organisms. To catch whitefish this fall, use the small jigs normally reserved for ice fishing and tip them with a maggot. Jig this setup just off the bottom. Niagara and Crib reefs are logical starting places.

Fall steelhead fishing peaks in November. Many of these silvery, lake-fresh fish have moved into the rivers and streams and will remain there throughout the winter.

Choose a day when river flows are not too high or too low. If the water has a greenish tint, it's time to fish.

Remember that even though certain rivers are not stocked, they still receive runs of steelhead. Arcola Creek, the Cuyahoga, Black, and Huron Rivers produce good catches.

Joe Moravec, veteran steelhead angler and president of the Ohio Central Basin Steelheaders club, says "By November we usually have several rain events and cooler temperatures that push fish up stream. The Grand River has excellent access at Recreation Park in Painesville and at Helen Hazen Wyman just south of Painesville."

"The Chagrin River has excellent access at Daniels Park, Todd Field and Chagrin River Park. By November the fish are in strong all the way up to and past Route 90," says Moravec.

Use baits or flies that are right for the water conditions. If the water is high and muddy, Moravec uses larger and more colorful flies or switches to spinning gear and bait.

It's essential to use caution when fishing on Lake Erie in November as conditions can change rapidly. Use good judgment and have a great time catching autumn's Lake Erie bounty.

OHIO STATE RESEARCH

Lowly algae may help fight against terror

Sunday, November 12, 2006

Mike Lafferty
THE COLUMBUS DISPATCH

Most of us think of algae as mere pond scum, but Ohio State University scientists say these microscopic, plantlike organisms could help save people from a terrorist attack.

The National Institutes of Health has awarded \$4.5 million to OSU researchers to bioengineer a human protein to attack nerve-gas agents in a victim's bloodstream. Researchers will develop a method to use algae as tiny factories that could manufacture large quantities of biological antidotes.

The idea is to improve a human protein that scientists at the Army's Fort Detrick in modified and successfully tested in guinea pigs.

"You can give lethal doses (of nerve agent) to these animals, and they act like nothing is going on," said Ohio State agricultural biochemist Richard Sayre, who is leading one of two teams working on the research.

Making the antidote is slow and expensive.

"The bottom line is we can't meet the demand to stockpile enough. So the thought was to make it in plants," Sayre said.

Algae are even better.

"You can also put algae in a tank, which you can't do with a plant, and after they secrete the protein, it's easy to harvest."

And unlike the goats that are currently used to manufacture the protein, there's no risk algae carry any scary pathogens that might infect humans. Sayre's group will receive \$2.8 million during five years while chemists led by Christopher Haddad will receive \$1.7 million to develop better ways to break down toxic chemicals.

The possibility of a nerve-gas attack, similar to the 1995 attack by a Japanese terrorist group on the Tokyo subway that killed a dozen people, is an Achilles' heel in disaster planning.



Richard Sayre, of Ohio State



Researchers will use *Chlamydomonas* to produce anti-toxins.

About 1,000 people were injured when members of the Japanese group Aum Shinrikyo set off sarin gas on subway trains. More than 5,000 were exposed to the gas.

Gerald Ledlow, a community preparedness expert at Georgia Southern University in Statesboro, said antidotes that use human proteins could attack a wider spectrum of agents than chemical antidotes.

Ohio State scientists will alter copies of the human gene that produces the detoxification protein so that it produces a more effective version. This altered gene would be cloned and the copies inserted in the genetic material of algae, which would make the protein as part of its life cycle.

Microorganisms have been used before to cheaply produce drugs and other substances. Insulin, for example, is made by inserting the gene responsible for its production into bacteria.

The alga of choice is known as *Chlamydomonas*, which is in soil and ponds worldwide.

"In Antarctica, it's the most abundant life-form," Sayre said. Researchers probably know more about the genetics of the alga than any other algae.

Here's the way researchers hope it will work:

- The human gene will be cloned in *E. coli* bacteria and then isolated from the bacteria.
- Scientists will add mutations to make the gene guide the formation of a more-potent detoxifying protein. This new synthetic gene is then reinserted in *E. coli* to clone many copies.
- Finally, researchers will use a gene gun to shoot the genes into the nuclei of the algae, where they will guide the algae to produce the protein.

The goal is to increase production tenfold. The nation's entire supply of detox protein could be made in a 60-acre pond that's 1 foot deep, Sayre said.

The government also wants to extend the protein's life in the bloodstream after injection. A stronger, longer-lasting antidote could be administered in advance of a possible attack or in victims after an attack.

"You wouldn't have to worry quite so much about when you might be exposed if you're on a battlefield," said David Lenz, who led the team of Army researchers that isolated the original detox protein at Fort Detrick.

The OSU research funds come from a \$14.4 million project led by Lenz to develop an improved protein and manufacturing system.

Homeland Security officials fear al-Qaida is working on biological and chemical weapons. In 1998, former President Clinton ordered a cruise-missile attack that destroyed a pharmaceutical plant in Sudan where it was suspected that terrorist chemicals were being prepared.

Oh barf! Discovery Channel profiles 'dirty job' of NIU Ph.D. student

DeKalb, Ill. — When NIU research associate Kristin Stanford is successful at her job, biting and barfing often ensue.

Her work is so downright dirty and smelly that it will be featured in the Nov. 28 season premiere of Discovery Channel's popular program, "Dirty Jobs," with host Mike Rowe. The program will be rebroadcast several times that week.

Stanford is known to the locals in Ohio's Put-in-Bay Harbor as "the Island Snake Lady." Although working toward her Ph.D. in biology at NIU, she spends most of her time at Put-In-Bay, where she serves as recovery plan coordinator for the endangered Lake Erie Water Snake.

The region encompassing the islands and mainland of Lake Erie between the Ohio and Ontario borders is a paradise for boaters and fishermen. It's also the only place worldwide where the snakes can be found. Out of necessity, Stanford, a native of Mt. Prospect, has become an expert at catching the creatures, which might be likened to the punk rockers of the Great Lakes' reptilian world.

"These water snakes are probably the smelliest, dirtiest snakes out there," Stanford says. "When you pick them up, their defensive response is to thrash around and spray you with feces and musk. On the other end, they bite and bite and bite. It's not exactly a friendly snake."

Stanford estimates that she has been bitten thousands of times by the dull gray snakes, which grow as large as 3 ½ feet in length but are not poisonous.

"After you take a few bites each spring, you get used to it," she says. Once the snakes are brought back to the laboratory, they are measured, weighed and tagged with tracking chips. The scientists also induce captured snakes to regurgitate in order to examine their diet.

"I don't mind getting bit. It's kind of gross when they poop all over you. But the barfing is definitely the worst part," Stanford says. "It's really smelly."

Stanford has worked in Put-in-Bay for seven years under the tutelage of NIU Biology Professor Rich King, who himself is known as the godfather of the Lake Erie Water Snake.

He and his students have been monitoring the population of the water snakes for 25 years, and King's research contributed to a decision in 1999 by the U.S. Fish and Wildlife Service to list the snake as threatened under the Endangered Species Act.

Recovery efforts have been working in recent years. By King's estimates, the snake population has grown from as few as 1,000 in the early 1980s to 7,000 today.

"The goal is to get the animal off the threatened species list," King says. "It's an interesting situation because the snakes, which aren't exactly warm and fuzzy animals, live in a relatively small area that also happens to be a vacation hot spot where a lot of development is occurring. So there's a conflict between the snakes and humans, but it looks like this story will have a positive ending."

Stanford's job would accurately be described as half scientist, half outreach coordinator. In addition to monitoring the population of the snakes, she works to improve their nasty image. And she's getting help from an unlikely suspect—an invasive, bottom-dwelling fish known as the goby. The exotic species threatens the habitat of native fish, including walleye and smallmouth bass, which are prized by locals and tourists alike.

As it turns out, the water snakes have a voracious appetite for the pesky goby—a fact the scientists learned from studying the snakes' diet.

"We promote the beneficial effects of the snake to fishermen," Stanford says.

"If you don't get the local people involved and willing to make some sacrifices, nothing is going to protect that water snake. You don't want to find out what happens to the balance of an ecosystem after a native species is gone."

The "Dirty Jobs" program provides a unique platform to educate the public about the Lake Erie Water Snake. And it also fulfills a lifelong dream for Stanford. When in high school, the aspiring biologist would tell friends they would see her someday on Discovery Channel. Earlier this year, Stanford's fiancée urged her to email the show with a description of her work.

The show's producers bit the next day.

After months of planning, Mike Rowe and his "Dirty Jobs" crew visited Put-In-Bay in August. And, yes, Rowe learned to catch snakes and "puke a goby." Stanford isn't sure if he enjoyed the experience, but she has no desire to trade in her line of work for something less foul.

"I love having a job where you can do both research and outreach," she says. "And I get to be the Snake Lady. How cool is that?"



Kristin Stanford

To obtain print-quality JPEGs, contact the Office of Public Affairs at (815) 753-1681 or e-mail publicaffairs@niu.edu.

11.17.2006. "Stanford sipedon a discovery dirty." SNAKESOFARKANSAS.COM

NEWS RELEASE

The Center for North American Herpetology Lawrence, Kansas <http://www.cnah.org>
17 November 2006

STANFORD SIPE DON A DISCOVERY DIRTY

Earlier this year, Mike Rowe and his Dirty Jobs show crew filmed a segment for release on the Discovery Channel about Kristin Stanford (of Northern Illinois University) and her work with Lake Erie Water Snakes at South Bass Island in Lake Erie. The day of the big premier is set for Tuesday, 28 November at 9 pm on Discovery Channel. It will be the last segment (which is the title segment) of the season premier show, which is exciting considering that snakes are the prime topic. And especially since Dirty Jobs is now the highest rated show on the Discovery Channel.

"Obviously, I'm really anxious about this, although I keep telling myself that there's nothing I can do. The filming is done. Twelve hours of film actually . . . all condensed into fifteen minutes. I wonder what they will pick to show out of all that," said Kristin. "I am very excited though, because I think this will be the most extensive thing I've been able to do yet as far as educating people about the snakes I work with. It seems strange, but people from all over the country will now know what a Lake Erie Water Snake is and what kinds of things we are doing to study them and conserve them. For me, that's huge," she said.

So where will she be on 28 November 2006? The islanders are throwing her a party at Tippers on South Bass Island. Obviously, she welcomes everyone to attend . . . but she'll understand if most of you can't make it! She does look forward to hearing the reactions from those that can watch the show. Contact her afterward at

theislandsnakelady@yahoo.com

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Anglers will Feel the Effect of VHS BY STAFF REPORTS -
Nov. 17, 2006

By KELLY RIESEN, OHIO SEA GRANT EXTENSION

CLEVELAND -- Something big has happened that will affect the fishing on Lake Erie and the rest of the Great Lakes in the coming years. It's not bad walleye hatches or commercial fishing nets; it's VHS.

VHS, or viral hemorrhagic septicemia, is a rhabdovirus that most commonly infects salmon and trout. The disease is found in continental Europe and was also endemic to the western United States...until now.

In the spring of 2006, dead fish, mainly freshwater drum and yellow perch, began washing up on Lake Erie's shoreline. The Ohio Department of Natural Resources, Division of Wildlife sent some of the fish for testing, and the results came back positive for VHS.

The original virus, which was found only in salt water fishes, has mutated into the form that is now infecting freshwater fish. Many afflicted fish show acute signs of the disease, including bulging eyes, lesions, and bloated abdomens. However some fish are carriers but show no signs of the disease.

These "carriers" can spread the VHS virus to other fish via urine, feces, or other body fluids. Luckily, the virus cannot be spread to humans.

It is not known how VHS got into the Great Lakes or how long it's been here, but it is likely that ballast water transfer from large ships has played a significant role.

On October 24, 2006, the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS), issued a temporary federal order to stop all commercial live fish shipments from two Canadian provinces and all U.S. states surrounding the Great Lakes. The unexpected order will have far-reaching implications for anglers, aquaculture facilities, and the Great Lakes bait industry.

Emerald shiners, rainbow trout, channel catfish, yellow perch, and largemouth and smallmouth bass are among the 37 species of fish listed in the APHIS order. This list is expected to grow as more fish in the Great Lakes are identified as VHS carriers.

Emerald shiners, the most popular minnow for use in ice fishing and yellow perch fishing, will be hard to come by and more expensive. A large part of the emerald shiners purchased in Ohio bait stores come from New York. If you were planning to have your pond stocked with bass, bluegill, catfish, or pike in the near future, you may be out of luck if those fish have to come from another state.

The Ohio Division of Wildlife's steelhead stocking program could also temporarily be put on hold. The Division trades catfish fingerlings for Michigan steelhead eggs every year for rearing at their Castalia hatchery.

Though live eggs can be shipped across state borders, the catfish fingerlings cannot. According to Kevin Kayle, Fisheries Biologist Supervisor at Ohio Division of Wildlife's Fairport Fisheries Unit, "The Ohio Department of Natural Resources is focused on trying to find a workable solution with APHIS for the final ruling on the VHS order."



Those that have jobs or businesses in the bait or aquaculture industry will be hardest hit by the APHIS order. There are approximately 300 bait stores in Ohio, many of which will have their businesses threatened because they can't get bait fish to sell.

Gene Cizmadia, bait wholesaler and owner of Crawlers Unlimited in Hinckley, says "The main concern is getting bait fish, mainly emerald shiners, into Ohio. Prices will skyrocket if we have to get bait from Arkansas or other southern states."

Fathead minnows, the bait fish used in most counties not bordering Lake Erie, are not currently on APHIS' restricted list. But the agency warns that new species can be added to the list quickly if they test positive for VHS.

Ray Petering, Executive Administrator for Fisheries Management with Ohio Department of Natural Resources, has been on the front lines of this battle trying to persuade APHIS officials to amend or drop the emergency order.

Petering says, "We're trying to convince APHIS to put decisions about fish movement within the Great Lakes states back into the hands of the states."

The ODNR also proposed a new federal order that would deal with ballast water, which has essentially been ignored by APHIS. Petering notes, "It's ludicrous to ban live fish shipments without taking into account that the shipping industry is probably a more potent vector of VHS."

Ships have not been banned from taking on ballast water in Lake Erie, moving to Lake Superior, and then dumping that ballast. In effect, the ships may be a culprit in spreading VHS.

On November 14, APHIS announced modifications to the federal order. The amendment most important to anglers says that live fish can be moved across state lines, however any VHS-susceptible species must have documentation stating they are VHS negative.

This comes as a disappointment to ODNR officials. Testing is expensive and could force many small bait producers to go out of business. Some of the Great Lakes states have asked that APHIS fund the testing, but APHIS has failed to comment.

According to Petering, there is "...no infrastructure in Ohio to aid in testing fish for VHS or to enforce the rules...so someone is going to have to foot the bill to establish testing facilities and hire enforcement people." ODNR will continue to pursue amendments to the existing order.

While the APHIS order won't stop anglers from having a good time on Lake Erie, watch for the availability of bait to go down and the price to go up.

Discovery Channel

Lake Erie Researcher Takes On

To Feature Local Biologist

Dirty Work For The Sake Of Snakes

BY ART WEBER
MIRROR OUTDOOR EDITOR

It's a dirty job but someone's got to do it.

And someone's figured out a way to make a television show out of dirty jobs.

The two come together next Tuesday, November 28, on the season premiere of the Discovery Channel's *Dirty Jobs*.

Kristin Stanford is that someone who does the dirty job, and she loves it. But loving it doesn't make it any less dirty.

Kristin Stanford is the Island Snake Lady, the Northern Illinois University PhD candidate and biology researcher who coordinates the effort to bring stability to the future of the Lake Erie water snake, a federally listed species.

Her summers are spent headquartered at Stone Lab on Gibraltar Island as she fans out onto the Lake Erie islands capturing, measuring, studying and analyzing this federally threatened species, while winters are at her Sandusky home where she crunches data, writes, reports, works on a PhD and stumps for the embattled snake.

"For some people just handling a couple of snakes is gross," Kristin said. "The snakes I deal with are the smelliest. All water snakes are the smelliest.

"Besides being aggressive when they're picked up they whip around and spray feces and musk all over. On the other end they bite and bite and bite.

"They'll regurgitate their most recent meal, although sometimes we make them regurgitate so we can analyze what they've been eating.

"We call that 'pukin' em.' If we see a bulge in their body we squeeze behind the bulge and work it up — we call that tooth-pasting."

All that was explained last summer to Mike Rowe, creator and host of *Dirty Jobs*, as he and his television production crew followed Kristin around for 12 hours.

Actually, the point of the show is for Mike Rowe to try his hand at these dirty jobs, so in Tuesday's episode he'll actually be assuming some of the snake handling duties.

In other words, he'll be catchin', pukin' and tooth-pasting these rare snakes right alongside Kristin.

"The premise is Mike has to do what I do," Kristin said. "He's a very, very funny, sarcastic guy. That's how he appears on the air and it's not an act."

While the viewing audi-

ence watches with a mix of disgust, fascination and laughter, Kristin is afforded a national stage to educate viewers on the Lake Erie water snake.

That's what this is really all about as far as Kristin is concerned.

"It's not a big fuzzy, cute, charismatic animal, but it is special," she said.

Spreading that message and building appreciation for the Lake Erie water snake has been one of the challenges

that Kristin has faced since summer 2000 when, as a research assistant, she participated in the initial study to determine habitat usage and map remaining habitat, information that was key to developing the recovery plan for the rare snakes.

Their nasty disposition aside, another challenge has been to convince island residents who commonly see these snakes that their future is in doubt unless their remaining habitat is protected and residents adopt a live-and-let-live relationship with the animal.

"It's difficult sometimes to get islanders who deal with so many snakes in their yards

to understand that on a worldwide scale they are nowhere else," Kristin said.

In fact, the entire range of this rare subspecies of the northern water snake is less than a mere 40 square kilometers.

"It's one of the smallest ranges of any vertebrate in North America," Kristin said.

The effort to protect the remaining snakes was brought about by three overriding conditions.

"First, there aren't many Lake Erie water snakes," she said. "Second, they're restricted to the Lake Erie islands, and the islands

are a hot commodity that are now almost 100 percent developed, so they've experienced massive habitat destruction.



"Third, it's well documented that one of the most significant reasons for the declining population was human persecution.

"These islands have gone from being known as the Islands of Snakes in the 1800s to the complete eradication of snakes from at least two islands, Green and West Sister, although they've now repopulated Green Island."

The overall target population for the Lake Erie water snake is 5,555 individuals and, according to Kristin, that number has been achieved. There are other conditions that still need to be achieved, but the species could be taken off the federal list within five years.

"I think that will probably happen," she said.

Kristin is reluctant to pat herself on the back, but, as the liaison who is making the recovery plan work, she could claim a lot of the credit for the successful comeback of the snake.

"I've been able to liaison between three areas that don't always see eye to eye," she said.

There's the research component, the human perspective composed of those constituents who live with the animals in their yards, and the management side made up of agencies working to ensure quality habitat and other conditions conducive to the snake's welfare.

"Sometimes they work well together but sometimes they each have their own goals and the challenge is to achieve a compromise," Kristin said. "I look at what I

do as bridging all those interests."

That side of the job, the part that includes standing up at public meetings and promoting the saving of the snake to sometimes hostile audiences, or dealing one on one with unhappy landowners, might be considered dirty work by some, but that side of the job won't be seen next Tuesday night.

It won't be the people, but the snake's biting, puking and musking that occupy the attention of the television crew.

And when the snakes regurgitate, what they'll find most of the time are gobies, that ugly, exotic invader of the Great Lakes that, unlike the Lake Erie water snake, really does have a negative impact on the lake's game fish.

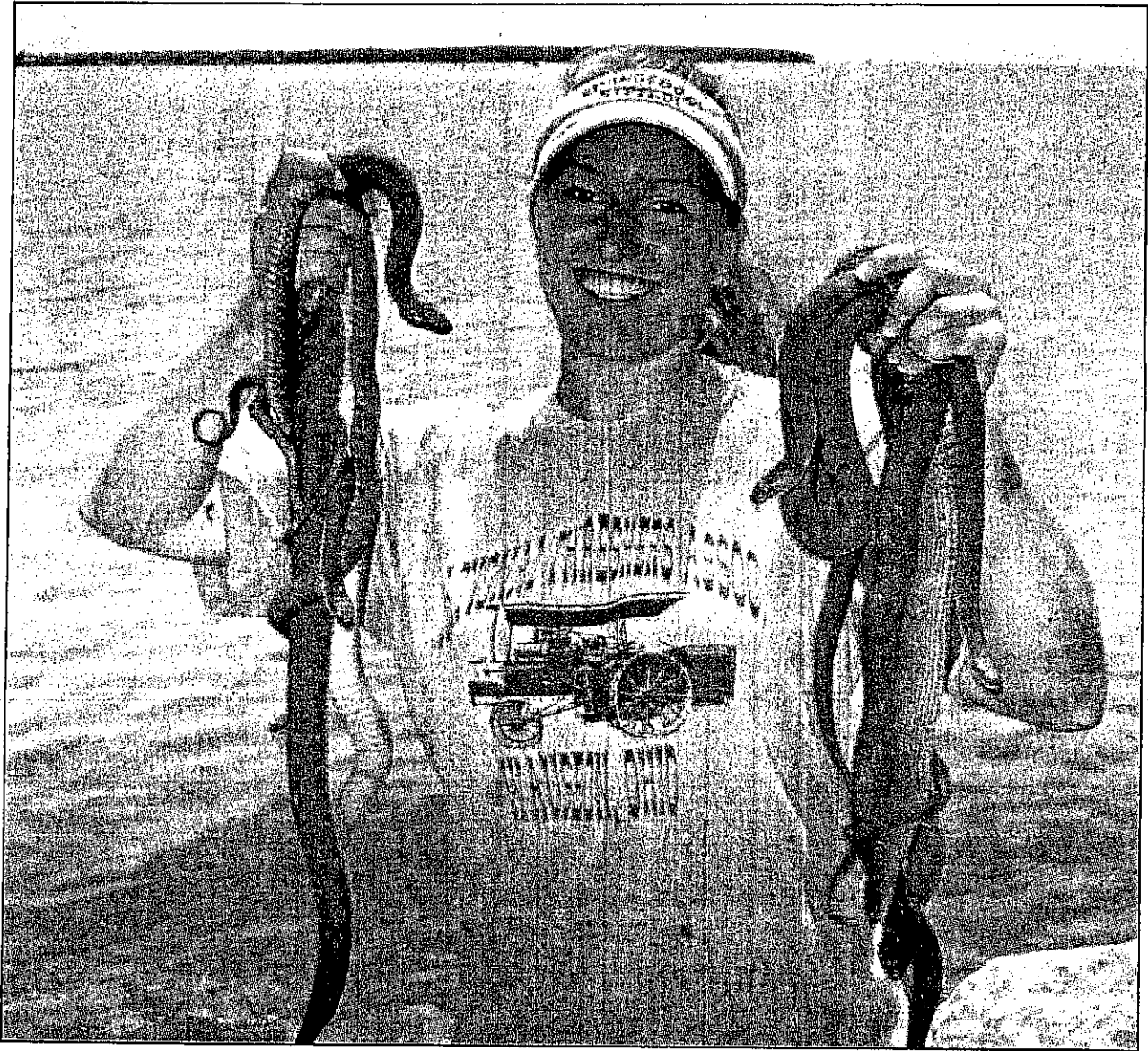
It may be gross, but it's also an excuse to add an explanation.

"One of the things we're using as a PR tool is to debunk the old misconception that water snakes eat game fish," Kristin said. "Instead we've found that they eat gobies almost exclusively and fishermen get excited about that."

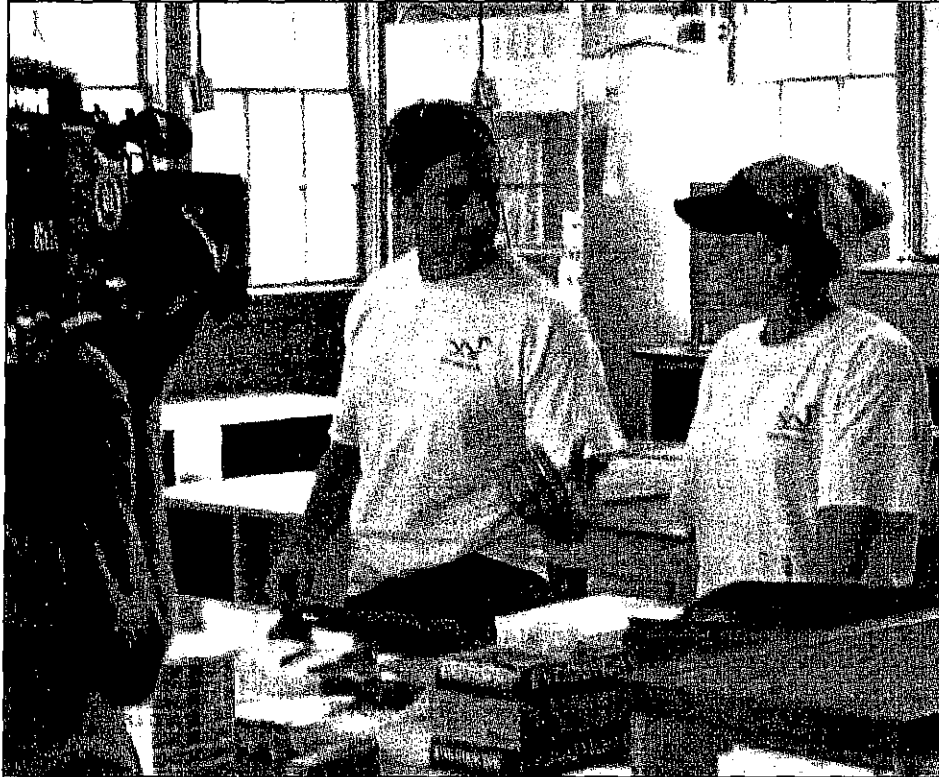
The chance to spread that information and advertise the support her work has received from diverse sources, including the Ohio Division of Wildlife, is the only incentive Kristin needed to embrace her appearance on *Dirty Jobs*.

"It seems weird, but people from all over the country will now know what a Lake Erie water snake is and what kinds of things we are doing to study them and conserve them," she said. "For me, that's huge!"

And worth all the dirty work that's full of biting, puking, musking and tooth-pasting.



Kristin Stanford shows off the reason she's known as the "Island Snake Lady." Her work in coordinating the recovery effort of the federally threatened Lake Erie water snake has earned her recognition far and wide. Kristin will be featured on the Discovery Channel's *Dirty Jobs* on Tuesday, November 28 at 9:00 p.m. PHOTOS COURTESY OF KRISTIN STANFORD



Kristin Stanford, Lake Erie water snake outreach and research coordinator, (right), helps Mike Rowe, host of the Discovery Channel's *Dirty Jobs* program, work with the snakes in Ohio State University's Stone Lab on Gibraltar Island.

Marine researcher featured on Discovery Channel's "Dirty Jobs"



Kristin Stanford

STONE Laboratory and Ohio Sea Grant researcher, Kristin Stanford, will be featured in the Discovery Channel's popular "Dirty Jobs" programme in its season premiere on Tuesday, November 28th at 9pm.

"Dirty Jobs" programme host Mike Rowe and his crew follow Stanford for 10 hours as she catches and weighs snakes, and analyses their vomit.

Stanford, who is working on her PhD at Northern Illinois University, has spent the past several summers researching the threatened Lake Erie water snake from her base camp at Stone Laboratory on Lake Erie. "These snakes are probably the smelliest and dirtiest out there. So, it's definitely a dirty job," Stanford says. "And they're not exactly a friendly snake. They love to bite."

This Dirty Jobs episode provides a wonderful opportunity to introduce students to the world of research. "What's great about this show for college students is they can see exactly what cool things they can do in Ohio State University's Research Experience for Undergraduates Program, which is offered every summer at Stone Lab," explains Stanford.

The REU, or Research Experience for Undergraduates, Program at Ohio State allows students from all over the country to work on supervised, independent research projects in a variety of disciplines like herpetology, limnology, and fisheries. Students gain valuable skills in data collection and analysis, scientific reading and writing, as well as practice in oral presentation. This professional-level experience is an excellent preparation for graduate studies or professional life.

Several undergraduate students have worked with Stanford the past few summers on her snake research, with some recent students signing on for a second summer. "This type of hands-on, real-world research experience isn't available at many institutions at the undergraduate level," she explains.

Stone Laboratory, The Ohio State University's Island Campus and Ohio Sea Grant's research and education facility, provides Stanford with a perfect research base for studying the snakes.

"The Dirty Jobs segment was a wonderful way to promote Ohio State and Stone Lab, but we also hope it will capture students' interest in science research," says Stanford. "What's great is students from Ohio State and other universities can pursue that interest through Stone Lab's REU program and maybe those future students will find their own research featured on Dirty Jobs."

For more information about the Stone Lab REU Program, go to www.stonelab.osu.edu.

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NIU's 'snake lady' Gets National TV Exposure

By Aracely Hernandez
Staff Writer

They bite her and they smell, but Kristin Stanford is the biggest cheerleader for the Lake Erie Water Snake. The Northern Illinois University doctoral candidate said she became the *"Island Snake Lady"* by chance.

When she was working on her master's degree in biology, she spent a summer working with small mammals in Chile and the next summer with garter snakes.

The next year, NIU biology professor Rich King offered her an opportunity to work in Ohio on a project with the water snakes. The project would be another student's dissertation and she would be a field assistant. *"He said it would be a good summer job and I'd get involved with some research,"* she said.

The students were to put transmitters in the endangered snakes, which are indigenous to an island in Lake Erie. They would later use a radio to find out the snakes' patterns. But when the other student dropped out of school, King asked her to take over the project.

"When I came out to Ohio (in 2002) it was funny because a lot of residents knew the snake project was going to start," Stanford said. *"They knew it was a student named 'Terry,' and she was going to be the 'Snake Lady.'"*

Stanford, who is now the recovery plan coordinator for the endangered Lake Erie Water Snake, hadn't even seen a Lake Erie Water Snake, but area residents were calling her the *"Island Snake Lady"* when she arrived. *"Now I am the expert on them,"* the 30-year-old Mount Prospect native said with a laugh. *"Anyone with water snake questions contacts me."*

The snake is restricted to the island in the western basin of Lake Erie. The area where they live is less than 30 kilometers in diameter, she said. *"I had never been to the Lake Erie Islands,"* she said. *"I didn't even know about them until I came here to work."* And her work is dirty - so dirty it will be featured on Discovery Channel's *"Dirty Jobs."*

The show features host Mike Rowe taking on the duties of viewers who submit information about their dirty jobs. Episodes have featured Rowe working with exterminators and roadkill collectors, and on various construction jobs. Stanford said she e-mailed the show after her fiancé Matt Thomas and she watched a show that featured Rowe cleaning up on an Ostrich farm. *"He said, 'your job is dirtier than that,'"* she said and laughed. She e-mailed one night and the show's producers called her the next day wanting to know more.

"(The snakes) are definitely not the most charismatic," she said. *"They are fairly aggressive and smelly, hence 'Dirty Jobs' is coming out and doing a story about it."* The snakes eat bottom dwelling fish and aquatic amphibians. They live along the shore and go into the water to feed. They are about 4 feet long and weight a couple of pounds each.

"I was warned that they were a little more aggressive than garter snakes," she said. *"I was like, OK. It's going to bite me. As long as it's not venomous I can deal with it."* And for the past four year she



Northern Illinois University doctoral candidate Kristin Stanford shows off some of the endangered water snakes she is working with in Ohio. Provided ph

has because she wants to keep them from becoming extinct. That species of snake is listed as endangered in Ohio.

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Dirty Jobs

"Dirty Jobs," featuring Northern Illinois University research associate and doctoral candidate Kristin Stanford's work with the Lake Erie Water Snake, airs at 8 p.m. Tuesday on the Discovery Channel.

'Island snake lady' has date

By KRISTINA SMITH
Staff writer

PUT-IN-BAY — Kristin Stanford sticks her hand into a hole in the ground and pulls out a writhing, angry gray snake.

The animal, a non-venomous endangered Lake Erie Water Snake, bites Stanford, causing her hand to bleed, and sprays her with feces and musk. But Stanford isn't fazed.

Catching the reptiles is a spring and summer ritual for the 30-year-old Sandusky resident, known locally as "the island snake lady."

"They are kind of a smelly, gross snake," said Stanford, who has studied the snakes since 2000 on the Lake Erie Islands through Northern Illinois University, where she is working on her doctorate in biology. "They bite and bite and bite."

She tracks thousands, examining their size, movements, habitat, mating rituals and reproduction. To determine what they eat, she makes them throw up and analyzes their vomit.

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"It's good for conservation and diversity," said Carolyn Caldwell, program administrator in Wildlife Management and Research for the Ohio Department of Natural Resources, Division of Wildlife, an agency working with Stanford on her project. "It's nice to see a species that's maybe not as charismatic as a bald eagle getting equal publicity."

The Lake Erie Water Snake is an Ohio endangered species and is federally threatened, Caldwell said. It lives exclusively on the Lake Erie Islands and prefers rocky shoreline habitat.

"They're probably the smallest population of invertebrates (animals without a spinal column) in the world," she said. "They're really cool critters."

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Snake lady on television

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She has the rare opportunity to work in all three aspects of the animals' conservation: Research, management and public awareness, which includes teaching children at nature camps about snakes.

"I love what I do," she said. "It's very rewarding."

So appearing on one of her favorite TV shows to promote the snake is a big thrill. She pursued the network after she and her fiancé, Matt Thomas, watched the program when it featured an ostrich farmer.

"He turned to me and said, 'What you guys do is way more disgusting than that. You need to E-mail them,'" she said. "He bugged me for a week about it."

with Discovery Channel

Finally, she contacted the show with a brief description of her work. The next day, they sent her a response asking when they could bring a film crew to the island.

"The whole time I kept saying, 'I can't believe that Mike Rowe is here catching snakes with me,'" she said. "It's so surreal to me that people are going to be watching all over the country and know what our Lake Erie Water Snake is."

To celebrate, the islanders are having a party for her at Tipper's Seafood and Steak House at Put-in-Bay when the episode airs.

She hopes the show helps people understand the defensive animal, which can grow to three feet in length. It benefits Lake Erie because it mostly eats round gobies, invasive, bottom-dwelling fish that threaten the lake's ecosystem.



Submitted photo

KRISTIN STANFORD has her hands full of snakes. The Sandusky resident is known locally as "the island snake lady."

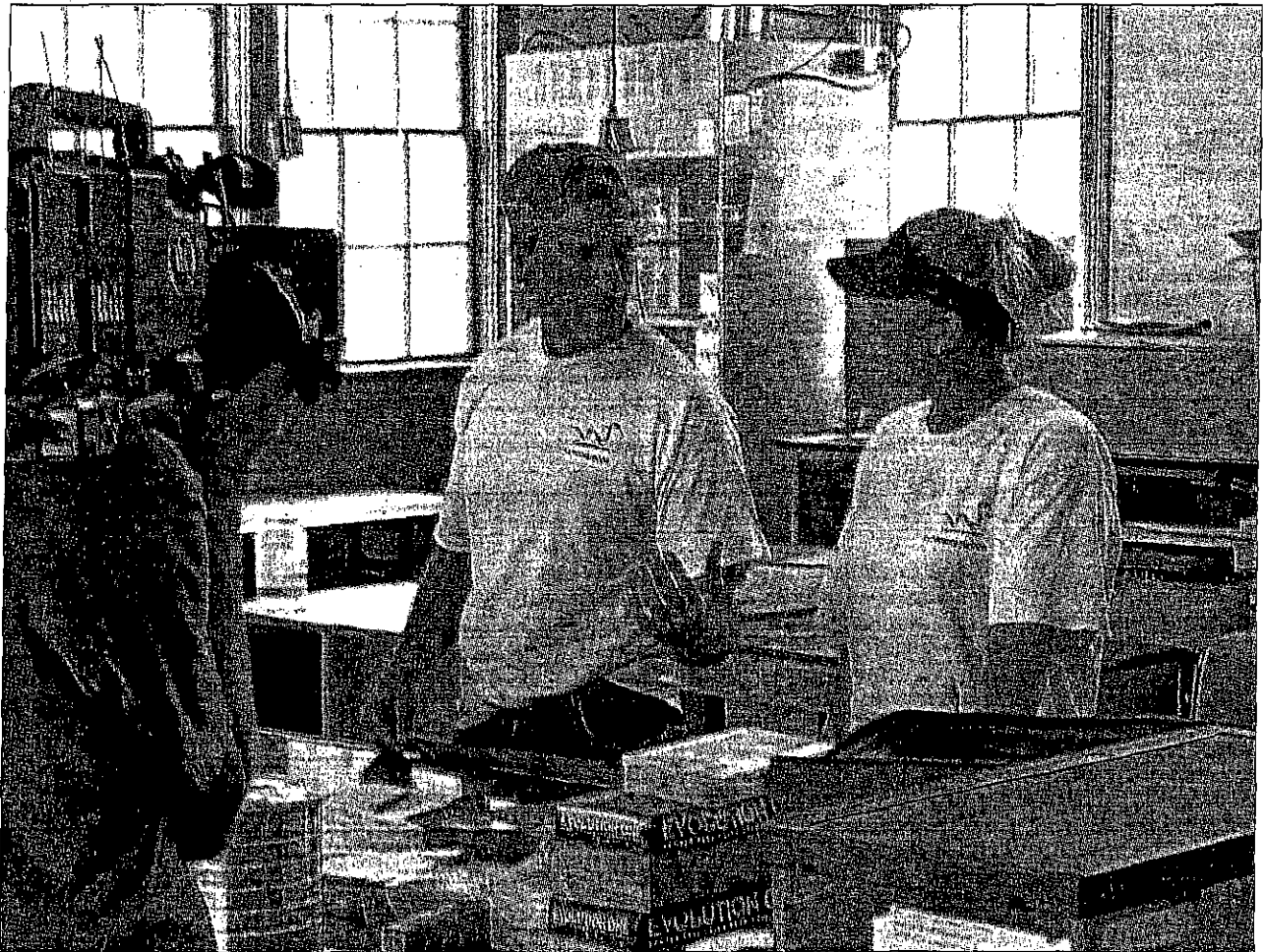
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The island snake lady



Submitted photos

Kristin Stanford, known on Put-in-Bay as "the island snake lady," is shown with Mike Rowe, creator and host of the Discovery Channel's "Dirty Jobs." Stanford's episode, focusing on her work with the endangered Lake Erie Water Snake, will air at 9 p.m. Tuesday.

Researching Lake Erie snake is one 'dirty job'

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ON TV TUESDAY

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Kristin Stanford poses with the focus of her research, the endangered Lake Erie Water Snake.

Snake lady on 'Dirty Jobs' Tuesday

Continued from A1

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E-mail Kristina Smith at mksmith@gannett.com.

The island snake lady: Researching Lake Erie snake is one 'dirty job'

By KRISTINA SMITH Staff writer

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E-mail Kristina Smith at mksmith@gannett.com.



Provided photo

Northern Illinois University doctoral candidate Kristin Stanford shows off some of the endangered water snakes she is working with in Ohio.

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▶ See SNAKES, Page A2

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Aracely Hernandez can be reached at ahernadnez@daily-chronicle.com.

TV show to feature research involving OSU students

Ohio State University's Stone Laboratory on Lake Erie will get some prominent television exposure at 9 p.m. Tuesday when the Discovery Channel's Dirty Jobs program features Kristin Stanford.

Stanford, an Ohio Sea Grant researcher, catches and weighs water snakes and analyzes their vomit with the help of Ohio State undergraduates. She has spent several summers on the research at Stone Laboratory.

Stanford is working on her Ph.D. at Northern Illinois University.

Board of Regents moves Web site , redesigns content

The Ohio Board of Regents has redesigned its Web site and changed its address to www.regents.ohio.gov.

The new site allows visitors to search, e-mail, bookmark and print most pages and includes new features, such as a guide with facts and statistics about Ohio colleges and universities.

All the content from the prior Web site is on the new site.

Marietta provost considered as Coastal Carolina president

Marietta College provost Sue DeWine is one of four finalists to be president of Coastal Carolina University in Myrtle Beach, S.C.

The candidates are scheduled to visit the school in early December, and the school's board of trustees is to select its new leader in January.

DeWine has been provost at Marietta, a small liberal-arts school, since 2000. From 1988 to 2000 she headed the School of Interpersonal Communication at Ohio University.

Ohio Dominican , community agree to be good neighbors

Ohio Dominican University has signed a Good Neighbor Agreement with the Teakwood Heights Civic Association, which represents the community just north of campus on Sunbury Road.

Under the pact, the two groups will work to improve Sunbury Road traffic and obtain funding that will help both groups.

Also, Ohio Dominican promised to share development plans with the association and only allow single-family homes on any Teakwood Heights property it buys.

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A Dirty Job

Ohio State researcher works
with Lake Erie water snakes



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Feature

A Dirty Job

Ohio State researcher studies Lake Erie snake



Think your job is tough?

Consider Kristin Stanford's.

Stanford is the resident researcher at Stone Lab, Ohio State's campus on Lake Erie's Gibraltar Island, where she's known as the Island Snake Lady.

Stanford studies the endangered Lake Erie water snake, a group of biters who spray musk and feces at researchers who pick them up. She catches the snakes, weighs them, and induces their vomit so she can check up on their diet.

"These snakes are probably the smelliest and dirtiest out there. So, it's definitely a dirty job," Stanford says. "And they're not exactly a friendly snake. They love to bite."

The bright side? "Lake Erie Water Snakes are aggressive, but are non-venomous so they pose no real danger in working with them," Stanford says.

Stanford is featured in the season premiere of the Discovery Channel's *Dirty Jobs* on November 28 at 9 p.m. The show will air periodically throughout the week.

The snakes may be gross. But to Stanford, they're also worth studying.

"They are a federally-threatened, state-endangered species that are found only on the Lake Erie islands, an area less than 40 kilometer in diameter, which is one of the smallest ranges of any vertebrate animal in North America," she says.

As recovery plan coordinator for the water snakes, Stanford's goal is to see the snakes removed from the endangered species list.

Filming *Dirty Jobs* was fun for Stanford--and she hopes it shows prospective Stone Lab students how interesting summer research can be.

"What's great about this show for college students is they can see exactly what cool things they can do in Ohio State University's Research Experience for Undergraduates (REU) Program, which is offered every summer at Stone Lab," explains Stanford.

Each summer, the lab attracts students from all over the country to work on supervised, independent research projects. Students learn to collect and analyze data, read and write for scientific journals, and present their research--great preparation for grad school and research jobs, Stanford says.

"This type of hands-on, real-world research experience isn't available at many institutions at the undergraduate level."

11.27.2006. "Lake Erie Watersnake on Discovery Channel." FWS.GOV.MIDWEST



**"It's a Dirty Job....
Just Ask the Island Snake Lady"**

Tune into the Discover Channel's season premiere of "Dirty Jobs" on Tuesday, November 28, to catch host Mike Rowe taking on the role of wildlife biologist as he works with the endangered Lake Erie watersnake. Taking over for snake researcher Kristin Stanford of Northern Illinois University, Rowe takes on snake-catching, measuring, weighing, sexing and even "diet analysis" (use your imagination here).

U.S. Fish and Wildlife Service biologists credit Stanford's work on Ohio's Lake Erie islands -- where she is known as the Island Snake Lady -- with developing an appreciation for the species among residents, a huge step toward species recovery. Stanford also does the "dirty" on-the-ground work of research, monitoring and securing funding sources to keep multi-year recovery efforts moving forward.

Catch "Dirty Jobs on Tuesday, November 28 at 9 p.m. Eastern and Pacific.

COLLEGE NOTES Ohio State Universitys Stone Laboratory on Lake Erie will get some prominent television exposure at 9 p m Tuesday when the Discovery Channels Dirty Jobs program features Kristin Stanford

Some Shoppers shun Black Friday fun Kristin Schumacher of Winona gets help from K-Mart assistant manager Al Weisbrod after Christmas shopping at the retail giant Saturday "This is my very last thing and now I'm done, " Shumacher said

Hollywood star wins theatre award Hollywood actress Kathleen Turner is named best actress at this year's Evening Standard Theatre Awards

Newlyweds take cue from their elders Kristin Lum had long admired the 62-year marriage of her grandparents, Ruby Heu and Dr Kwai Lum Choy of Manoa

Renters In A Squeeze In Landlord's Market, Would-Be Buyers Wait For Home Prices To Fall Kristin Zimmerman went looking for a new apartment recently after someone broke into her unit in a converted Victorian house in the Pacific Heights neighborhood of San Francisco

11.27.2006. 'Stone Lab researcher featured on Discovery Channel.' OSU TODAY

STONE LAB RESEARCHER FEATURED ON DISCOVERY CHANNEL

Discovery Channel's popular program, "Dirty Jobs" will feature Stone Lab's resident researcher, Kristin Stanford in its season premiere at 9 p.m. Tuesday (11/28). The segment will spotlight Stanford's research on the endangered Lake Erie water snake. Mike Rowe and his crew follows Stanford for 10 hours as she catches, weighs and analyzes snake vomit. Stone Laboratory is Ohio State's island campus on Lake Erie. [Read more](#)

Getting down and dirty for TV

Put-in-Bay 'snake lady' to be featured on Discovery Channel program

By **SUSANNE CERVENKA**

susannecervenk@sanduskyregister.com

PUT-IN-BAY

During a typical day on the job, snake researcher Kristin Stanford has Lake Erie water snakes bite, defecate and vomit on her. Multiple times.

Sound dirty?

It did for the Discovery Channel's hit TV series "Dirty Jobs," which sent host Mike Rowe to follow around Stanford — known as the Island Snake Lady — on the job at the Lake Erie Water Snake Outreach program. The episode airs at 9 p.m. Tuesday.

Stanford has been working since 2000 to

help revive the Lake Erie water snake, an endangered species known only to live within 25 miles of the Lake Erie Islands and educate the public about ways to co-exist with the creatures. Lake Erie Water Snake Outreach program exists through a partnership with Northern Illinois University, Ohio State University's Stone Lab, Ohio Department of Natural Resources and U.S. Fish and Wildlife.

Stanford's fiancé, Matt, egged her on to contact the show after watching an episode, at the end of which Rowe asks his audience to tell him about their disgusting jobs.

"(Her fiancé) said to me, 'What you do is totally gross,'" Stanford said.

After a week of being bugged about the

show, Stanford went onto its Web site and wrote up a description of her job on Dirty Jobs' discussion board.

"I totally didn't think they would respond," she said. "The very next day, they e-mailed back."

But the call back didn't put Stanford on the show quite yet.

Stanford had to provide information about what job tasks Rowe would be able to do, what the crew could film and highlights of the dirtier aspects of her job. Her information — which had Rowe helping catch snakes, determine their sex and study what they had eaten

■ See **DIRTY**, Page A2



Register photo/JASON WERLING

Put-in-Bay's Kristin Stanford landed a spot on Dirty Jobs after describing her snake research on the show's message board.

DIRTY

■ FROM PAGE A1

that ranked it with a number of other potential candidates.

It wasn't until a producer contacted her a couple weeks later that Stanford learned her job ranked at the top of all of those gross jobs.

On Aug. 10, Rowe spent 12 hours with Stanford on Put-in-Bay, where she does her research.

The first stop was South Bass Island State Park where Stanford and Rowe did a census of the site, searching for and catching about a dozen water snakes.

Sounds easy enough? Maybe not.

"It involves sticking your arm in between rock crevasses, feeling for a snake and pulling it out," Stanford said. "When you catch them, they bite you. That's a given."

Next, Stanford and Rowe took their loot back to Stone Lab where

they collected data including the snakes' measurements and sex as well as inserting a microchip under new snakes skins to track them.

While it seems like paperwork, it's anything but, Stanford said.

"The snakes writhe around and spray you with feces and musk," she said. "You just end up covered."

To top off the day, Rowe and Stanford had to check the diet of the snakes, and there's only one way to do that. Make it come up again.

Regurgitating snakes — what Stanford and other researchers jokingly call "toothpasting" — is actually quite easy, she said.

"You can see if they have a big fish in them. You put a little pressure behind it and push it up," she

said.

Most times, it only takes a little bit of squeezing before the snake takes over the task, Stanford said. All that remains is putting the remains in a jar and slapping on a label.

For Stanford, the exciting part about Tuesday is not watching what she does on television. It's seeing what "DIRTY JOBS" pulls from the daylong filming to put in the 15-minute segment.

Stanford said she thinks the show will help her as she works to educate the public about conserving the snake and keeping the population healthy.

That can be difficult because the small area in which the water snake lives — the smallest range for any vertebrate animal — can make it seem to the public like

they are in abundance.

"It's not uncommon for people to go out on their docks and see 50 snakes," she said.

Spotlighting the water snake may help some people realize what a unique creature lives in their backyards and have them adopt ways to live with the snakes instead of kill them, Stanford said.

"I don't expect people to all be snake lovers," she said. "One of the things we've been trying to do is figure out compromises to help people with them more readily."

As dirty as Stanford's job sounds, it has made strides toward protecting the Lake Erie water snake. The goal of the research program is to take the water snake off endangered species lists, which Stanford said could happen within five years.

Stone Lab Researcher Featured on Discovery Channel's Dirty Jobs

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Article By: Abbie Basile, Published: November 22, 2006

Stone Laboratory's resident researcher, Kristin Stanford, will be featured in the Discovery Channel's popular "Dirty Jobs" program in its season premiere on Tuesday, November 28th at 9:00 p.m.

"Dirty Jobs" program host Mike Rowe and his crew follow Stanford for 10 hours as she catches and weighs snakes, and analyzes their vomit. Stanford, who is working on her PhD at Northern Illinois University, has spent the past several summers researching the threatened Lake Erie water snake from her base camp at Stone Laboratory on Lake Erie. "These snakes are probably the smelliest and dirtiest out there. So, it's definitely a dirty job," Stanford says. "And they're not exactly a friendly snake. They love to bite."

This Dirty Jobs episode provides a wonderful opportunity to introduce students to the world of research. "What's great about this show for college students is they can see exactly what cool things they can do in Ohio State University's Research Experience for Undergraduates Program, which is offered every summer at Stone Lab," explains Stanford.

The REU, or Research Experience for Undergraduates, Program at Ohio State allows students from all over the country to work on supervised, independent research projects in a variety of disciplines like herpetology, limnology, and fisheries. Students gain valuable skills in data collection and analysis, scientific reading and writing, as well as practice in oral presentation. This professional-level experience is an excellent preparation for graduate studies or professional life.

Several undergraduate students have worked with Stanford the past few summers on her snake research, with some recent students signing on for a : "This type of hands-on, real-world research experience isn't available at many institutions at the undergraduate level," she explains.

Stone Laboratory, The Ohio State University's Island Campus located on Gibraltar Island on Lake Erie, provides Stanford with a perfect research base the snakes. "The Dirty Jobs segment was a wonderful opportunity to promote Ohio State and Stone Lab, but we also hope it will capture students' interest in research," says Stanford. "What's great is students from Ohio State and other universities can pursue that interest through Stone Lab's REU program those future students will find their own research featured on Dirty Jobs."



11-28-2006, 10:35 AM

Big Daddy

Team OGF/Media Relations



Big Daddy

Join Date: Apr 2004
Location: Cuyahoga Falls, Ohio
Posts: 8,802
Trader Rating: (1)



Ohioan Profiled on "Dirty Jobs" TONIGHT!!!

Here you go! When I was up at Gibraltar Island at Stone Lab, those snakes were everywhere. Should be a cool segment on "DIRTY JOBS" with Mike Rowe.

OHIO WILDLIFE RESEARCH HIGHLIGHTED ON

DISCOVERY CHANNEL SHOW

"Dirty Jobs" airs Tuesday, November 28 at 9:00 p.m.

FINDLAY, OHIO - A researcher involved in Lake Erie water snake research will be highlighted on the Discovery Channel's "Dirty Jobs" season premiere on Tuesday, November 28 at 9:00 p.m. The research is partially funded by the Division of Wildlife's Wildlife Diversity and Endangered Species fund.

Kristin Stanford, affectionately known around the Lake Erie islands as the "the Island Snake Lady," will appear with the show's creator and host Mike Rowe.

In each show Rowe showcases several different jobs by assuming the duties that the "experts" assign to him. The snake handling involved in the research of these aggressive snakes makes Stanford's work a very appropriate topic for a segment of "Dirty Jobs."

"I am very excited about being a subject on "Dirty

Jobs" because I think this will be the most extensive thing I've been able to do yet to educate people about the Lake Erie water snake," said Stanford. "It seems weird, but people from all over the country will now know what a Lake Erie Water Snake is and what kinds of things we are doing to study them and conserve them. For me, that's huge!"

Stanford is working toward her Ph.D. in biology at Northern Illinois University, but spends most of her time at Put-in-Bay, where she serves as recovery plan coordinator for the endangered Lake Erie Water Snake. The goal of the research, partially funded by the Ohio Division of Wildlife, is to remove the endangered reptile from the Federal Endangered Species List. Stanford's research has involved population assessments, habitat and movement studies via radio tracking devices, and diet studies for the past seven years.

"When you pick them up, their defensive response is to thrash around and spray you with feces and musk," said Stanford. "On the other end, they bite and bite and bite. It's not exactly a friendly snake."

Stanford estimates that she has been bitten thousands of times by the dull gray snakes, which grow as large as 3 ½ feet in length but are not poisonous.

The population of the snake, found only on the islands of western Lake Erie, dramatically declined for more than 50 years. Recovery efforts for the snake have been working in recent years as researchers estimate the snake's population has grown from as few as 1,000 in the early 1980s to 7,000 today. The primary cause of their decline was habitat loss by development and persecution by humans.

Carl

Saving snakes:

NIU research associate to appear on TV show 'Dirty Jobs' tonight

Justin Weaver
jweaver@northernstar.info

DeKALB | For Kristin Stanford, an NIU research associate, it's just another day at the office, or more specifically, Ohio's Put-in-Bay Harbor, where she is working to save the endangered Lake Erie water snake, an effort that will soon garner her national fame.

"When you aggravate them, they'll bite repeatedly and violently spray you with poo," she said. "They also have musk glands that secrete a nasty odor. And, if they've eaten recently, they'll puke on you."

Stanford will appear tonight on the program "Dirty Jobs" at 8 p.m. on the Discovery Channel, and will re-air several times throughout the week. The program follows host Mike Rowe as he investigates the filthiest professions in America.

Stanford, who has been a research associate at NIU since January 2003, has been working with the Lake Erie water snake since 2000, a relationship that was spurned by chance.

"I was getting my master's at the time, and was only supposed to be a field assistant," she said. "But, another grad student didn't want to do it, so it just kind of fell into my lap."

Her research focuses on protecting the endangered snake, which is exclusive to Lake Erie. Stanford fo-

cuses on monitoring the snake population by capturing the snakes and taking them back to her lab, where microchips are inserted into the snakes to monitor their position and to learn how fast they grow.

"The island is a tourist hot spot, so there is a lot of habitat destruction. The best documented cases of snake deaths are intentional human killings," said Stanford, who has helped in conducting an education campaign for island residents to learn more about the snakes; they are not poisonous and pose no threat to humans.

Stanford and her constituents have achieved a measure of success in protecting the species, which currently has an estimated adult population of 7,000 in the United States, up from 2,000 in 1998.

The episode, which was filmed for 12 hours in August, is sure to present some of the entertainment the show is known for.

"They're going to pick out the dirtiest, grossest parts, but that's okay," Stanford said. Along with showing Rowe the basics of her job, Stanford also introduced him to the art of "toothpasting," which is how one induces vomiting in a snake.

For Stanford, the sudden fame has been a unique experience.

"Though it's pretty weird, it's also been fun," she said. "I'm nervous and excited. I won't believe it until I see it."

Justin Weaver is a Campus Reporter for the Northern Star.



just another day at the office



But somebody has to do it | Kristin Stanford will appear on the Discovery Channel 8 p.m. tonight.

Courtesy

11.28.2006. "Radio interview with Mike Rowe from DIRTY JOBS "Island Snake Lady." WLVQ FM

'Snake Lady' loves her job

BY EILEEN O. DADAY
Daily Herald Correspondent

Mount Prospect native Kristin Stanford admits it: working with snakes is a dirty job.

The 1994 Prospect High School graduate and Northern Illinois University Ph.D. student serves as recovery plan coordinator for the endangered water snake, found only in Lake Erie.

It turns out her job was just dirty enough to serve as the premiere for the fourth season of the Discovery Channel's popular show "Dirty Jobs." The show aired Tuesday, but will be rebroadcast at 7 p.m. Friday and 11 a.m. Saturday.

"Dirty Jobs" profiles the so-called "unsung American laborers" who make a living doing unpleasant work that often is vital to a cleaner and safer environment.

Host Mike Rowe and his crew spent nearly 12 hours taping the 15-minute segment back in August. They docked at Put-In-Bay harbor in Ohio, where Stanford has conducted her field research for the last seven years and where locals refer to her as the "Island Snake Lady."

During the shoot, they caught as many as 20 of the dull-gray



PHOTO COURTESY OF NORTHERN ILLINOIS UNIVERSITY

Northern Illinois University student Kristin Stanford of Mount Prospect will be featured this week on the Discovery Channel's "Dirty Jobs."

snakes, which can grow to 3½ feet in length but are not poisonous.

The shooting took place just after Stanford's busiest season, when she conducts a census of the endangered animals and touches literally hundreds of snakes in a day. And she not just touches, but withstands the

biting and spewing of feces the snake often does as a defense mechanism. Each one of the snakes Stanford catches is brought back to her lab for processing, which includes having a microchip tag attached to it.

"I know the concept of snakes is fairly dirty, and that the thought of just even handling

one snake is out of the question for most people," Stanford, 30, said. "But the volume we handle is pretty gross."

Stanford had an interest in biology and working outdoors since she was a child, but working with snakes came at Northern, after completing her undergraduate degree there and before starting her master's degree.

"I originally had planned to do a project on small mammals for my master's project," Stanford said, "but I needed a summer job, and another professor needed an assistant in a garter snake project."

That biology professor, Rich King, and his students have been monitoring the population of Lake Erie's water snakes for 25 years. Their research led to a 1999 decision by the U.S. Fish and Wildlife Service to list the snake as threatened under the Endangered Species Act.

The water snakes are found only in the western basin of Lake Erie, which also happens to be near a popular resort area, close to Sandusky. The rise in development in the area, King said, contributed to the dramatic decrease in the number of snakes.

It's a dirty job, but 'Snake Lady' loves it

BY EILEEN O. DADAY

Daily Herald Correspondent

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Water snakes are necessary to the environment for their ability to eat the nonnative goby fish, which threaten native species including walleye and smallmouth bass.

But the snake population is rebounding. By King's estimate, it has gone from as few as 1,000 in the early 1980s to 7,000 today. They hope to get the snake off the endangered list.

But that's not Stanford's only goal.

"There's a whole other side of my job, that's in education and research," she said. "We take the snakes out to children, to let them know that the snakes won't hurt them and provide them the opportunity to handle them and ask questions."

"That look in their eye, when they first get to handle them," Stanford added, "that's what I love. They're hooked."



PHOTO COURTESY OF NORTHERN ILLINOIS UNIVERSITY

Northern Illinois University student Kristin Stanford of Mount Prospect will be featured this week on the Discovery Channel's "Dirty Jobs."

OHIO MARINA RECYCLING PROGRAM DEEMED SUCCESSFUL

Thanks to a two-year pilot program, which began in January 2006, over 50 tons of plastic shrink wrap used for boat storage escaped deposit into Ohio landfills this spring.

The program was created to encourage marinas and boaters to use simple, innovative solutions to keep Ohio's coastal and inland waterway resources clean by improving clean water and fresh air.

The program, joining Lake Erie marina operators, the Ohio Clean Marinas Program and Mondo Polymer Technologies, Inc., was able to recycle the shrink wrap into 21,000 useful highway guardrail components.



The shrink wrap, recycled from about 2,000 boats from this year, yielded about 101,000 pounds of the plastic product that is usually discarded in Ohio landfills. Another 46,000 pounds of greenhouse plastics generated by growers in the Lake Erie region was also collected and recycled through the program.

The program offers a no-cost shrink-wrap collection service every other week to over 50 marinas of Erie, Ottawa and Lorain counties. Collections from about 20 other marinas located in Lucas, Cuyahoga and Lake counties also take place by request.

If this debris is not recycled, it will create harmful financial and environmental effects such as decreasing landfill space and a potential source of debris harmful to aquatic life. Partners of this program are happy to be involved in a program designed to enhance Ohio's environment.

The program is expected to extensively expand in 2007.

The Ohio Clean Marinas Program is in partner with the Ohio Sea Grant, Lake Erie Marine Trades Association and the Ohio Department of Natural Resources.

Visit www.ohioseagrant.osu.edu/cleanmarinas/ for more information,

LEWS in the limelight!

Discovery Channel's "Dirty Jobs" to feature the Island Snake Lady and the Lake Erie Water Snake

Kristin Stanford, the Snake Lady

Life as a field biologist has been a fun and rewarding career choice. It's always interesting to see the reactions of people whom I meet, when I tell them what I do. "I study snakes." Their confused response is often times, "Why?"

It's true that being a field biologist often isn't the most glamorous profession. In fact, much of what I do is down right gross. Not many people allow their limbs to be regularly chewed on by dozens of watersnakes and come home from a day's work covered in snake poo.

Am I a weirdo? Maybe.

Thankfully, this is exactly the kind of job Mike Rowe, the creator and host of Discovery channel's dirty Jobs, looks for in a story. Mike and his crew recently came to Put-in-bay to spend a day filming with me in early August for an upcoming episode of "Dirty Jobs." If you have never seen the show, the concept is simple. The host, Mike Rowe, showcases three different jobs by assuming the duties that the "experts" give him. As the title of the show describes, the jobs Mike performs usually have a dirty aspect to them. And more often than not "dirty" is a bit of an understatement.

so how did they hear about the LEWS and the island snake lady? Well, I just e-mailed them. It was that easy. After watching the show one evening, my fiance looked over at me and suggested I tell them about my job. After several days of prodding from him, I posted a message on the "Dirty Jobs" discussion forum. Not in a million years did I think that I would get a response from their researchers the very next day asking me to contact them with more information!

After month's of e-mails, logistical planning and working around Mike's busy film schedule, we finally got a film date set for August 10. Beginning at 10 a.m., the crew filmed Mike conducting several aspects of the LEWS research that I do including snake catching, measuring, weighing, sexing and even diet analysis, better known as puking! We finally finished the shoot just before 8 p.m. It was an unbelievably fun experience.

Did we get good footage? did he manage to catch a snake? Well, you'll have to watch and see. The segment will be featured as the show's season premiere on Tues., Nov. 28 at 9 p.m.

I used to joke around with friends saying that one day they may see me on the Discovery Channel and gasp saying, "I know that girl!" That was my plan-the-sky--something to look forward to. Can it get any better from here? All I know for sure is that I'm extremely grateful to Mike and his crew for allowing me the opportunity to share our LEWS with the rest of the country. Although the show plans to highlight the "dirty" aspects of my job, I am confident that it will also highlight the importance of our research and conservation efforts.

And if that's as good as it gets, then I'd say I've done pretty well!

Kristin M. Stanford

~>^>"The Island Snake Lady"<^<~

**Lake Erie Watersnake Outreach
& Research Coordinator**

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December

Oh Barf! Discovery Channel Profiles 'Dirty Job' of NIU Ph.D. Student

<http://www.niu.edu/PubAffairs/RELEASES/2006/nov/snakes.shtml>

November 15, 2006

By Tom Parisi, NIU Office of Public Affairs

DeKalb, Ill. — When NIU research associate Kristin Stanford is successful at her job, biting and barfing often ensue. Her work is so downright dirty and smelly that it will be featured in the Nov. 28 season premiere of Discovery Channel's popular program, "Dirty Jobs," with host Mike Rowe. The program will be rebroadcast several times that week.

Stanford is known to the locals in Ohio's Put-in-Bay Harbor as "the Island Snake Lady." Although working toward her Ph.D. in biology at NIU, she spends most of her time at Put-in-Bay, where she serves as recovery plan coordinator for the endangered Lake Erie Water Snake.

The region encompassing the islands and mainland of Lake Erie between the Ohio and Ontario borders is a paradise for boaters and fishermen. It's also the only place worldwide where the snakes can be found. Out of necessity, Stanford, a native of Mt. Prospect, has become an expert at catching the creatures, which might be likened to the punk rockers of the Great Lakes' reptilian world.

"These water snakes are probably the smelliest, dirtiest snakes out there," Stanford says. "When you pick them up, their defensive response is to thrash around and spray you with feces and musk. On the other end, they bite and bite and bite. It's not exactly a friendly snake."

Stanford estimates that she has been bitten thousands of times by the dull gray snakes, which grow as large as 3 ½ feet in length but are not poisonous.

"After you take a few bites each spring, you get used to it," she says. Once the snakes are brought back to the laboratory, they are measured, weighed and tagged with tracking chips. The scientists also induce captured snakes to regurgitate in order to examine their diet.

"I don't mind getting bit. It's kind of gross when they poop all over you. But the barfing is definitely the worst part," Stanford says. "It's really smelly."

Stanford has worked in Put-in-Bay for seven years under the tutelage of NIU Biology Professor Rich King, who himself is known as the godfather of the Lake Erie Water Snake.

He and his students have been monitoring the population of the water snakes for 25 years, and King's research contributed to a decision in 1999 by the U.S. Fish and Wildlife Service to list the snake as threatened under the Endangered Species Act.

Recovery efforts have been working in recent years. By King's estimates, the snake population has grown from as few as 1,000 in the early 1980s to 7,000 today.

"The goal is to get the animal off the threatened species list," King says. "It's an interesting situation because the snakes, which aren't exactly warm and fuzzy animals, live in a relatively small area that also happens to be a vacation hot spot where a lot of development is occurring. So there's a conflict between the snakes and humans, but it looks like this story will have a positive ending."

"If you don't get the local people involved and willing to make some sacrifices, nothing is going to protect that water snake. You don't want to find out what happens to the balance of an ecosystem after a native species is gone."

Continued from Herp News ...

Stanford's job would accurately be described as half scientist, half outreach coordinator. In addition to monitoring the population of the snakes, she works to improve their nasty image. And she's getting help from an unlikely suspect—an invasive, bottom-dwelling fish known as the goby. The exotic species threatens the habitat of native fish, including walleye and smallmouth bass, which are prized by locals and tourists alike.

As it turns out, the water snakes have a voracious appetite for the pesky goby—a fact the scientists learned from studying the snakes' diet.

"We promote the beneficial effects of the snake to fishermen," Stanford says.

The "Dirty Jobs" program provides a unique platform to educate the public about the Lake Erie Water Snake. And it also fulfills a lifelong dream for Stanford. When in high school, the aspiring biologist would tell friends they would see her someday on Discovery Channel. Earlier this year, Stanford's fiancée urged her to email the show with a description of her work.

The show's producers bit the next day.

After months of planning, Mike Rowe and his "Dirty Jobs" crew visited Put-In-Bay in August. And, yes, Rowe learned to catch snakes and "puke a goby." Stanford isn't sure if he enjoyed the experience, but she has no desire to trade in her line of work for something less foul.

"I love having a job where you can do both research and outreach," she says. "And I get to be the Snake Lady. How cool is that?"

Kristin Stanford



Exclusive look at 'clean marina' programs reveals slow, but steady growth nationwide

BY ADOLFO MENDEZ

A total of 602 marinas in 19 U.S. states have been certified as "clean marinas" in 2006, according to exclusive research conducted by *Marina Dock Age*.

Although the 602 marinas represents a 25% increase over 2005 figures, it's from a small base of less than 7,000 marinas eligible for the clean marina label. Clean marinas are those marinas that have been officially recognized—usually by a state agency—as good stewards of the environment.

It's generally accepted that the number of marinas being designated as clean marinas is increasing nationwide, but that claim has been largely based on anecdotal evidence. There is no centralized source for statistics on clean marinas. The federal government, for example, does not track the number of environmentally compliant marinas in America. The Association of Marina Industries, the Washington, D.C.-based national trade group representing marinas, doesn't keep numbers on clean marinas either.

As such, *Marina Dock Age's* research into every state with a clean marina program offers the most comprehensive look at some of the similarities and differences in these programs, and provides the latest, most up-to-date figures available on this growing trend.

By the numbers

Based on the numbers each state provided *Marina Dock Age*, Florida tops the list with 130 clean marinas in 2006. Rounding out the top five states are Maryland (117), Virginia (71), Texas (60), and California (47). These top-five states were also the top-five states in 2005.

Meanwhile, Louisiana is the only state to post a drop in the number of clean marinas. In 2005, Louisiana had two clean marinas, but Hurricane Katrina destroyed one of them, South Shore Harbor Marina, a municipal marina in New Orleans. "We still have boats scattered throughout some of the

MARINA DOCK AGE

UPDATE ON CLEAN MARINA PROGRAMS¹

STATE	Total Number of Marinas ²	Clean in 2006 ³	Clean in 2005	Percentage change	Year Started
Alabama-Miss. ⁴	300	4	3	33.3%	2004
California	450	47	20	135.0%	2004
Connecticut	310	5	5	0.0%	2003
Delaware	97	3	1	200.0%	2001
Florida	2000 ⁵	130	112	16.1%	2000
Georgia	68	1	1	0.0%	2003
Louisiana	126	2	1	100.0%	2005
Maine	100	12	11	9.1%	2003
Maryland	600	117	112	4.5%	1998
Michigan	550	9	2	350.0%	2004
New Jersey	500	5	0	500.0%	2005
North Carolina	285	9	9	0.0%	2000
Ohio	300	24	12	100.0%	2005
Oregon	200	3	0	300.0%	2005
South Carolina	125	9	9	0.0%	1998 ⁶
Tennessee Valley Authority ⁷	230	71	54	31.5%	2002
Texas	355	60	55	9.1%	2000
Virginia	350	71	59	20.3%	1999
Washington	200	20	14	42.9%	2005
Total	7096	602	480	25.4%	

Source: *Marina Dock Age* research

1. The National Oceanic and Atmospheric Administration (NOAA) lists states with clean marina programs, but doesn't track the number of clean marinas in each state. *Marina Dock Age* used the NOAA list (at <http://coastalmanagement.noaa.gov/initiatives/links.html>) as the basis for contacting states for this chart.
2. For total number of marinas per state, most numbers provided are approximate, not exact figures.
3. 2006 figures do not include marinas that may have been certified in November and December after our production deadline.
4. Alabama-Mississippi is the only bi-state clean marina program in the nation. "Marina" defined as 10 slips or more. The total number of clean marinas (4) does not include three other clean marinas that were destroyed by Hurricane Katrina.
5. Estimate. The Florida Fish & Wildlife Conservation Commission is currently conducting a study to determine the precise number of marinas in the state.
6. South Carolina relaunched its program in April of 2006 when the state's Office of Ocean and Coastal Resource management took over control of the program. Dan Berger, a spokesman for the S.C. Department of Health and Environmental Control, said seven coastal marinas were all certified by 1999, but he could not provide *Marina Dock Age* with the date its first marina was certified. Since 1999, there have been "no other marinas that have expressed interest in becoming certified," Berger said.
7. The Tennessee Valley Authority certifies inland marinas in Kentucky, Tennessee, Mississippi, Alabama, Georgia, North Carolina and Virginia and said that its numbers are not duplicated in the individual listing of those states on this chart.

landscape," said Greg DeCote, the clean marina coordinator for Louisiana. "We're trying not to forget about our 'Clean Marina Program,' but the program has not been a high priority at this time."

In contrast, Ohio doubled the number of its clean marinas in one year to 24. "Our marina industry has bought in wholeheartedly into our program," said Gary L. Comer, Ohio's clean marina coordinator. Comer added that the state tries to take a common-sense approach in its certification process without bringing undue hardship on marinas. "If there's a regulation involving permits, for example, but it doesn't exist at this point, marinas don't have the opportunity to even become compliant with that permit, what do you do? It's like saying, you need a fishing license to fish, but they don't go on sale until Friday, but you're required to have one by Wednesday—two days before it becomes available. So we're willing to work with them and certify them."

Elsewhere, California is the only state in the nation where the clean marina program is run entirely by a trade association. All the other states have government-run programs. H.P. "Sandy" Purdon, owner of the Shelter Cove

Marina on San Diego's Shelter Island, began the program in San Diego. This year, the program went statewide after the Marina Recreation Association of California, a trade group in Sacramento, endorsed Purdon's program.

California marinas have opted to certify themselves because, Purdon explained, the industry can do a better job at policing itself than the government can. He may have a point: California posted a larger increase in clean marinas from 2005 to 2006 than did any state-run program. During this one-year time frame, California added 27 marinas to its roster of clean marinas. "Other states are doing a great job, but they're not getting out there like we are," Purdon said.

To ensure accountability and an objective process, the California marina program relies on industry professionals from neighboring marinas, such as dockmasters, to certify a marina. It takes the approval of three such inspectors to certify a marina. But unlike state-run programs, California's privately-run program charges marinas a \$250 fee as part of the certification process. Purdon said the fee pays for the printing and creation of clean marina-related materials and is necessary because taxpayer

money isn't used.

Mississippi and Alabama are the only states that have chosen to offer one clean marina program for both states. Because the states' coastlines are smaller than others, Mississippi-Alabama state officials decided to incorporate them together, explained Shonda Borden, the clean marina coordinator located in Mobile, Ala.

But numbers alone don't tell the whole story.

A closer look

Clean marina advocates argue that clean waters are good for the environment, for boaters, for marinas and the U.S. economy. But the reality is that the majority of U.S. states do not participate in any clean marina certification program. Proponents of the environmental movement, some of whom have been described as having missionary-type zeal for clean marinas, still have a long way to go to make new converts to their cause.

And where they have succeeded in persuading states about the benefits of clean marinas, there are many other obstacles to overcome. For example, some states that do offer clean marina programs are not having as much suc-

EPA: Better to be 'clean' than to be fined

BY ADOLFO MENDEZ

For Tom Rich, the owner of New England Boatworks Inc., a 330-slip marina in Portsmouth, R.I., the cost of doing business just got costlier.

Although Rhode Island doesn't have a Clean Marina program, this doesn't mean marinas in the state don't have to be concerned with being good stewards of the environment. Just ask Rich.

Rich says he firmly believed his marina was in compliance with all environmental regulations, so he was stunned to discover just the opposite. The U.S. Environmental Protection Agency (EPA) slapped him with a hefty fine for falling short of EPA regulations.

Rich has agreed to pay a \$52,300 fine stemming from the marina's alleged failure to follow proper envi-

ronmental procedures uncovered by two EPA inspectors in 2003. In fining New England Boatworks, the EPA stated that the marina "failed to identify some containers of waste as hazardous" and that soil samples of the facility uncovered too much lead.

And New England Boatworks was one of five New England marina and boatyard facilities fined by the EPA for violating pollution prevention regulations.

For his part, Rich says the issue with the EPA was "mostly a paperwork issue." He said the marina doesn't need to change any of its practices, but rather do a better job of documenting its practices and understanding "why we're doing what we're doing."

Because he thought he was already in compliance, Rich found the EPA fine to be devastating. "I thought, 'My God! We're only trying to comply, how can

you hit us this hard?' I thought about closing the marina," he said.

"I've love to take this one on, but it's a battle you can't afford to take on. We don't have the resources or the people to take on the government. We're trying to make a living and provide jobs and services, we're not here to try and do something wrong."

Although Rich didn't get out of paying the fine, he did say he now has a "reasonable relationship" with the EPA and that he's going to remain in the marina business.

EPA fines

For its part, the EPA says it's willing to help marinas avoid fines for failing to comply with environmental regulations by answering questions, providing technical assistance, and referring them to helpful resources to bring them into compliance. But the govern-

cess signing up marinas to the program as they feel they could because they lack the manpower and resources to get the job done.

North Carolina, for example, reported that the number of clean marinas in the state remained unchanged in 2006 compared to a year ago. The reason? "Part of the problem is, basically, it's been a one-person operation. And that's me," said Mike Lopazanski, the coastal and ocean policy analyst for the North Carolina Division of Coastal Management, the state agency that runs the program with the cooperation of a handful of local partners, including the North Carolina Marine Trades Services. "We're actually looking to hire somebody in the next couple of months to give it the push and attention that it really needs. I have not been able to devote the time necessary to promote the program and visit with marinas."

Beyond the lack of resources, the clean marina movement lacks cohesion and clarity. Ask a simple question—like, "What exactly is a clean marina?"—and, there is no one answer. That's because states vary in what they define as a clean marina and they even vary in how they define a marina. States do not agree on the number of slips a marina must have

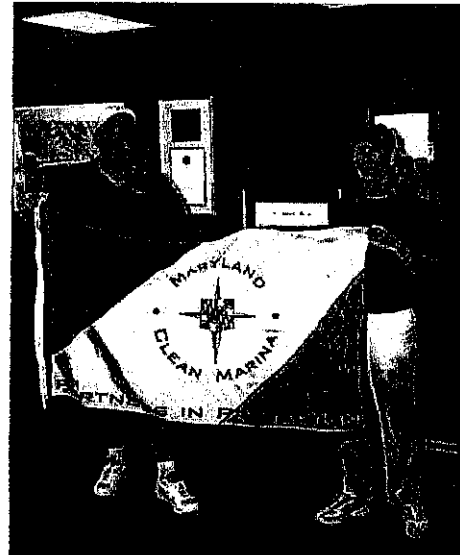
in order to be considered a marina.

Unable to get straight answers to simple questions explains, in part, why New York state has opted out of the clean marina certification program. "There's been no movement in New York. The industry has not come to the table saying, 'We want this.' Boaters haven't asked for it," said David White, a marine recreation facility specialist with New York Sea Grants' Great Lakes Boating and Marine Facilities in Oswego, N.Y.

White continued, "One of the issues is you will never have every marina certified. So what does that say about those that aren't? Will there be grants available to help them? Is it cost-effective to do a state-run certification program? What's the cost per certification? What's a clean marina? Is it a marketing label or a true, environmental certification? Who should certify them? Does the state run into a liability issue if certifies them? So there are all these issues that come into play."

That's not to say New York won't join the movement in the future, White quickly added. "It could become something that's market-driven, if [environmentally-conscious] boaters start asking for it."

Like New York, all states without a



Scott Tinkler and Donna Morrow display the Maryland Clean Marina flag bestowed on Port Annapolis in 1999.

clean marina program are often engaged in various other environmental efforts to keep the waters clean—such as New York's boater education programs and pollution prevention programs. Massachusetts offers a "Massachusetts Clean Marina Guide," that marina owners and operators can download from a state Web site, but it doesn't certify marinas as clean. "We need to make sure we know that we're consistent with the label," explained Jay Baker, a coastal non-point coordinator with the state's Office of Coastal

ment isn't shy about imposing penalties to motivate marinas to do what's required.

"Both compliance assistance and enforcement are necessary to bring these facilities into compliance," Sanchez said.

So what's a marina looking at when it comes to possible fines? "Actual penalties depend on what the inspector finds at the marina," Sanchez said. "Sometimes a facility has so many violations that EPA turns the case over to the U.S. Dept. of Justice, which means penalties of \$25,000 or greater."

Here's a sampling of how much marinas could wind up paying for specific EPA violations:

Violation	Fine
No general permit ¹	\$3,000
No Stormwater Pollution Prevention Plan (SWPPP)	\$3,000
Spilled oil on land	\$500

Violation	Fine
Paint chips from hull work on land	\$500
Oil sheen in water traced to land	\$1,000
Failure to implement anything that was promised in the SWPPP ²	\$500 per item

Failure to use Best Management Practices ³	\$1,000
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1. To obtain a general permit, a marina only needs to send a Letter of Intent (LOI) to the BPA.
2. This could be, for example, having no record of annual employee briefings or quarterly inspections, as promised.
3. Best Management Practices are what BPA considers "commonsense good housing items" such as having a fuel oil spill kit, proper storage for paints and solvents and containment for chips from hull work.

Helpful links

The EPA offers several, useful links to help marinas know compliance requirements:

EPA Compliance Strategy
<http://www.epa.gov/compliance/resources/policies/civil/cwa/stwenfs-trate-gy2003.pdf>

Expedited Settlement Offer Policy
<http://www.epa.gov/Compliance/resources/policies/civil/cwa/esoprog-stormwater.pdf>

General Stormwater Regulatory
<http://www.epa.gov/reg3wapd/stormwater/>

Sample MARINA Stormwater Pollution Prevention Plans (SWPPP):
<http://www.epa.gov/reg3wapd/stormwater/pdfs/marina.pdf>

Zone Management. "Clean marina designation can mean a lot of different things."

To be sure, states that have clean marina programs have learned that such programs do not happen without much debate and even tense, heated discussions among all the key players involved—environmental groups, government employees, and private marina owners.

History and motives

The earliest, most active clean marina programs began in Maryland and Florida. Both states began work on their clean marina programs in the late 1990s. The Maryland Clean Marina Initiative was designed to protect the Chesapeake Bay. Many of the coastal states interviewed by *Marina Dock Age* said they used Florida's clean marina program as a guide in developing their program, and several other states have relied upon Maryland's program for their own.

One of the biggest selling points of the program for marinas is that it's a good way to avoid heavy fines from the U.S. Environmental Protection Agency (EPA), according to Robert Sanchez, a compliance officer with the EPA office in Philadelphia, Penn. Earlier this year, the EPA fined several marinas (see sidebar, page 56) for noncompliance. Reacting to the fines, the Lake Erie Marine Trades Association in Westlake, Ohio, warned its members in a recent newsletter that the EPA "has unleashed its regulation enforcers on the industry."

The EPA for its part inspects up to an estimated 500 marinas a year throughout the nation, or about 50 annual inspections per each of its six geographic regions. "That may not seem like many, but surprisingly, some of the worst marinas are identified to EPA by boat owners," Sanchez said. "The remainder of the marinas is targeted based on waterways that have been shown to have elevated contamination, in accordance with the EPA stormwater compliance strategy."

Storm water, a fancy name for rain once it hits the ground, can carry litter, sewage, and paint chips, to name a few things, from marinas to the water, thereby polluting it. But pinpointing the source of pollution is difficult.

Pollution that originates from many sources, as opposed to a single point, is



The "clean" movement in the marina industry is broadening to include boat and motor dealers. MarineMax Cape Haze in Pompano Beach, Fla., is presented with the nation's first "Clean Retailer" award in September by Florida's Department of Environmental Protection. MarineMax is the largest recreational boat and yacht retailer, with 85 retail locations in the U.S.

Such nonpoint sources were a concern for Congress when it passed the Coastal Zone Act Reauthorization Amendments of 1990 requiring EPA to describe ways to control pollution from nonpoint sources, including marinas and recreational boating.

The EPA, along with the National Oceanic and Atmospheric Administration (NOAA), is responsible for protecting the coasts from polluted runoff. As these government agencies considered voluntary ways to encourage marinas to practice good stewardship of their environment, the clean marina program was born. NOAA provides federal funds for states interested in starting clean marina programs or expanding them, but such funds are subject to congressional approval and aren't always readily available.

To clean or not to clean

There are economic benefits to becoming a clean marina, according to the EPA. The last major study that suggested a link between economic benefits and the adoption of environmental measures and practices is dated. It was conducted 10 years ago by the U.S. EPA.

At that time, EPA made this dire prediction: "Marinas that do not clean up will probably not be in business as the 21st Century dawns." It also indicated that "sometime in the future" 75% of the estimated 10,000 marinas facilities in the U.S. would make "significant environmental improvements."

But 10 years after that EPA report, *Marina Dock Age* has learned that only 10% of marinas in states with Clean Marina programs are certified as clean

take at least six decades before 75% of all U.S. marinas were clean marinas, assuming a one percent increase in growth per year.

Marina programs are still very much in their infancy. About three states began clean marina programs each year from 2000 to 2005, except for the year 2002. At the growth rate of three states per year, it would take about another 10 years before a clean marina program existed in every U.S. state.

Nonetheless, it's a worthwhile program to implement, said Scott Tinkler, general manager of Port Annapolis Marina in Maryland. The Port Annapolis Marina will celebrate an eight-year anniversary next January as being a clean marina. And, it turns out, Port Annapolis was the first marina in the nation to be designated a clean marina, based on dates provided by the states.

"Really?" Tinkler said, in response to the news. "I knew we were the first in the state, but I didn't know we were the first in the nation." (Annapolis was also the 2003 Marina of the Year, an annual award given by this magazine. A profile of the marina published in *Marina Dock Age* at the time took note of its extensive efforts to keep the waters clean.)

According to Tinkler, the owners of the 270-slip marina never hesitate to do whatever it takes to operate at "a high level," including being a pioneer in demonstrating itself as a good environmental steward. Leading the charge to minimize a marina's impact on the environment, however, often means not being afraid to rock the boat.

For example, Tinkler said the marina's standards—that can go above and beyond what the state requires—can be pretty strict, such as not letting boaters use open-air spray paint on their boats. In the beginning, some slipholders at Port Annapolis were so bothered by the marina's environmental standards that about "10 to 15" of them left the marina in search of a "less greener marina."

"But we've gained two or three times that amount because we are a clean marina," Tinkler said. "Marinas have to be a place where you do more than park a boat. They should be a place for people to hang out. We like to call ourselves a destination [marina]. Boaters can come here and do more than just enjoy a boat ride. So it had better be your inner

Sea Grant Academy: Training a New Generation of "County Agents in Hip Boots"



The first graduating class as well as the instructors from the National Sea Grant Extension Athelstan Spilhaus Academy. (Photo by Bambi Provost)

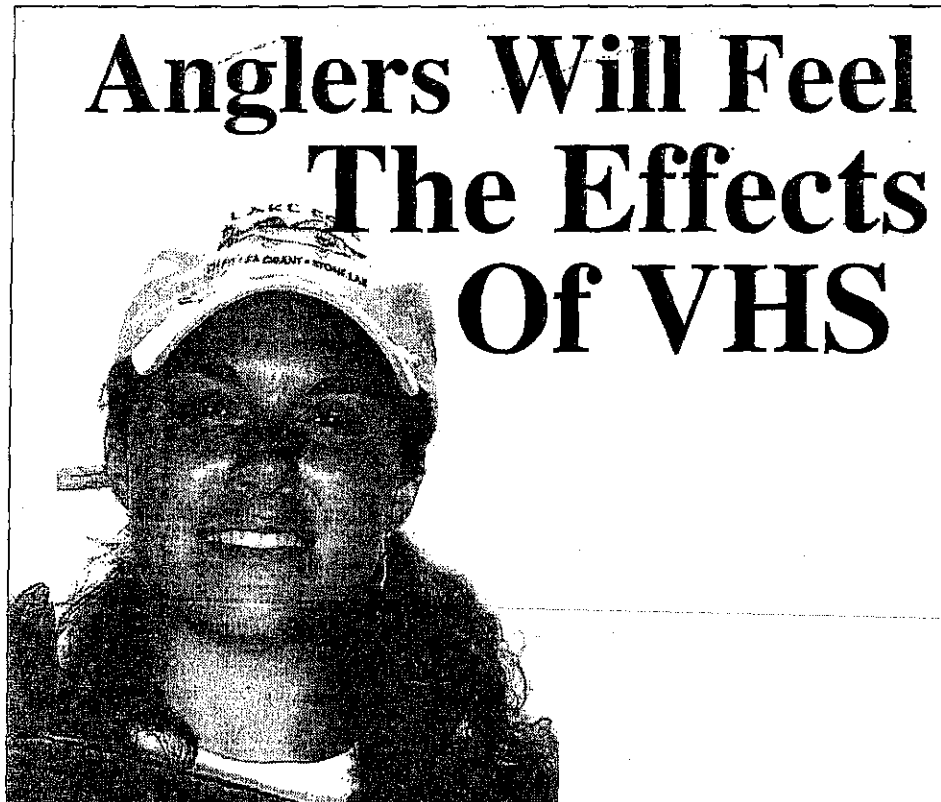
In 2005, it was back to school for a number of Sea Grant extension agents. The Assembly of Sea Grant Extension Program Leaders successfully launched the National Sea Grant Extension Athelstan Spilhaus Academy, which was attended by 31 new extension agents from 21 different Sea Grant programs. IISG extension specialists Susan Boehme and Elizabeth Hinchey Malloy are among the graduates.

The academy was named in honor of Athelstan Spilhaus, an oceanography professor who first proposed the creation of a Sea Grant College system. Upon graduation, this year's participants received a certificate and a hip boot pin, which represents the vision that Spilhaus had in the mid-1960s when he called for the creation of a marine extension program, akin to land-based extension programs, complete with "county agents in hip boots."

The training program was designed to improve the knowledge and skills required for working in Sea Grant extension. "In the late 1990s several extension leaders began advocating for a Sea Grant Academy-like training program for newcomers," said Mike Liffmann, assistant director, Louisiana Sea Grant, who, along with Don Jackson, special project coordinator and Mike Spranger, assistant director, Florida Sea Grant, and Brian Miller, associate director, IISG developed and initiated the academy.

"The goal was to provide practical tools for agents and specialists so they can more effectively plan and carry out their duties," said Liffmann. "And we wanted to share the "Sea Grant way" and our distinguished history and culture. We were also motivated by the distinct graying of Sea Grant extension professionals throughout the country. Most of us have been with our programs for 15-25 years. During budgetary hard times of the 1980s and early 1990s, we simply did not have a significant infusion of youth and new blood in our ranks. Now that we do, the time is right for the academy."

In March, Sea Grant Academy began with a week-long session at the National Conference Center in Lansdowne, Virginia. This program featured an introduction to the fundamentals of Sea Grant extension as well as a project design and evaluation course. Academy participants took a trip to the National Sea Grant Office in Silver Spring, Maryland and to NOAA headquarters in Washington D.C. to meet with key NOAA personnel, including Louis Koch, NOAA Research deputy assistant director, Ron Baird, National Sea Grant College Program director, William Hogarth, NOAA Fisheries director, and Scott Rayder, NOAA chief of staff.



Kelly Riesen
Ohio Sea Grant Extension

Something big has happened that will affect the fishing on Lake Erie and the rest of the Great Lakes in the coming years. It's not bad walleye hatches or commercial fishing nets; it's VHS.

VHS, or viral hemorrhagic septicemia, is a rhabdovirus that most commonly infects salmon and trout. The disease is found in continental Europe and was also endemic to the

western United States... until now.

In the spring of 2006, dead fish, mainly freshwater drum and yellow perch, began washing up on Lake Erie's shoreline. The Ohio Department of Natural Resources, Division of Wildlife sent some of the fish for testing, and the results came back positive for VHS.

The original virus, which was found only in salt water fishes, has mutated into the form that is now infecting freshwater fish. Many

(Cont'd on page 39)

December 2006



Lake Erie perch anglers may be searching for alternate bait under the new Federal Order.

More Kelly Riesen...

(Cont'd from page 38)



afflicted fish show acute signs of the disease, including bulging eyes, lesions, and bloated abdomens. However some fish are carriers but show no signs of the disease.

These "carriers" can spread the VHS virus to other fish via urine, feces, or other body fluids. Luckily, the virus cannot be spread to humans.

It is not known how VHS got into the Great Lakes or how long it's been here, but it is likely that ballast water transfer from large ships has played a significant role.

On October 24, 2006, the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS), issued a temporary federal order to stop all commercial live fish shipments from two Canadian provinces and all U.S. states surrounding the Great Lakes. The unexpected order will have far-reaching implications for anglers, aquaculture facilities, and the Great Lakes bait industry.

Emerald shiners, rainbow trout, channel catfish, yellow perch, and largemouth and smallmouth bass are among the 37 species of fish listed in the APHIS order. This list is expected to grow as more fish in the Great Lakes are identified as VHS carriers.

Emerald shiners, the most popular minnow for use in ice fishing and yellow perch

fishing, will be hard to come by and more expensive. A large part of the emerald shiners purchased in Ohio bait stores come from New York.

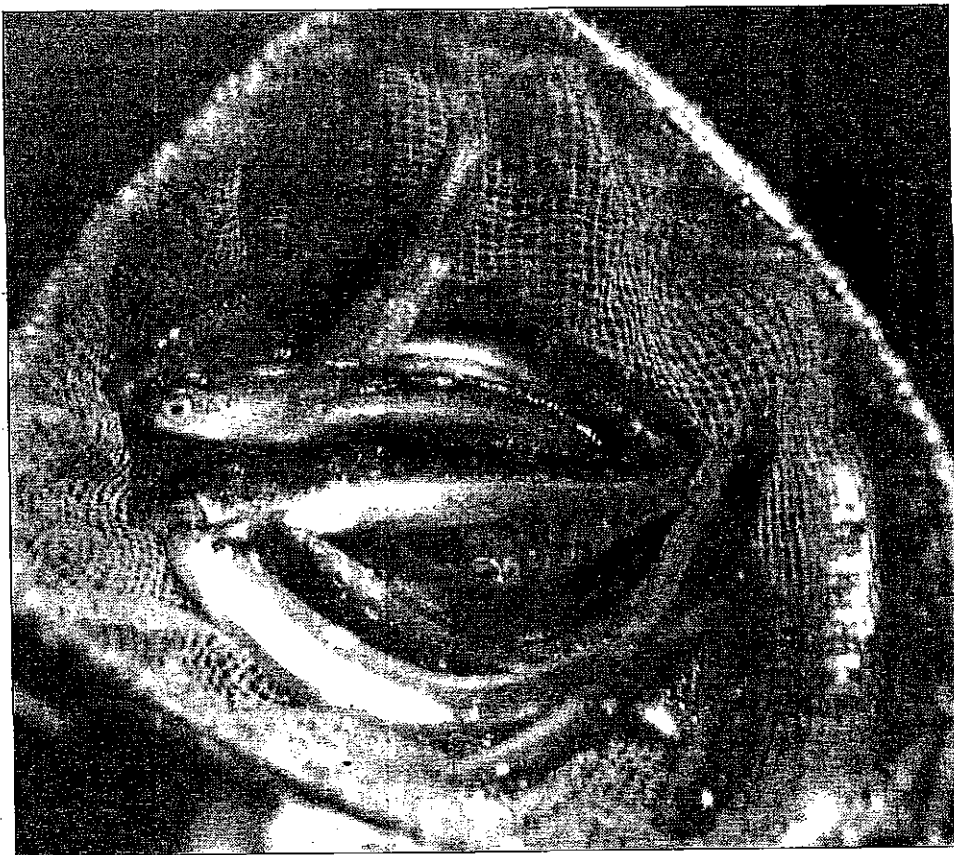
If you were planning to have your pond stocked with bass, bluegill, catfish, or pike in the near future, you may be out of luck if those fish have to come from another state.

The Ohio Division of Wildlife's steelhead stocking program could also temporarily be put on hold. The Division trades catfish fingerlings for Michigan steelhead eggs every year for rearing at their Castalia hatchery.

Though live eggs can be shipped across state borders, the catfish fingerlings cannot. According to Kevin Kayle, Fisheries Biologist Supervisor at Ohio Division of Wildlife's Fairport Fisheries Unit, "The Ohio Department of Natural Resources is focused on trying to find a workable solution with APHIS for the final ruling on the VHS order."

Those that have jobs or businesses in the bait or aquaculture industry will be hardest hit by the APHIS order. There are approximately 300 bait stores in Ohio, many of which will have their businesses threatened because they can't get bait fish to sell.

Gene Cizmadia, bait wholesaler and owner of Crawlers Unlimited in Hinckley,



A scoop of shiners may be expensive and hard to find on Lake Erie next fall.

says "The main concern is getting bait fish, mainly emerald shiners, into Ohio. Prices will skyrocket if we have to get bait from Arkansas or other southern states."

Fathead minnows, the bait fish used in

most counties not bordering Lake Erie, are not currently on APHIS' restricted list. But the agency warns that new species can be added to the list quickly if they test positive

(Cont'd on page 40)

More Kelly Riesen...

(Cont'd from page 39)

for VHS.

Ray Petering, Executive Administrator for Fisheries Management with Ohio Department of Natural Resources, has been on the front lines of this battle trying to persuade APHIS officials to amend or drop the emergency order.

Petering says, "We're trying to convince APHIS to put decisions about fish movement within the Great Lakes states back into the hands of the states."

The ODNR also proposed a new federal order that would deal with ballast water, which has essentially been ignored by APHIS. Petering notes, "It's ludicrous to ban live fish shipments without taking into account that the shipping industry is probably a more potent vector of VHS."

Ships have not been banned from taking on ballast water in Lake Erie, moving to Lake Superior, and then dumping that ballast. In effect, the ships may be a culprit in spreading VHS.

On November 14, APHIS announced modifications to the federal order. The amendment most important to anglers says that live fish can be moved across state lines, however any VHS-susceptible species must have documentation stating they are VHS negative.

This comes as a disappointment to ODNR officials. Testing is expensive and could force many small bait producers to go out of business. Some of the Great Lakes states have asked that APHIS fund the testing, but APHIS has failed to comment.

According to Petering, there is "...no infrastructure in Ohio to aid in testing fish for VHS or to enforce the rules...so someone is going to have to foot the bill to establish testing facilities and hire enforcement people." ODNR will continue to pursue amendments to the existing order.

While the APHIS order won't stop anglers from having a good time on Lake Erie, watch for the availability of bait to go down and the price to go up.

A Dirty Job

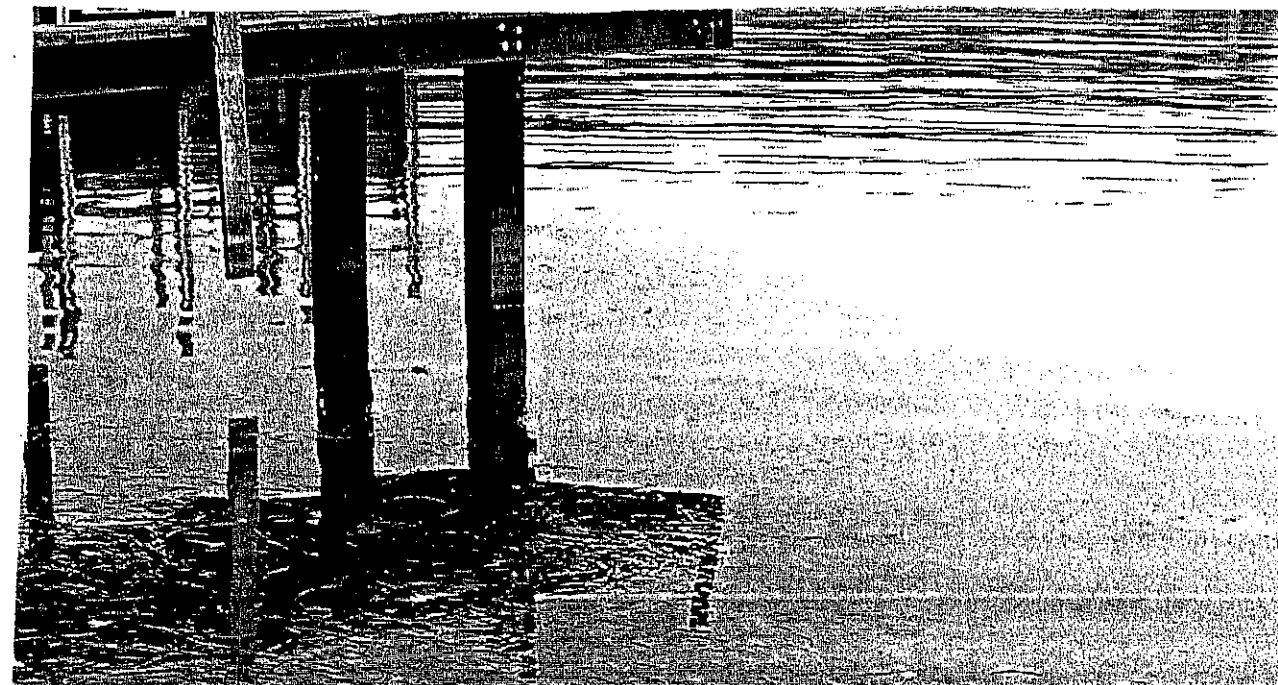


Kristin Stanford has an admirable goal: to get the Lake Erie water snake removed from the endangered species list.

She's willing to put up with a lot to achieve it.

To study the snakes, Stanford--resident researcher at Stone Lab, Ohio State's "Island Campus" on Lake Erie--has to catch them. They're resistant to being handled, so they bite and spray musk and feces. As if that's not enough, Stanford has to induce them to vomit in order to check their diet.

Find out more about Stanford, whose work was recently featured on the Discovery Channel's *Dirty Jobs* series.



Inset

Microcystis, a type of blue-green algae, has been blooming in freshwater lakes across the United States this summer. It secretes a toxin that causes liver damage in animals and humans.

PHOTO BY TOM BRIDGEMAN

Overview

An algal bloom is visible in the waters around Ohio State University's Stone Laboratory on Gibraltar Island in Lake Erie.

PHOTO BY ERIN QUINLAN

Water Filtration Technique Removes Algae Toxins

A water filtration technique that normally cleans up agricultural chemicals is also effective at removing a toxin secreted by algae found in lakes and rivers, a College of Engineering researcher has found.

Engineers determined that the technique greatly outperformed other methods by removing at least 95 percent of a toxin secreted by Microcystis, a blue-green algae.

Some water filtration plants around the country already use the technique, which couples activated carbon with membrane filters, says Hal Walker, associate professor of civil and environmental engineering and geodetic science, who conducted the research with funding from Ohio Sea Grant.

Microcystis is native to freshwater lakes and rivers around the country and secretes toxins that can cause liver damage in animals including humans. Worsening environmental pollution in Lake Erie during the last decade has caused algal blooms, the most recent of which began in August. Some 13 million people rely on Lake Erie for their water supply, Walker says, so Microcystis is a growing concern there. Other dangerous algal blooms occurred this summer across the country.

"This toxin is an organic molecule, and we knew that activated carbon is good at removing organics," Walker says, "so we coupled the carbon with membranes. Together, they provide a way for water treatment plants to remove the toxin by basically upgrading the membrane system they already have."

Water treatment plants that already had membranes in place could add carbon to their systems without purchasing new equipment, he adds.

Walker would like to start a pilot project with a water treatment plant that uses membrane filters, ideally to test the system during an algal bloom.

Contact:

Hal Walker, (614) 292-8263; walker.455@osu.edu

On the Web: <http://researchnews.osu.edu/archive/microtox.htm> and
<http://www.ceegs.ohio-state.edu/~hwalker/>

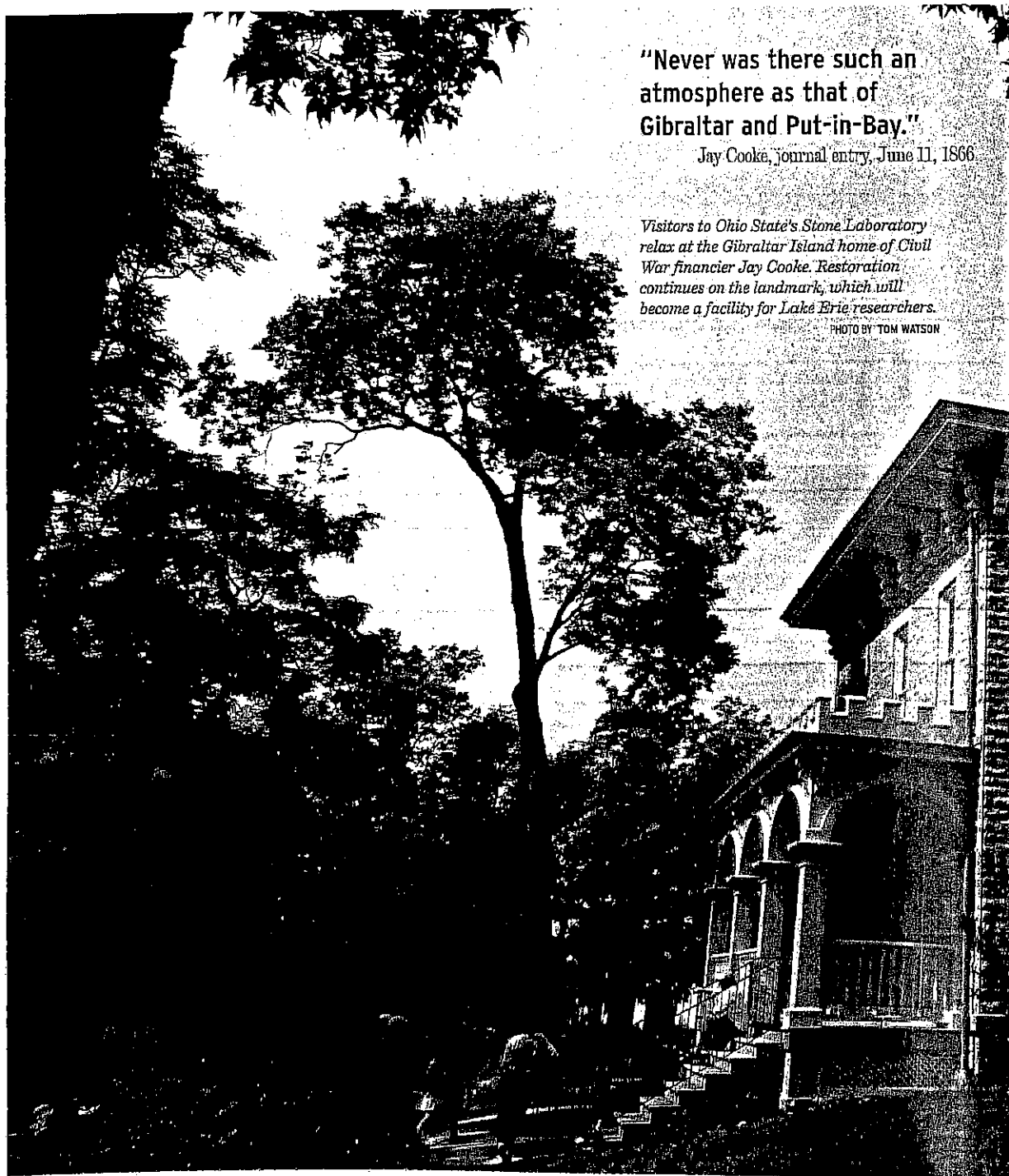
Island getaway

"Never was there such an atmosphere as that of Gibraltar and Put-in-Bay."

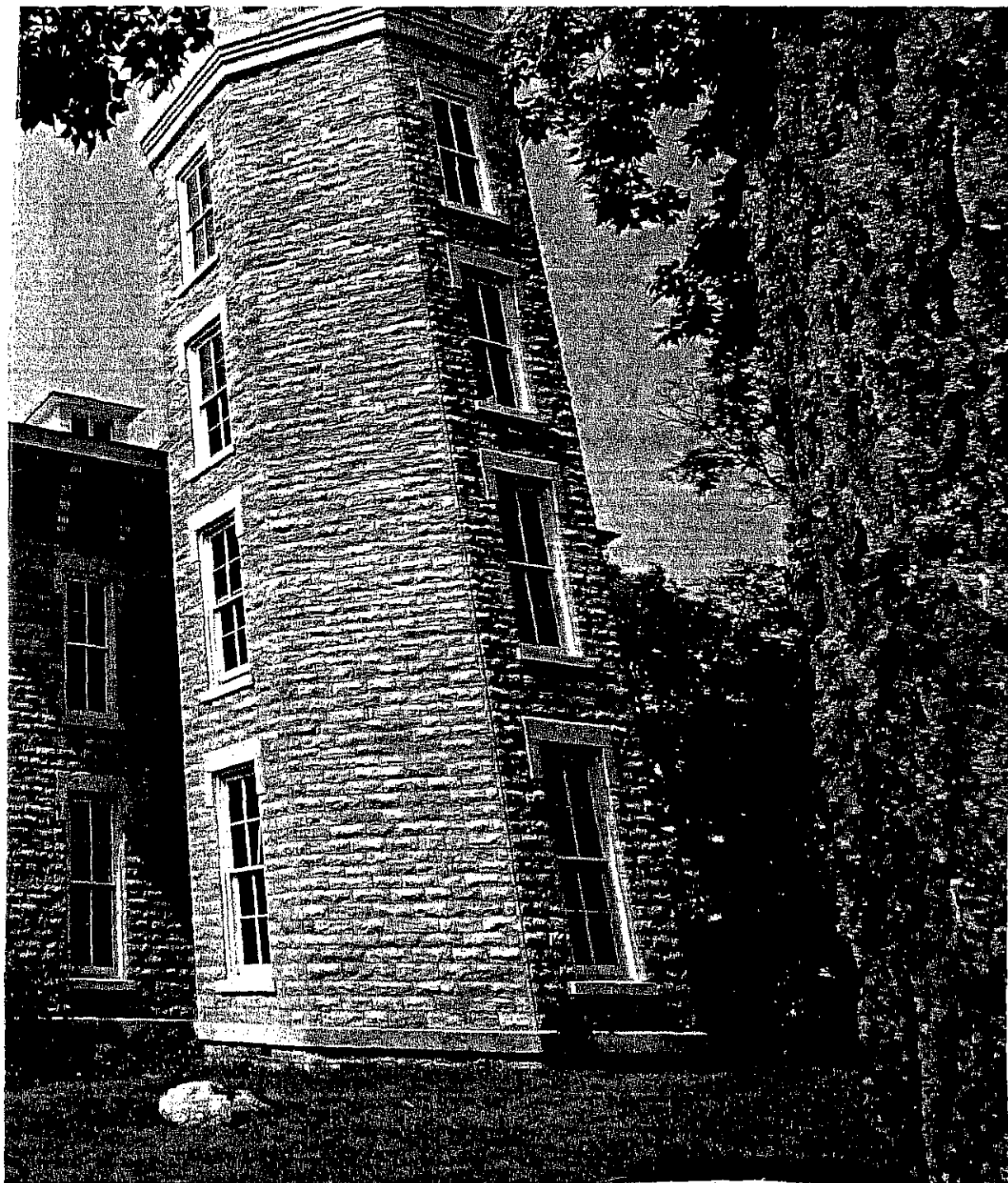
Jay Cooke, journal entry, June 11, 1866

Visitors to Ohio State's Stone Laboratory relax at the Gibraltar Island home of Civil War financier Jay Cooke. Restoration continues on the landmark, which will become a facility for Lake Erie researchers.

PHOTO BY TOM WATSON



CIRCLING THE OVAL



Water Filtration Technique Removes Dangerous Freshwater Algae Toxins

Not only is it green and icky, it's toxic to humans. "It" is Microcystis, a blue-green alga native to U.S. freshwater lakes and rivers nationwide. It secretes toxins that can cause liver damage in animals, including humans. Worsening environmental pollution in Lake Erie during the last decade has caused algal blooms, the most recent of which began in August.

But now, a water filtration technique normally used to clean up agricultural chemicals has been found to be effective at removing a toxin secreted by algae found in lakes and rivers, according to an Ohio State University (OSU; Columbus) study. Engineers determined that the technique greatly outperformed other methods by removing at least 95% of a toxin secreted by the blue-green algae, an OSU news release states.

Some U.S. water filtration plants already use the technique, which couples activated carbon with membrane filters, said Hal Walker, associate professor of civil and environmental engineering and geodetic science at OSU.

Some 13 million people rely on Lake Erie for their water supply, so Microcystis is a growing concern there, Walker said. But dangerous algal blooms have occurred nationwide this summer, from Massachusetts to California, according to an OSU press release. While many water filtration plants are beginning to use high-tech ultrafiltration membranes with very fine holes, Microcystin toxins are small enough to slip through. For example, the toxin used in the study was microcystin-lr, a tiny molecule consisting of only seven amino acids.

The research findings will appear in the journal *Environmental Science & Technology* and have been published in advance on the journal's Web site.

Rather than invent a new technology for filtering microcystin-lr, Walker and his colleagues decided to test whether combining activated carbon with membrane filters would do the trick. This technology already has proven effective in removing herbicides and pesticides from drinking water.

"This toxin is an organic molecule, and we knew that activated carbon is good at removing organics," Walker said, "so we coupled the carbon with membranes. Together, they provide a way for water treatment plants to remove the toxin by basically upgrading the membrane system they already have." Water treatment plants that already have membranes in place could add carbon to their systems without purchasing new equipment, Walker added.

The engineers combined the active carbon with three different commercially available membrane filters to remove microcystin-lr from samples of Lake Erie drinking water. Each combination produced good results: One removed 95% of the toxin, one removed 97%, and the other removed 99%. Without the carbon, even the most effective ultrafiltration membrane removed only 78% of the toxin, OSU reports. Contact Walker at walker.455@osu.edu.

Everyone was glued to the TV at Tipper's on Tuesday evening, Nov. 28th, to watch Discovery Channel's Dirty Jobs show. Kristin (front right), the Snake Lady, was featured on the show. Also pictured (left to right) are Joey Wolf, Carol Ferguson, Kit Minicler, Kristin's finace' Matt, Kristin and Peter Huston.



Metroparks to purchase land in Jerusalem Twp.

Metroparks of the Toledo Area has received \$1.7 million from the Clean Ohio Fund and has applied for \$3 million in federal funding toward the purchase of 958 acres of land near Lake Erie in Jerusalem Township.

The purchase would be the largest land transaction in the park district's history.

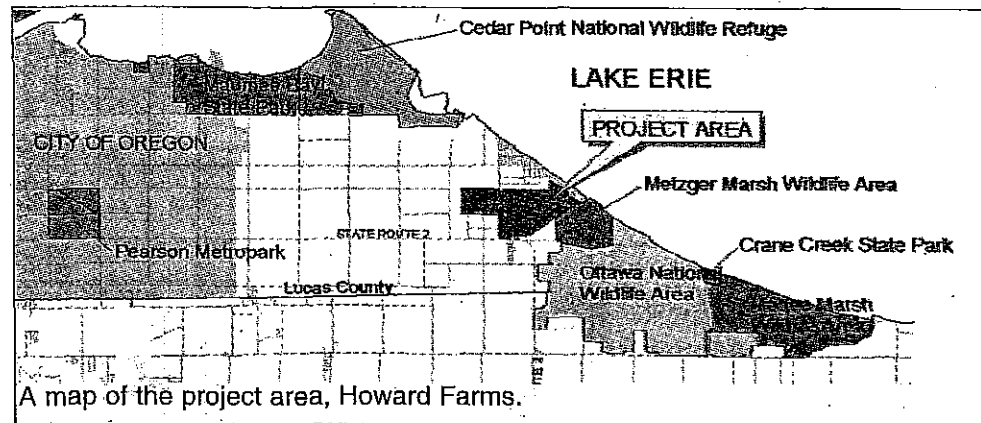
The Board of Park Commissioners Tuesday approved an application for a \$3 million grant from the National Oceanic and Atmospheric Administration's Coastal Estuarine Land Conservation Program.

The remaining \$1.3 million of the \$6 million purchase price would come from the Metroparks land acquisition levy.

The property, on State Route 2, commonly known as Howard Farms, is bordered on the east by the Metzger Marsh State Wildlife Area and separated from Lake Erie by the Reno Beach community.

Currently farmland, the property lies within the Lake Erie Coastal Zone, one of the region's most significant ecological areas. Just five percent of the original coastal wetlands remain intact on the Lake Erie shore.

"The coastal zone near Lake Erie was one of the highest priorities when the voters approved Metroparks land



acquisition levy in 2003," said Jim Spengler, director-secretary of the 9,000-acre park district. "The Lake Erie marshes; the Oak Openings region; and the Maumee River, Ottawa River and Swan Creek corridors are Lucas County's most important natural assets."

Along with their environmental benefits, coastal wetlands are magnets for wildlife and wildlife-watching tourists.

The region, which includes the Ottawa National Wildlife Refuge and Magee Marsh State Wildlife Area, is a major feeding, nesting and resting area for migrating birds. It is frequently listed

among premier destinations for bird watching in North America.

"This long-term project will create yet another reason for people to experience the Toledo area, bringing their dollars with them," said Melinda Huntley, executive director of Lake Erie Coastal Ohio, a tourism and preservation agency that manages the new Lake Erie Coastal Ohio Trail national scenic byway. "Places that embrace our heritage, nature and culture give communities a sense of character, of personality. According to recent research conducted by the Travel Industry Association of America,

Continued on page 4

Metroparks

Continued from page 1

American travelers are seeking such places.

"Tourism is an \$8.7 billion industry along the lake," said Huntley, who is also president of the Ohio Travel Association. "The longer we keep visitors within our communities, the more they will spend. This new project showcases a part of the Toledo area's story. It will be a welcomed addition to all we have to offer."

There are no immediate plans for the property, which could remain in active farm production for several years.

"The important thing is that it will be preserved as a natural area for future generations," Spengler said.

November means cool

By Kelly Riesen
Ohio Sea Grant Extension

Late fall can be a tumultuous time on Lake Erie, but if the weather is good, it's one of the best months of the year for perch, smallmouth, and big walleye.

November is hard to beat for filling a cooler with jumbo yellow perch. On average, the late fall bite is faster and the fish are larger.

Perch can be found outside of major harbors where they already are congregating to be ready for spawning next spring. In the Western Basin, try fishing 25 to 35 feet of water, and in the Central Basin, 35 to 50 feet. Some schools of perch move into shore close enough to be caught by anglers fishing from piers.

The best bait for attracting yellow perch is live emerald shiners. If shiners are not available, try pieces of night crawlers, wax worms, or small chubs.

The key to November smallmouth fishing is figuring out the depth at which bass are holding. As the water cools, bass will remain near deep water humps offshore of their springtime spawning areas.

Any of the reefs around the Bass Islands are good places to find smallmouth. Start looking in 20 to 25 feet of water for a hump or other prominent structure that's different from the surrounding area. Some good places to try are Kelleys Island Shoal, the western side of North Bass Island, and Lucy's Point off the northeast end of Middle Bass Island. Niagara, Crib and Cone Reefs also have



The rule of November fishing is that the weather rules.

become popular for smallmouth in recent years.

In the Central Basin, try the artificial reefs off Cleveland, Lakewood, and Lorain. These manmade structures are in about 25-26 feet of water and seem to attract bass increasingly as fall progresses.

Smallmouth will often hold on the windy side of a structure because a current forms there. After a hard blow, disoriented bait fish and higher turbidity will often send bass into a feeding frenzy.

Tube jigs and round goby imitations are popular at this time of year for catching smallmouth. But fishing live minnows

The Press November 6, 2006 B-7

fall fishing on Lake Erie

or soft craws straight down will probably yield the best results in late fall.

November nights also see shoreline walleye fishing get hot. Piers from Cleveland to Toledo that put you in casting range of deeper will produce big fish that are feeding to put on weight for winter.

If the wind has really been kicking and the waves are huge, don't bother. But if the lake is fairly calm, it's time to try for walleye. Trollers will also have luck catching walleye in these near shore areas in November.

The best time to fish for walleye from shore is in the early evening just after the sun has gone down. Walleye are in nearshore areas chasing gizzard shad and will often strike crank baits cast from shorelines or piers.

Some places to try in the Western Basin are Cullen Park in Toledo, Catawba State Park, the Lakeside Pier, Marblehead Lighthouse, and the Jackson Street Pier in Sandusky.

For those with an adventurous streak looking for new game, try Lake Erie whitefish. Whitefish, a tasty and popular commercial fish in the upper Great Lakes, have increased in numbers in Lake Erie.

Whitefish move onto the reefs of Lake Erie's western basin during late fall to spawn. Walleye, bass, and yellow perch anglers rarely catch these fish because their baits are too large.

Whitefish eat very small organisms. To catch whitefish this fall, use the small jigs normally reserved for ice fishing and tip them with a maggot. Jig this setup just

off the bottom. Niagara and Crib reefs are logical starting places.

Fall steelhead fishing peaks in November. Many of these silvery, lake-fresh fish have moved into the rivers and streams and will remain there throughout the winter.

Choose a day when river flows are not too high or too low. If the water has a greenish tint, it's time to fish.

Remember that even though certain rivers are not stocked, they still receive runs of steelhead. Arcola Creek, the Cuyahoga, Black, and Huron Rivers produce good catches.

Joe Moravec, veteran steelhead angler and president of the Ohio Central Basin Steelheaders club, says "By November we usually have several rain events and cooler temperatures that push fish up stream. The Grand River has excellent access at Recreation Park in Painesville and at Helen Hazen Wyman just south of Painesville."

"The Chagrin River has excellent access at Daniels Park, Todd Field and Chagrin River Park. By November the fish are in strong all the way up to and past Route 90," says Moravec.

Use baits or flies that are right for the water conditions. If the water is high and muddy, Moravec uses larger and more colorful flies or switches to spinning gear and bait.

It's essential to use caution when fishing on Lake Erie in November as conditions can change rapidly. Use good judgment and have a great time catching autumn's Lake Erie bounty.

Kelly's Catch: Anglers Will Feel the Effects of VHS
By Kelly Riesen Ohio Sea Grant Extension

Something big has happened that will affect the fishing on Lake Erie and the rest of the Great Lakes in the coming years. It's not bad walleye hatches or commercial fishing nets; it's VHS.

VHS, or viral hemorrhagic septicemia, is a rhabdovirus that most commonly infects salmon and trout. The disease is found in continental Europe and was also endemic to the western United States...until now.

In the spring of 2006, dead fish, mainly freshwater drum and yellow perch, began washing up on Lake Erie's shoreline. The Ohio Department of Natural Resources, Division of Wildlife sent some of the fish for testing, and the results came back positive for VHS.

The original virus, which was found only in salt water fishes, has mutated into the form that is now infecting freshwater fish. Many afflicted fish show acute signs of the disease, including bulging eyes, lesions, and bloated abdomens. However some fish are carriers but show no signs of the disease.

These "carriers" can spread the VHS virus to other fish via urine, feces or other body fluids. Luckily, the virus cannot be spread to humans.

It is not known how VHS got into the Great Lakes or how long it's been here, but it is likely that ballast water transfer from large ships has played a significant role.

On October 24, 2006, the U.S. Department of Agriculture, Animal and Plant Health Inspection Service (APHIS), issued a temporary federal order to stop all commercial live fish shipments from two Canadian provinces and all U.S. states surrounding the Great Lakes. The unexpected order will have far-reaching implications for anglers, aquaculture facilities, and the Great Lakes bait industry.

Emerald shiners, rainbow trout, channel catfish, yellow perch, and largemouth and smallmouth bass are among the 37 species of fish listed in the APHIS order. This list is expected to grow as more fish in the Great Lakes are identified as VHS carriers.

Emerald shiners, the most popular minnow for use in ice fishing and yellow perch fishing, will be hard to come by and more expensive. A large part of the emerald shiners purchased in Ohio bait stores come from New York.

If you were planning to have your pond stocked with bass, bluegill, catfish, or pike in the near future, you may be out of luck if those fish have to come from another state.

The Ohio Division of Wildlife's steelhead stocking program could also temporarily be put on hold. The Division trades catfish fingerlings for Michigan steelhead eggs every year for rearing at their Castalia hatchery.

Though live eggs can be shipped across state borders, the catfish fingerlings cannot. According to Kevin Kayle, Fisheries Biologist Supervisor at Ohio Division of Wildlife's Fairport Fisheries Unit,

"The Ohio Department of Natural Resources is focused on trying to find a workable solution with APHIS for the final ruling on the VHS order."

Those that have jobs or businesses in the bait or aquaculture industry will be hardest hit by the APHIS order. There are approximately 300 bait stores in Ohio, many of which will have their businesses threatened because they can't get bait fish to sell.

Gene Cizmadia, bait wholesaler and owner of Crawlers Unlimited in Hinckley, says "The main concern is getting bait fish, mainly emerald shiners, into Ohio. Prices will skyrocket if we have to get bait from Arkansas or other southern states."

Fathead minnows, the bait fish used in most counties not bordering Lake Erie, are not currently on APHIS' restricted list. But the agency warns that new species can be added to the list quickly if they test positive for VHS.

Ray Petering, Executive Administrator for Fisheries Management with Ohio Department of Natural Resources, has been on the front lines of this battle trying to persuade APHIS officials to amend or drop the emergency order.

Petering says, "We're trying to convince APHIS to put decisions about fish movement within the Great Lakes states back into the hands of the states."

The ODNR also proposed a new federal order that would deal with ballast water, which has essentially been ignored by APHIS. Petering notes, "It's ludicrous to ban live fish shipments without taking into account that the shipping industry is probably a more potent vector of VHS."

Ships have not been banned from taking on ballast water in Lake Erie, moving to Lake Superior, and then dumping that ballast. In effect, the ships may be a culprit in spreading VHS.

On November 14, APHIS announced modifications to the federal order. The amendment most important to anglers says that live fish can be moved across state lines, however any VHS-susceptible species must have documentation stating they are VHS negative.

This comes as a disappointment to ODNR officials. Testing is expensive and could force many small bait producers to go out of business. Some of the Great Lakes states have asked that APHIS fund the testing, but APHIS has failed to comment.

According to Petering, there is "...no infrastructure in Ohio to aid in testing fish for VHS or to enforce the rules...so someone is going to have to foot the bill to establish testing facilities and hire enforcement people." ODNR will continue to pursue amendments to the existing order.

While the APHIS order won't stop anglers from having a good time on Lake Erie, watch for the availability of bait to go down and the price to go up.

Kelly Riesen - Anglers will feel effects of VHS

Kelly Riesen
December 7, 2006



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Restore America's Estuaries 3rd National Conference and EXPO on Coastal and Estuarine Habitat Restoration

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12.20.2006. "Fledgling lake study group meets state heads." TOLEDO BLADE

Fledgling lake study group meets state heads

By TOM HENRY
BLADE STAFF WRITER

Details about a fledgling Great Lakes research network will be presented to state department heads today at the quarterly Ohio Lake Erie Commission meeting in Columbus.

The meeting will be the last before a new panel is installed by Gov.-elect Ted Strickland. **Jeff Reutter, director of Ohio Sea Grant and Ohio State University's Stone Laboratory** near Put-in-Bay, said the Great Lakes Regional Research and Information Network is an expanded version of an informal collaborative effort among Lake Erie researchers that began in 1998.

Researchers, focused on other lakes, wanted such a network for the basin at large. So a proposal to create one was submitted to the National Sea Grant program in January. Initial funding of \$25,000 for each of the five Great Lakes, or \$125,000 total, was authorized in June.

The group held its first basinwide meeting in September in Chicago. Its first strategy session was Nov. 29-30 in Erie, Pa.

The network will be similar to the Ann Arbor-based Great Lakes Information Network, although tailored more for scientists and government officials.

Eventually, research papers will be posted online issue-by-issue.

Scientists hope to use the network to stay abreast of who's doing what on both sides of the U.S.-Canada border as well as to promote research links that will help get messages about hot topics out to the media, said Mr. Reutter, the network's U.S. chairman for academia.

"We're trying to do a better job of speaking with one voice," he said.

Today's meeting of the lake commission will be at a district office of the Ohio Department of Natural Resources' wildlife division. Commissioners are expected to approve the latest round of small research grants and set the 2007 meeting schedule. Ed Hammett, the lake commission's executive director, is to report on the Balanced Growth Initiative and the Ohio Lake Erie license plate program.

The commission's offices are in Toledo.

Ohio Sea Grant Programs

*Dana Oleskiewicz, Extension Educator,
Watershed Management*

Ohio Sea Grant conducted its second successful Great Lakes Fishery Leadership Institute with 11 participants June 2-4, 2006. Nine of nine evaluation respondents plan on sharing the information they learned with others. Post program evaluation scores were very positive and ranged from 4.6 to 5.0 on a 5 point scale indicating that participants felt they had learned new knowledge about fisheries management, Lake Erie issues and other topics. (Riesen, Lichtkoppler, Snyder, Reutter, Hageman, Kelch, Jentes-Banicki, and Braig)

EPA Administrator Stephen L. Johnson joined Ohio Governor Bob Taft, U.S. Rep. Steven C. LaTourette (R-14), other government officials and local partners in Ashtabula, Ohio, to celebrate the beginning of a \$50 million project to clean up contaminated sediment from the Ashtabula River, a tributary to Lake Erie. The federal-state-local cleanup project will be carried out under the Great Lakes Legacy Act of 2002, a special initiative aimed at cleaning up 31 toxic hot spots known as "areas of concern" around the Great Lakes. The Ashtabula River cleanup is Ohio's first Legacy Act project. (Lichtkoppler, Boehme IL-IN Sea Grant, USEPA, et al. 5 June 2006)

Leroy Hushak and Frank Lichtkoppler were awarded a \$10,000 Lake Erie Protection Fund small grant to begin the estimation of the economic benefits of the Ashtabula River cleanup dredging. (13 June 2006). For more information, contact Frank Lichtkoppler at lichtkoppler.1@osu.edu.

Volume 22, Issue 4, Winter 2006

Gamming with Rosanne Fortner
Twenty-nine and counting...

Not my age, I confess, but years of involvement in NMEA! I'm a proud fossil representative of PaleoNMEA. What an exciting time it was at the New York Conference to reconnect with the history of this grand organization and remember how it has influenced my life and career. The story is one that says to young people how valuable it is to network with those you wish to call your colleagues, to listen to their ponderings and see where your vision might fit into theirs. Here is where the story originated, and what it suggests to NMEA members.

Growing up as a coalminer's granddaughter in West Virginia, our annual family trip to the seashore was an event to be anticipated for months and remembered with an inner glow for equally long. The allure of the shells, the power of the waves, and the warmth of the sand combined into sensory magic, always to be sought, never to be forgotten. Little wonder then that when I chose courses for degrees, they were the sciences that could combine in studies of the sea. I developed an inland oceanography course for the middle school where I first taught, took a course from Will Hon at Skidaway Island, and learned from him the connections I would always put into sea teaching—not just science, but the arts and literature as well. From these early forays into marine education, I knew I had to seek a dissertation topic that would get me a job at the sea. That's where NMEA enters my life.

Amidst the turbulent life of a young family with babes and unfinished degrees and uncertain future, my wonderful, supportive husband, Richard, saw on a bulletin board an announcement of the second annual meeting of the National Marine Education Association, to be held in Newark, DE. Unfunded, unknown, and timid, I went to learn what marine educators were doing and what kinds of research they might need. It was my first professional conference ever, but the group was welcoming and helpful. On a field trip bus I talked with a professor who recommended some possible topics for research that would be useful in the profession. Imagine! A profession that was marine education! In the ensuing year, I did that research, and figuring that a group with research ideas might also have jobs to offer, I returned to NMEA's next meeting at Evergreen College in Oregon. Indeed, there were jobs to be had, but the only one that required a doctorate was being offered by the professor I had met on the bus the previous year, Vic Mayer. In 1978, I accepted a position at The Ohio State University in central Ohio. It wasn't the beach I'd been looking for, but to my delight, the sweetwater seas were as inspiring as the salty ones. With the challenge of developing *Oceanic Education Activities for Great Lakes Schools*, the first Sea Grant project for Ohio, I grew to feel the reason the French Voyageurs spoke of the lakes as *l'eau douce*, sweet water.

Since that time, the Great Lakes have been my seas—the North Coast, my classroom. And even though in retirement I have found that precious coastal Carolina home of my dreams, my heart and mission remain bound to the sweetwater seas as I work with the COSEE Great Lakes! NMEA brought me to this place. Here is what it should say to you as a current member:

NMEA has a sea treasure ready for sharing, and the more it gives away, the more the treasure grows. As Mr. Fish said in his Gamming article, it's the people. Among this group you will find mentors, colleagues, and friends. Ideas, inspiration, and insights flow through meetings. There are no sea monsters or sharks here, but lots of sea stars and a few clownfish among us!

NMEA grows through marine education research. We had a research committee from 1988 to the early 1990s. There is still a need, as evidenced by frequent contacts with young graduate students looking for guidance. Shouldn't we consider a research revival? When you think of marine and aquatic education, make sure that the North Coast and Great Lakes are part of what comes to mind. Consider how the language of Ocean Literacy, like the *Ocean Blueprint for the 21st Century*, can reflect the importance of Great Lakes learning. If you don't know the Lakes yourself, come and see what an ocean vista you can achieve there, or contact a GLEAMS member for some personal gamming! Ohio State's legendary coach, Woody Hayes, was often quoted as saying, "You can never pay back; but you can always pay forward." If NMEA has been important to you, consider how you can serve the organization or its mission by doing something that brightens the future seascape. Can you serve on the Board, present at a conference, invite new educators to chapter and national meetings, serve in an elected office? As I walk the beach now every day, I can relive the childhood magic through the explorations of my grandchildren. I've reveled in the opportunity of passing on that wonder as a career, and life as an old fossil is shaping up too! Thanks, NMEA. Let's go do some interesting research!

Rosanne Fortner is a Life Member of NMEA and served as President in 1988-89. Since her retirement from The Ohio State University in 2005, she has been the Director of COSEE Great Lakes. She can be reached at: fortner.2@osu.edu

The revival of Gamming in NMEA publications marks an absence of more than sixteen years. NMEA's President's Circle, made up of former presidents and leaders, contribute to this feature. Gamming is meant to 1) inspire, create, and pass on wisdom; 2) give recognition to unsung stars; 3) pass on stories, ideas, and dreams; 4) give meaning to our work as marine and aquatic educators; 5) learn from seasoned and experienced marine and aquatic educators. Comments may be directed to President's Circle Coordinator Bill Hastie at: hastieb@wvi.com

Gam (gam) 1. a social visit; 2. an exchange of visits between the crews of whaling ships at sea.



1 of 1

Island Snake Lady on TV

We all had a great time watching Board Member Kristin Stanford, aka Island Snake Lady, on the Dirty Jobs Program of the Discovery Channel at Tippers Restaurant on November 28. A camera man from the Ohio Division of Wildlife was present as well as many community members to enjoy the program. Thanks to Tipper's for providing some great snacks while watching the show. Kristin did a wonderful and entertaining job of explaining her "Dirty Job" of research with the federally threatened, state endangered Lake Erie water snake on national television! After the show, Kristin was busy fielding many calls of congratulations on a great program. She has been invited for more radio interviews since the airing of the segment.

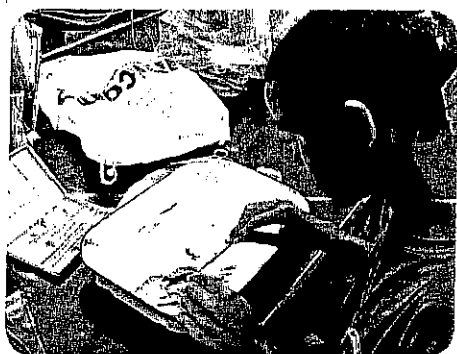
The LEIC-BSC presented Kristin with a gift of Lake Erie water snake earrings (custom made by artist Jessie Green) in appreciation of all her excellent work on behalf of the conservation of the Lake Erie water snake.

GOOD JOB KRISTIN!



Board Member Carol Ferguson and member Amy Newell ham it up with plastic snakes for the occasion.

Featured Programs



Photos courtesy of Ohio Sea Grant and Stone Laboratory

Stone Laboratory Workshops, Conferences, and Tours

Participating schools: Carroll County: Bloom Carroll High School, Fairfield High School. Columbiana County: Columbiana High School. Crawford County: Wynford High School. Cuyahoga County: Brecksville High School, Rocky River Middle School. Delaware County: Buckeye Valley Middle School, Dempsey Middle School. Fairfield County: Liberty Union-Thurston Local—Liberty Union High School. Franklin County: Columbus Public Schools—Distance Learning, Hilliard—Hilliard Station, Hilliard Tharp; South Western School District—Jackson, Pleasant View; Worthington—McCord, Perry, Worthington Middle, Worthingway. Holmes County: West Holmes High School. Huron County: McCormick Middle School. Knox County: Milford Junior High School. Lake County: Phillips-Osborne High School. Licking County: Granville Intermediate. Logan County: Bellefontaine High School. Lorain County: Franklin Elementary, South Amherst Middle School. Troy Intermediate School. Lucas County: East Toledo Junior High School, Horizon Toledo Middle School, Maumee High School, Oregon City Schools, Robinson Junior High School. Madison County: Jonathan Alder High School, Madison Clark High School. Marion County: Elgin West-Elgin Local. Montgomery County: Miamisburg Middle School, Normandy Elementary, West Carrollton Middle School. Ottawa County: Bataan, Portage, Jefferson, Put-in-Bay. Sandusky County: Lakota Junior High, Meadowlawn, Sandusky High School. Seneca County: Tiffin City Heights. Summit County: Erwine Middle School, Hudson Middle School. Wood County: Kenwood Elementary.

Ohio State partner: Stone Laboratory (ohioseagrant.osu.edu/stonelab/)

Stone Laboratory's aquatic science workshop program hosts students from grades 4–12 for a series of Lake Erie biology topics. Scheduled activities for all workshops conducted by Stone Laboratory staff consist of a two-hour science cruise during which a resident scientist demonstrates the study of water quality, plankton, benthos, and fish using various sensors, samplers, and trawls; a two-hour laboratory session to examine and identify collected and preserved specimens; and specialized island activities, such as the invertebrate walk, bird walk, exotic species slide show, seining, or edible plant walk. These field trips meet many of the Ohio Academic Content Standards for Science. Groups can schedule a one-day workshop or stay overnight for a two-day workshop from mid-April through October.

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Grades Pre-K-5

Program Name: Stone Laboratory Workshops, Conferences, and Tours

Description: Stone Laboratory's aquatic science workshop program hosts students from grades 4-12 for a series of Lake Erie biology topics featuring a science cruise aboard one of the research vessels; laboratory examination of plankton; a fish ID lab; invertebrates, edible plants, and bird walks; herpetology session; and an exotic species slide show. Groups have an option of a day trip or overnight stay.

Participating schools: Lorain County: Elyria City—Franklin Elementary; Lucas County: Oregon City Schools.; Montgomery County: Centerville City—Noftandy; Ottawa County: Port Clinton City—Bataan, Jefferson, Portage; Put-in-Bay Local—Put-in-Bay; Sandusky County: Perkins Local—Meadowlawn. Wood County: Bowling Green City—Kenwood Elementary. Marion County: Elgin West—Elgin Local

Ohio State contact: Stone Laboratory, Ohio Sea Grant College Program, (614) 292-8949 (ohioseagrant.osu.edu/stonelab/)



Photo courtesy of Ohio Sea Grant and Stone Laboratory

Grades 6-8

Participating schools: All Ohio schools

Ohio State contact: Conferences and Institutes, Office of Continuing Education, (614) 292-8571
(statescienceday.osu.edu/)

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Description: Stone Laboratory's aquatic science workshop program hosts students from grades 4-12 for a series of Lake Erie biology topics featuring a science cruise aboard one of the research vessels; laboratory examination of plankton; a fish ID lab; invertebrates, edible plant, and bird walks; herpetology session; and an exotic species slide show. Groups have an option of a day trip or overnight stay.

Participating schools: Franklin County: Hilliard—Hilliard Station, Hilliard Sharp; South Western School District—Jackson, Pleasant View; Worthington—McCord, Perry, Worthington Middle, Worthingway. Clermont County: Milford—Milford Junior High School. Cuyahoga County: Rocky River City—Rocky River Middle. Delaware County: Buckeye Valley Local—Buckeye Valley Middle School; Delaware City—Dempsey Middle School. Huron County: Huron City—McCormick Middle School. Licking County: Granville—Granville Intermediate. Lorain County: Avon Lake City—Troy Intermediate; Firelands Local—South Amherst Middle School. Lucas County: Horizon Toledo Science Academy (charter); Toledo City—East Toledo Junior High School, Robinson Junior. Montgomery County: Miamisburg City—Wantz Middle School; West Carrollton City—West Carrollton Middle School. Sandusky County: Lakota Local—Lakota Junior High. Seneca County: Tiffin City—Tiffin Middle. Summit County: Coventry Local—Erwine Middle School; Hudson City—Hudson Middle School

Ohio State contact: Stone Laboratory, Ohio Sea Grant College Program, (614) 292-8949,
(ohioseagrant.osu.edu/stone/lab/)



Photos courtesy of Ohio Sea Grant and Stone Laboratory

Grades 9-12

Program Name: Stone Laboratory Workshops, Conferences, and Tours

Description: Stone Laboratory's aquatic science workshop program hosts students from grades 4-12 for a series of Lake Erie biology topics featuring a science cruise aboard one of the research vessels; laboratory examination of plankton; a fish ID lab; invertebrates, edible plant, and bird walks; herpetology session; and an exotic species slide show. Groups have an option of a day trip or overnight stay.

Participating schools: Carroll County: Bloom-Carroll Local—Bloom Carroll High School. Columbiana County: Columbiana—Columbiana High School. Crawford County: Wynford Local—Wynford High School. Cuyahoga County: Brecksville City—Brecksville High School. Fairfield County: Liberty Union-Thurston Local—Liberty Union High School. Franklin County: Columbus Public Schools—Distance Learning. Holmes County: West Holmes Local—West Holmes High School. Logan County: Bellefontaine—Bellefontaine High School. Lucas County: Maumee City—Maumee High School. Madison County: Jonathan Alder Local—Jonathan Alder High School. Ottawa County: Put-in-Bay Local—Put-in-Bay High School. Sandusky County: Sandusky City—Sandusky High School.

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Photo courtesy of Ohio Sea Grant and Stone Laboratory

ADDENDUM OHIO SEA GRANT MEDIA 2006

09.05.2006. "Coast Guard to use Lake Erie for weapons training." BOWLING GREEN NEWS

By: THE ASSOCIATED PRESS Section: State

CLEVELAND (AP) - Anglers, boaters and environmentalists are up in arms about the Coast Guard's proposal to establish weapons training zones on Lake Erie.

The Coast Guard wants to establish four areas on the lake, as well as 30 other zones on the four other Great Lakes, where they can train using live ammunition. Officials say they need the shooting practice to prepare for maritime threats including terrorism and drug smuggling.

The plan drew so much criticism that the Coast Guard has extended the period for public comment - which was initially to end Thursday - until November.

"It's pretty clear that we didn't do a good enough job educating the public," said Robert Lanier, a Coast Guard spokesman. The Coast Guard is also considering holding public hearings.

The Ohio Department of Natural Resources and other environmental groups voiced concern over the plan and its possible impact on boaters and wildlife.

Commercial fishermen would have a hard time moving their nets for the drills, and recreational anglers and boaters could accidentally wander into the range, the department's Steve Holland wrote in a letter to the Coast Guard.

The zones are all more than 5 miles offshore and drills would only be conducted a few days every year, Lanier said. Exercises would use machine guns mounted on cutters and small boats.

During live-fire operations a small boat would patrol as a safety lookout. Any wayward boats would be escorted from the zone, and firing would stop until the area was cleared, Lanier said.

The state DNR also wanted assurances that the areas would not be used between April 15 and Nov. 1 in order to protect aquatic species and boaters.

"We're talking hundreds and hundreds of boats," said **David Kelch of Ohio State University's Sea Grant office in Lorain County**. "The one [proposed zone] off Cleveland, that is another prime area for fishing."

Lead and other metals from the ammunition could taint the water, said Kristy Meyer of the Ohio Environmental Council. The council is also worried that noises from rounds firing will disrupt the reproduction of migratory birds.

Lanier acknowledged the munitions contain some lead, but said it would not harm the ecosystem.

Despite the objections, some groups are confident that an agreement can be ironed out.

With the right scheduling and good communication, zones can be safely implemented, said Ken Alvey, president of the Lake Erie Marine Trades Association.



Media Credit: THE ASSOCIATED PRESS

Training Zone: The U.S. Coast Guard cutter Healy returns from its 2006 Arctic deployment to the Coast Guard Integrated Support Command Sunday, Sept. 3, 2006 in Seattle. The Coast Guard wants to use four areas of Lake Erie for shooting practice with live