Environmental Protection and Economic Development Go Hand-in-Hand

In the early 1980s, a 110-acre condominium, hotel, restaurant, and marina development on Pipe Creek in Sandusky was held up because 17 acres of wetland would be destroyed. The City of Sandusky asked Sea Grant for help. By showing them how to construct a human-made wetland on the other side of the creek, Ohio Sea Grant proposed a project that would also protect the city's water treatment plant from erosion and provide a depository for dredged material from marina construction. In the end, a 17-acre wetland was lost and replaced by a 94-acre wetland that has attracted a threatened species of tern, bald eagles, numerous other plants and animals, and more than $100 million in economic development.

Clean Marinas Program Produces Valuable Products from Marina Waste

As protection against the winter elements, plastic shrink wrap is used to enclose boats stored outdoors in many Great Lakes communities. Disposal of this plastic in landfills comes at a high cost for marinas and the environment. Ohio Sea Grant's Clean Marinas Program identified an Ohio company, Mondo Polymers Inc., that now recycles the shrink wrap into plastic blocks used to construct highway guardrails. As a result, more than 250 tons of shrink wrap and greenhouse plastic have been recycled in the first two years of the program. The company picks up the shrink wrap from marinas, saving the marina money and preventing the material from going into landfills.

Leadership Academy Encourages Good Government

Good government is the goal of the Local Government Leadership Academy in Toledo. Developed by Ohio Sea Grant Extension through partnerships with OSU Community Development, the County Commissioners Association of Ohio, Ohio Township Trustee Association, and the Toledo Area Chamber of Commerce, this 10-week course helps elected officials improve their skills to become better community leaders. More than 150 people have participated since 2002, when the academy graduated its first class, including mayors, State Senators, and State Representatives. Sea Grant has assisted many other Ohio counties in developing similar programs.

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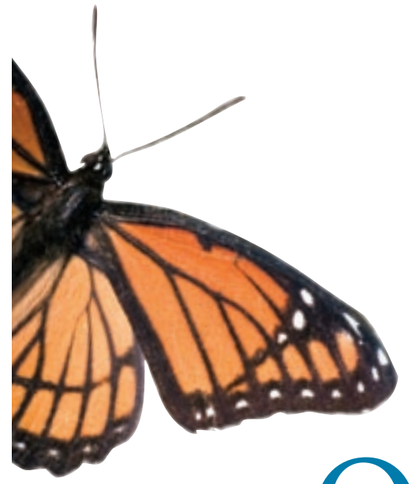

Ohio Sea Grant
College Program

Celebrating 30 Years

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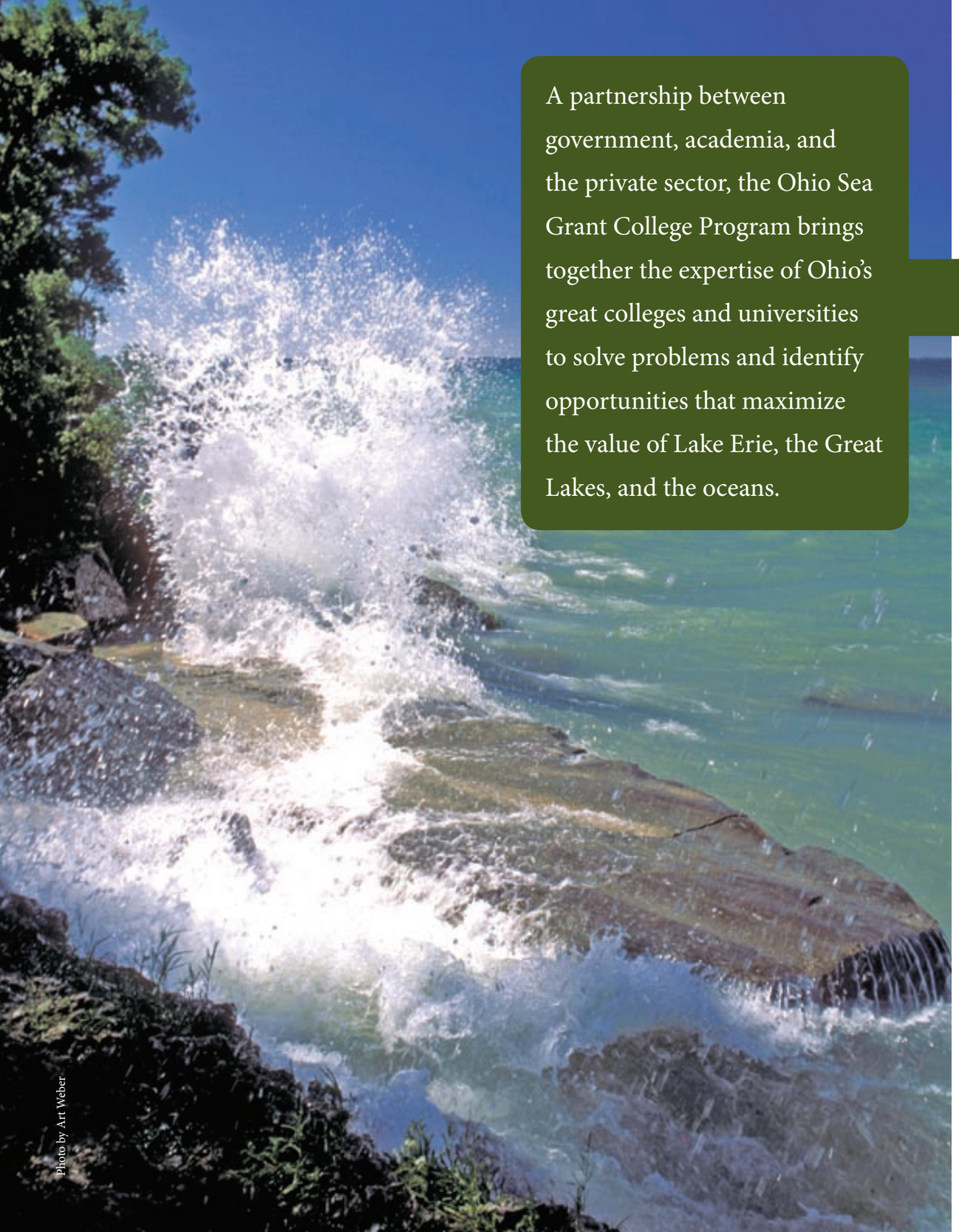

Photo by Art Weber

A partnership between government, academia, and the private sector, the Ohio Sea Grant College Program brings together the expertise of Ohio's great colleges and universities to solve problems and identify opportunities that maximize the value of Lake Erie, the Great Lakes, and the oceans.

Ohio Sea Grant College Program *Celebrates 30 Years*

The Proof is in the Numbers

Ohio Sea Grant has succeeded over its 30 years thanks to its continuously strong research, education, and outreach programs. In its history, Ohio Sea Grant has funded 406 Sea Grant projects, 250 principal investigators, and 444 undergraduate and graduate students from 19 universities and colleges around Ohio.

Its Stone Laboratory aquatic workshops, fieldtrips, and conferences have educated more than 100,000 people, while its summer college program has provided college credit to more than 5,000 undergraduate and graduate students and teachers. Those high school and college students have come from around the county, representing more than 360 high schools and 105 universities.

Through the fund-raising efforts of its non-profit group, the Friends of Stone Lab, Ohio Sea Grant has awarded scholarships worth over $300,000 to more than 650 college students and 250 high school students. Thanks to three of its 16 endowments, 41 undergraduates from across the U.S. have participated in its Research Experience for Undergraduates Program, a program that has provided an additional $130,000 in scholarships.

The program's award-winning newsletter, *Twine Line*, now also in its 30th year, continues to reach more than 25,000 people every issue, while the web site, with its hundreds of online publications, generates nearly 11 million hits every year. Both have successfully served to better educate the public on the most pressing Great Lakes issues and keep them updated on the Sea Grant projects that are working to solve those issues.

All these numbers, along with the following featured Sea Grant projects, show the extent to which Ohio Sea Grant has gone over the years in its research, education, and outreach efforts around the region.

Lawmakers See, Touch, and Experience Lake Erie

State and federal lawmakers make important decisions every day that ultimately impact our Great Lake. To help these elected officials better understand the issues, Ohio Sea Grant has hosted Legislature Days since 1982. Policymakers not only hear about the challenges and opportunities facing the region's environmental health and economy, but get the chance to appreciate the lake by participating in interactive activities. This hands-on educational program has significantly helped elected officials to cast more informed votes on a number of key programs and issues affecting Lake Erie and Ohio's aquatic resources.

Recycled Rubble Attracts Fish and Fishing Dollars

Artificial reefs developed by Ohio Sea Grant attract more than 60 times as many fish as the surrounding non-reef areas and pay for themselves 2.75 times each year. More than 90 percent of the fish found near reefs are top sport fish species, such as smallmouth bass and yellow perch, meaning those who seek them are also attracted. Nearly a mile of artificial reefs has been constructed between Lorain and Cleveland including three reefs created from the rubble of old Cleveland Stadium. By recycling concrete, Ohio Sea Grant has created new habitat for fish and increased fishing opportunities for Lake Erie anglers.

Charter Captains Gain Business Tools to Lure New Customers and Profits

Nearly 800 charter captains do business in Ohio along Lake Erie, and their customers spend more than $52 million in restaurants, hotels, retail shops, bait shops, and other area businesses. Keeping up with new fishing techniques and business practices is easier for these Ohio business owners thanks to Ohio Sea Grant's annual Charter Captains Conference. In fact, more than two-thirds of all captains attending one or more of these events report an increase in their bottom line due to what they learned. With 85% of these captains reporting they've changed their way of doing business as a result, Ohio Sea Grant's Charter Captains Conferences continue to reel in real results.

Tourism Commitment Links Economic Development with Resource Protection

Generating more than $3.8 billion, Lake Erie tourism has the power to transform communities. Ohio Sea Grant has long recognized the importance of coastal tourism and has conducted research, served in leadership roles on tourism boards, and helped develop ways to promote and protect Lake Erie. In 2005, Ohio Sea Grant helped the Lake Erie Coastal Ohio Trail receive national scenic byway designation from the Federal Highway Administration. This 293-mile route creates a regional experience for visitors, as well as a regional way of thinking about land use, conservation, and development. In late 2006, Ohio Sea Grant furthered its commitment to sustainable tourism by establishing a Lake Erie Tourism Program office.

Protecting Lake Erie by Cleaning Up its Tributaries

A clean river protects Lake Erie from contamination, allows increased commercial shipping, and provides new opportunities for marinas and other tourism-related businesses. In 2008, the Ashtabula River Partnership achieved its long-term goal of removing more than 635,000 cubic yards of contaminated sediment from the Ashtabula River and placing it in a specially designed landfill. Ohio Sea Grant Extension was one of the founding partners of the Ashtabula River Partnership in 1994 and has provided research information, ideas, and assistance to clean up this important tributary.

Online Discussion Board Quick to Answer Lake Erie Questions

Do you have a question about Lake Erie but just don't know who to ask? Ohio Sea Grant's Lake Erie Discussion Board at ***ohioseagrant.osu.edu/discuss*** debuted in 2002 to offer an "ask your agent" service, providing personal answers to Lake Erie questions within hours of queries being posted. While most users of the board are located in Ohio, it has developed a loyal out-of-state clientele among those who come to Lake Erie for recreation or business. More than 70,000 people view the discussion board every month, making it one of the top pages on the Sea Grant web site.

Improving Lake Erie Access Creates Quality Communities

Ohio Sea Grant helped the City of Mentor acquire Mentor Lagoons to increase public access to Lake Erie. For the City of Mentor, spending more than $10 million to acquire the 450 acres of beach, marsh, forest, and a little-used marina was controversial. Ohio Sea Grant facilitated awareness of alternative public vs. private land uses, provided technical information for public debate, and helped organize and empower local interest groups. In 1996, Mentor citizens voted to acquire the property. The city now owns and manages a 500-dock marina and a lakefront nature preserve. In 2006, Mentor was named "One of the 100 Best Places to Live in America" by Money© magazine.

Stone Lab Hooks Students on Science

Lake Erie is a living laboratory for science students, and more than 6,000 students come to Ohio Sea Grant's Stone Laboratory each year for hands-on Lake Erie workshops and classes. For more than 25 years, Stone Lab has offered students in grades 4 through 12 opportunities to go on Stone Lab research vessels, huddle over microscopes in the lab, and experience invertebrate, bird, and plant walks. Stone Lab also offers more than 25 science and education courses to teachers and high school and college students for college credit every summer. From capturing fish and insects to examining lake sediments, students experience firsthand what it takes to be a scientist.

Great Lakes Sea Grant Educators Connect Students and Scientists

The Great Lakes are resources that can be used to improve math and science education. When students understand the importance of the Great Lakes, they begin to understand the responsibilities they have to protect our health, economy, and environment. Under leadership of Ohio Sea Grant, all seven Sea Grant programs on the Great Lakes pooled their education expertise to form the Center for Ocean Sciences Education Excellence (COSEE), a National Science Foundation/NOAA supported program to bring aquatic science research to teachers and students. Through workshops on land and water, as well as online, COSEE network scientists directly work with teachers, informal educators, and students in grades 4-10. The program expects to serve more than 1,500 educators and engage more than 350 researchers in the education of new audiences. By incorporating regional topics such as contamination, changing water levels, and local species, Ohio Sea Grant has also developed learning modules to connect Great Lakes students with oceanic issues. Visit ***coseegreatlakes.net***.

Researchers Unlock Mystery of the Dead Zone and Harmful Algal Blooms

For more than 30 years, Ohio Sea Grant and Stone Lab have led research efforts to investigate why dead zones—areas with little or no oxygen—occur in Lake Erie. These dead zones and now the increasing presence of harmful algal blooms affect not only fish and plankton communities, but the 11 million people who rely on Lake Erie for their drinking water. Thanks to Sea Grant research, scientists are discovering what factors fuel the frequency and duration of the dead zones, as well as creating new Sea Grant technology to remove toxins that algal blooms release.

Science Improves Lake Erie Fishing

Learning more about the Lake Erie fishery helps identify challenges, as well as solutions, for keeping our fishery the most productive in the Great Lakes. By examining DNA strands, Sea Grant scientists identify spawning grounds and behaviors of walleye and yellow perch, providing valuable insight for fisheries management. DNA sequencing has also helped determine the origins of invasive species, such as round gobies and zebra mussels. Sea Grant scientists have shown how zebra mussels can accumulate harmful contaminants, transferring them to round gobies and then to smallmouth bass when the gobies eat the mussels and the bass eat the gobies. Other Sea Grant scientists have demonstrated new technologies to more accurately determine the age of fish. They've increased production in state fish hatcheries five-fold without increasing costs and are working diligently on new technologies to vaccinate fish against dangerous diseases.

Scientists Develop New Technologies to Clean Up Environment

Contaminants like heavy metals, pesticides, PCBs, and pharmaceuticals continue to plague the Great Lakes, traveling from lake sediment and water to the fish we consume. Ohio Sea Grant scientists, however, are finding ways to decrease that threat by developing new technologies that use engineered algae, sound waves, and sunlight to break down and remove those contaminants from Lake Erie.

For more achievements, visit
ohioseagrant.osu.edu/30annivtimeline