

1 March 2005 - 31 March 2006 Annual Report

Ohio Sea Grant

College Program

education outreach research



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*Additional copies of this document are available
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For more information, contact the Columbus Office.

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I.a. Award reporting

Institution/Grantee: The Ohio State University Research Foundation

Award Number: NA06OAR4170020

Time Period: 03/01/2006-04/30/2009

Award Title: Ohio Sea Grant College Program

This is the omnibus award to the Ohio Sea Grant College Program. It began 1 March 2006. As a result there are not yet accomplishments to report.

This award will fund five continuing research projects at four different colleges and universities (Bowling Green State University, Kent State University, Ohio State University, and the University of Toledo) during year one and four new projects at Bowling Green and Ohio State. The total research budget for these nine projects will be \$475,086.

We are also funding one education project and our Extension Program, Communications Program, Development Fund, and our administration budget from our total budget of \$1,167,000 in year one.

In year two, we propose to continue funding on five projects at Bowling Green and Ohio State, and initiate funding on four new projects at Bowling Green, Ohio State, the University of Akron, and the University of Toledo. As a result, during this two-year period, we will complete funding on five projects initiated during the previous two-year cycle, and initiate funding on eight new projects.

I.b. Award reporting

Institution/Grantee: The Ohio State University Research Foundation
Award Number: NA16RG2252
Time Period: 03/01/2002-07/31/2007
Award Title: Ohio Sea Grant College Program

OHIO SEA GRANT COLLEGE PROGRAM PROGRESS REPORT 2005-2006

Jeffrey M. Reutter, Ph.D., Director

Program Highlights—Grant No. NA16RG2252

This has been a great year for the program with some exciting research collaborations, development of new strategic and implementation plans, and a major milestone in our endowments.

Program Assessment Team (PAT) Review. We were reviewed by a team of experts from the National Sea Grant College Program from 21-25 August 2005. Dr. Jerry Schubel, Chair of the National Sea Grant Review Panel and President of the Aquarium of the Pacific, and Dr. Frank Kudrna, Member of the National Sea Grant Review Panel and President of Kudrna and Associates, were the chairs of the PAT. The rest of the team consisted of: Dr. William Frost, Program Leader, Natural Resources, University of California; Dr. Robert Stickney, Director of the Texas Sea Grant College Program; Dr. William Stubblefield, Retired Admiral of the National Oceanic and Atmospheric Administration (NOAA) Corp; Dr. Keith Criddle, a member of the National Research Council and an observer on the PAT; Jonathan Eigen, an ex-officio member of the PAT and the Ohio Sea Grant (OSG) Program Officer within the National Sea Grant College Program; Jennifer Greenamoyer, an observer and Executive Director of the Sea Grant Association; and Jamie Krauk, Communications Director of the National Sea Grant College Program and an ex-officio member of the PAT. We are rated in 4 major categories and 14 subcategories. "Organizing and Managing the Program" receives 20% of the weight; "Connecting with Users" receives 20%, "Effective and Aggressive Long-Range Planning" receives 10%, and "Producing Significant Results" receives 50%. In each of the subcategories we can receive a grade of "Needs Improvement" (we got none of these), "Meets Benchmark" (we got none of these), "Exceeds Benchmark" (we got 2 of these in the planning area), or "Highest Performance" (we got 12 of these). The team was very impressed with the expertise, involvement, understanding, dedication, and commitment of everyone they met.

Strategic and Implementation Plans. In 2005 we completed a new Strategic Plan for the period 2005-10 and a new Implementation Plan for 2005-07. These plans are based on Sea Grant's 11 Thematic Areas, NOAA's Strategic Plan, and the nine priorities of the Great Lakes Governors.

Enrollment at Stone Laboratory (Stone Laboratory is officially part of the Ohio Sea Grant College Program). During the summer of 2005, a total of 189 students from 17 colleges and universities and 36 high schools took college courses at Stone Laboratory. Since 1990, students from 99 colleges and universities (47 in state and 52 out of state) and 341 high schools (330 in

state and 11 out of state) have taken college courses at Stone Laboratory, and since 2000, students from 55 colleges and universities (30 in state and 25 out of state) and 166 high schools (163 in state and 3 out of state) have taken courses there. With the assistance of the Friends of Stone Laboratory (FOSL) we were able to award 40 scholarships totaling \$18,901 in 2005. The FOSL also received 35 applications and awarded seven scholarships to outstanding high school students at State Science Day sponsored by the Ohio Academy of Science. Finally, using funds from newly created research endowments, we implemented a program of “Research Experiences for Undergraduates” in 2005 with 15 awards totaling \$49,006.

Outreach at Stone Laboratory. Our spring and fall aquatic workshop/field trip/conference program attracted 145 groups and 5,379 participants in 2004 and over 150 groups and 5,000 participants in 2005.

Distance Learning. In 2003, with support from US Environmental Protection Agency (EPA), the OSU UNITS program, and Ohio Sea Grant, equipment was purchased and the Laboratory conference room was renovated to allow distance-learning broadcasts. The summer Guest Lecture series in 2003, 2004, and 2005 were broadcast to main campus and fish dissection laboratory exercises were broadcast to high schools around the state. Ohio Sea Grant hosted the Great Lakes Sea Grant Network Conference at Stone Lab in September 2004 and used our distance learning equipment to allow Paul Horvatin, US EPA, to speak to and interact with the group. In 2005, student presentations from our Research Experience for Undergraduates (REU) Program were broadcast from the Laboratory to the Columbus main campus.

Supporting Diversity. An experimental offering of one of our one-week courses for students in the Minority Research Initiative was very successful in 1998 and followed a successful offering for students from the Young Scholars Program in 1997. We enrolled two Young Scholars in 1999, but the program was unable to send any in 2000 due to funding difficulties. Four students from the Young Scholars Program enrolled in 2001, 1 during 2002, 9 in 2003, 9 in 2004, and 4 in 2005, while the Columbus Public Schools’ I Know I Can Program supported 14 students in 2001, 9 in 2002, 11 in 2003, 3 in 2004, and 5 in 2005.

Research. During the reporting period (excluding continuing program management projects), Ohio Sea Grant supported 16 large, competitively funded projects, including nine new projects (5 initiated in 2005 under Award NA16RG2252). We also supported nine development fund projects, including five new projects. Sea Grant scientists produced 14 peer-reviewed publications, made 70 scientific presentations, and their research projects supported 21 graduate and 7 undergraduate students. In addition, 10 investigators from five different institutions engaged 45 technicians/student workers and nine REU students working on 13 different projects using Stone Lab’s facilities.

GOOS/IOOS/AIS. The Sea Grant Association asked Dr. Reutter to Chair a Sea Grant Work Group for the Integrated Ocean Observing System (IOOS) composed of Sea Grant representatives from each of the Regional Associations in 2004. The Sea Grant Association also asked him to Co-Chair the Aquatic Invasive Species (AIS) Theme Team in 2004. In 2005 we hosted an AIS Database Summit at Stone Laboratory. This summit involved the leaders of 10 national AIS databases and was funded by NOAA.

Communications, Web Site and Electronic Reports. Our Communications Program received two APEX awards for marketing, two ACE Gold and Bronze Awards for the direct mailers and web site, and the People's Blue Choice Award at 2005's national Sea Grant conference. Our web site (www.ohioseagrant.osu.edu) was significantly improved in 2005 and 2006 to make it more useful to students, teachers, scientists, elected officials, and the general public, and to make it handicapped accessible. The site contains copies of *Twine Line*, 95% of all Ohio Sea Grant publications, information on courses and programs at Stone Laboratory, and summaries of all of our research projects. This site and our electronic reporting system for research projects were selected as "best management practices" by the National Sea Grant College Program. The site contains over 1000 pages of information. In 1999, the site had 258,165 hits. In 2000 it had over 571,756, in 2001 it had 988,631 hits, in 2002 it had 1,623,916 hits, in 2003 it had 1,526,882 hits, and in 2004 it had 1,173,646 hits with over 60,000 unique users in both 2003 and 2004. During 2005 and continuing into 2006 we changed hosts and operating systems for our web site and redeveloped the site so that it is database driven and individual principal investigators have more control over their reporting pages. This has greatly increased the use of our web site. From 1 March 2005 to 31 March 2006 we had over 1.6 million hits and during the last three months of the period we are averaging almost 400,000 hits per month. We also track the number of times we appear in the mass media. In 2005, we were 206 articles in 64 different venues. Since 2001, over 1,000 articles have been written about our programs, projects and results.

Creation of New Endowments. We have created nine new endowments with a value of over \$700,000 since 2000. The total value of all of our endowments surpassed \$1 million in 2005 and is now close to 1.2 million.

Special Outreach Activities

The past two years have been very productive for the Ohio Sea Grant College Program with a number of special outreach activities. The brief list below contains a few of the highlights. See Appendix E for a more complete list of accomplishments and activities.

- In February 2005 and 2006 we hosted the sixth and seventh Sea Grant/Stone Laboratory Winter Lecture Series in Columbus. In 2005 our silent auction generated over \$4,000 in donations and over \$3,000 in 2006.
- In September 2005 the FOSL hosted the Eighth Annual Stone Laboratory Open House with Ohio Sea Grant and the Lake Erie Commission with over 900 in attendance.
- On 10-11 August 2005, we co-hosted the third Put-in-Bay Legislative Day with Rep. Chris Redfern and Senator Randy Gardner. Over 40 elected officials attended.
- In September 2005 we hosted an Aquatic Invasive Species Database Summit at Stone Laboratory.
- In October 2005 we hosted the Biennial Meeting of the National Association of Marine Laboratories at Stone Laboratory.
- In 2004 and 2005 we continued to lead efforts and work collaboratively with the Lake Erie Marine Trades Association and the Ohio Department of Natural Resources (ODNR) on the creation of a Clean Marinas Program for Ohio and a Clean Boater Program for Ohio. Ohio's first Clean Marinas and Boaters pledged in 2004 and the first nine marinas were certified as

Clean Marinas on 19 October 2005. Currently we have 19 certified Clean Marinas and 16 more pledged to become Clean Marinas.

- From December 2005 to February 2006 Dr. Reutter lead the Great Lakes Sea Grant Network and an international team of scientists in the creation of a proposal to create the Great Lakes Regional Research and Information Network (GLRRIN) patterned after the very successful Lake Erie Millennium Network. The proposal was funded beginning 1 June 2006.

Fellowships

LeAnn Southward, received her MS Degree from The Ohio State University Department of Evolution, Ecology and Organismal Biology in December 2003 and began a Knauss fellowship on 1 February 2004. Gene Kim, is currently finishing his Ph.D. in the same department and began his fellowship year 1 February 2005. LeAnn worked for the US State Department specializing in Pacific fishing issues and is currently working for NOAA. Gene spent his fellowship year on the staff of the House Resources Committee.

Short Research Summaries

Research Highlights from March 2005 to March 2006

Funding for all or part of the research projects listed below came from the Ohio Sea Grant College Program. Stories about each of these projects appeared within Twine Line, Ohio Sea Grant's newsletter, from March 2005 to March 2006.

Research Finds Heat Tolerance Not Genetic in Zebra Mussels. Ohio Sea Grant researchers Drs. Curt Elderkin and David Berg of Miami University found that preliminarily, zebra mussels could not pass heat tolerance onto their offspring. Using full-sib families, half-sib families (different mother, same father), and their offspring, they exposed each group to lethal temperatures of heat to determine an individual time-to-death. They found among the groups, there was no "survival of the fittest" heat tolerance trait passed onto the offspring. This research will help better determine whether using high heat could be a means to control zebra mussels in the Great Lakes.

Endangered Water Snakes Feed on Invasive Round Gobies in Lake Erie. New Ohio Sea Grant research by Kristin Stanford of Northern Illinois University finds that the state endangered Lake Erie water snake's diet has drastically changed over the past 15 years—from mostly native fishes to now nearly all round gobies (92% in 2004). This is one of the first cases where a harmful and devastating invasive species is resulting in positive effects for a native and threatened species.

New Research Investigates Why Eurasian Watermilfoil Not in Lake Erie Wetland. New Ohio Sea Grant research by Drs. Robert Whyte of Antioch College and David Franko of Miami University investigated why the invasive Eurasian watermilfoil is absent from Old Woman Creek National Estuarine Research Reserve (OWC) near Lake Erie. The researchers found that although the species has been introduced repeatedly since 1992, the invasive has never taken hold. The research found several possible reasons for this: the plant may be susceptible to freezing temperatures of OWC with the plants and their root crowns being sheared off by ice

movement; the wetland's turbidity may hinder the plant's growth and access to light; the American water lotus may produce an allelopathic agent or natural herbicide that reduces the invasive's growth; and the estuary's barrier beach may protect it from the invasive.

Invasive Phragmites Can Be Decreased in Lake Erie Wetland with Controlled Flooding.

Ohio Sea Grant researchers Dr. Craig Davis and graduate student Jennifer Morgan, of The Ohio State University, have found that deep water may provide a means of controlling or eliminating non-native Type M Phragmites grass, which is negatively impacting animal and plant diversity in the Midwest and New England. Working in marsh plots in Lake Erie's East Harbor, David and Morgan found that the fewest plants grew in Phragmites plots that were plowed, inundated to 70 cm, and had any emerging stems cut. This research, which duplicated what others have found in the lab, will aid land managers who are currently seeking ways to both protect native Phragmites and to control the invasive Type M.

Effect of Round Gobies on Smallmouth Bass Decline in Lake Erie Studied. Working under Ohio Sea Grant researchers Drs. Roy Stein, Elizabeth Marschall and Susan Fisher, Ohio State University Ph.D. candidate and John R. Knauss Marine Policy Fellow, Gene Kim, is studying the simultaneous rise in Lake Erie's newly introduced round goby population and the decrease in native smallmouth bass. To date, he has found that smallmouth bass prefer gobies over minnows, their traditional favorite prey. Gobies, who also eat zebra and quagga mussels, may be aiding in the transport of PCBs from the bottom-dwelling mussels up the food chain. Kim's research will provide data on PCB concentrations existent in the lake's smallmouth bass population.

Genetic Diversity and Large Invasive Groups Result in Successful Invasions. Ohio Sea Grant researcher Dr. Carol Stepien of the University of Toledo proved that introductions of invasive species in the Great Lakes, such as round gobies, and zebra and quagga mussels, were successful due to the size and genetic diversity of the transplanted populations. By studying characteristics of invaders and their native populations, she predicts that future invaders will also be successful if they exhibit these same characteristics. In addition, possessing traits of their native relatives will enable invasive species to expand their territories, such as gobies successfully moving from fresh to brackish waters, an environment in which their home-based populations thrive. Dr. Stepien's predictions point to the importance of ballast water regulation enforcement and of preparation for the arrival of invasives in new habitats.

Mini Dead Zone in Sandusky Bay Larger and More Depleted of Oxygen than Originally Thought. Water samples taken by Ohio Sea Grant researchers Joe Conroy and Dr. David Culver from Lake Erie's Sandusky sub-basin indicate that nearly the entire sub-basin below 40 feet contained no oxygen by mid-July and that this remained in effect until late-August. Scientists believe that, similar to the well-known Dead Zone in the Erie's central basin, low oxygen concentrations in the Sandusky dead zone, which is roughly the size of Aruba, is caused by high phosphorus loading, which stimulates excess algal growth. Further research will be done to determine the effect of algal growth on timing and duration on low oxygen concentrations. With its detrimental impact on deep-dwelling game fish, such as yellow perch and walleye, the mini dead zone will need to be countered by watershed remediation.

New Ohio Sea Grant Research Uses Fluorescent Alga as Bioindicator for Heavy Metals.

Ohio Sea Grant research by Drs. Richard Sayre and Sathish Rajamani from The Ohio State

University could help better identify and measure heavy metals in Lake Erie water. Through their use of the engineered alga, *Chlamydomonas reinhardtii*, the researchers expressed a protein indicator, which when heavy metals are present, causes the protein to become fluorescent yellow. The result of the project should be portable fluorescence devices that efficiently identify and quantify bioavailable heavy metal at the sites of contamination.

Presence of Round Gobies Decrease Smallmouth Growth by 50 Percent. New Ohio Sea Grant research finds that round gobies have an adverse effect on smallmouth bass growth rates. Drs. Jeff Miner and Chris Winslow at Bowling Green State University discovered that when round gobies are present with smallmouth bass, the size of the juvenile smallmouth decreased by 50 percent. The decrease in growth rate is attributed to the physically aggressiveness of the round goby and its ability to force the bass high in the water column with less food. Knowing how invasives affect sport fish growth will offer fisheries managers predictive tools to better sustain the smallmouth fish population.

Research Finds Fish Otoliths May Provide Historical Map of Fish Migration. Ohio Sea Grant research by Drs. John Farver and Jeffrey Miner from Bowling Green State University are investigating whether the otolith, a bone-like structure in the heads of fish, could track where sport and commercial fish spawn and travel during their life. Otoliths are distinctive because they incorporate trace metals as the fish grows that reflect the chemistry of the environment in which the fish are living. Like tree rings, otoliths grow more in the summer but they also record what is in the fishes' environment at that moment in time. If the researchers can match an otolith's chemical make-up with that of a specific area in Lake Erie, they will be able to use these water signatures to track the migration of the fish throughout its lifetime. By knowing fish migration, fish managers will be able to better prioritize conversation and clean-up efforts.

Research Finds Vaccine Against Common Deadly Fish Virus. Ohio Sea Grant researchers Drs. Richard Sayre and Richard Wagner of Ohio State University have found that a unicellular alga, *Chlamydomonas reinhardtii*, can be used to provide vaccinations to fish. Using a large peptide library of amino acid combinations, the team isolates an antigen for the Infectious Hematopoietic Necrosis Virus (IHNV), which kills 30 % of the U.S. trout population. The developed vaccine is attached to the alga cells, which are then fed to fish, inducing an immune response to the virus. Successful trials of this vaccination process could result in a major decrease in U.S. trout population deaths. Sayre has one issued patent and three patents pending on the transgenic algae technology.

New Steelhead Angling Survey Quantifies Value of Fish and Anglers to Ohio Economy. An Ohio Sea Grant survey by Extension's Dave Kelch and Frank Lichtkoppler was conducted to gather data on steelhead angling in tributaries. With 375 anglers responding, out of 487 contacted, this first-ever study explored economic factors, such as revenue generated for local economies from angling trip expenditures. Based on data collected, the value per fish caught ranges from \$27 to \$38, based on angler trip expenditures and sample catches per trip. Survey data highlights the value of steelhead angling to local economies and suggests that seasons play a key role in angling trip expenditures.

Appointments—State, Regional, and National Leadership

The following information on appointments is presented to demonstrate the program's impact and influence on state, regional, national, and international issues in science. Each of our Sea Grant District Extension Specialists and our communications coordinator hold leadership appointments within their communities, the state, and the University as do many of our Sea Grant researchers and educators. Dr. Reutter holds the following leadership positions: President of the National Association of Marine Laboratories (term complete 12/31/05), Co-Founder of the Lake Erie Millennium Network, Co-Chair of the Sea Grant AIS Theme Team, Co-Chair of the Sea Grant IOOS Work Group, Member of the National Global Ocean Observing System (GOOS) Steering Committee, Member of the Sea Grant Law Center Advisory Board, Member of the National Undersea Research Center NE and Great Lakes Center Advisory Board, Member of the Old Woman Creek National Estuarine Research Reserve (NERR) Advisory Board, Member of the Board of Trustees of the Ohio Academy of Science, Member of the Lake Erie Protection Fund Grant Making Committee, Member of the National Federation of Regional Associations of IOOS, Member of the Great Lakes Observation System Steering Committee, and more.

The State of the Program

From the information presented above, it should be clear that the Ohio Sea Grant College Program is in very good shape and continues to grow. As noted above, donations since 2000 have been the highest in the 110-year history of the programs. Furthermore, while state support for our line item has been reduced in recent years, a new bill was introduced in the Legislature and passed in early 2005 creating a new "Fish Lake Erie" license plate. During 2005 and 2006 we were able to get over 1500 signatures on petitions for this new license plate and it went on sale in June 2006. Proceeds from the sale of the plate are to come to the Ohio Sea Grant College Program. In 2005 we were successful in leading efforts to bring a Center for Ocean Sciences Education Excellence (COSEE) to the Great Lakes, and in 2006 we were successful in leading the region in the creation of a successful proposal to create GLRRIN.

Program Plans

Some of our top action items for the next two years include:

- 1) Greatly increase our focus on external fund raising including projects to:
 - a. Raise funds to complete the renovation of Cooke's Castle—\$2.8 mil.
 - b. Raise funds to renovate the Stone Laboratory Research Building—\$1 mil.
 - c. Raise funds to construct new faculty/research housing at Stone Laboratory—\$300,000.
 - d. Raise funds for research and scholarship endowments—\$1 million each.
- 2) Continue to lead efforts to develop the education and outreach elements of the Great Lakes Observation System (GLOS) as part of IOOS and GOOS.
- 3) Continue to lead efforts to strengthen and expand the Lake Erie at the Millennium Network and develop GLRRIN.
- 4) Develop formal relationships between Ohio Sea Grant/Stone Laboratory and federal and state agencies.

- 5) Increasingly focus fund raising efforts on larger donations and the development of large endowments.
- 6) Sell over 2000 “Fish Lake Erie” license plates to support Sea Grant/Stone Lab.
- 7) Revise our web site and link all products to our databases and allow electronic submission and review of research proposals.
- 8) Continue to lead development and implementation of the new Great Lakes COSEE.

The Future

While Lake Erie is clearly better than it was in 1969 when the Cuyahoga River burned, it is not clean enough, and we are concerned that the trend seems to be headed in the wrong direction. In the past three years Ohio Sea Grant has led efforts to understand the causes for the Lake Erie Dead Zone and the increase in soluble reactive phosphorous concentrations. We will continue to support research projects in this area and projects that maximize the value of this outstanding resource, but will also support projects that help us understand Lake processes to allow more informed resource management and projects to develop new technologies to clean up the problems of the past. We will continue to focus on the 3 E’s, education, the environment, and the economy, through a combination of research, education and outreach, in collaboration with the government, academia, and the private sector. Our strategy is to focus university expertise on real-world problems.

OHIO SEA GRANT EXTENSION

Extension accomplishments are reported following the structure and headings of our current strategic plan (Ohio Sea Grant College Program Strategic Plan 2005-2010, Publication OHSU-TB-074), available by contacting our office.

All Ohio Sea Grant Agents, 2ND, 3RD and 4TH QTR 2005 and 2006 1ST QTR Accomplishments

I. Aquaculture

A. Culture system technology development

Goal: Support technological development to stimulate aquaculture in Ohio.

Objective: Cooperate with OSU Piketon Aquaculture Research and Extension personnel to develop new technologies and inform the Ohio aquaculture industry to improve decision-making.

Action: F. Snyder and will develop and maintain a working relationship with the OSU Piketon Research and Extension Center to assist in the production and dissemination of educational material and programs for aquaculturists in Ohio.

Result: *The Piketon Research and Extension Center was assisted in developing an aquaculture research station in Bowling Green, Ohio. Snyder serves as a technical advisor to the staff aquaculturist at the new facility. (Jul 2005)*

Action: F. Snyder will serve as an advisor for the OSU Piketon Aquaculture Research and Extension Center's new Bowling Green aquaculture research facility and for projects developed by the OSU Lima Extension Center.

Result: *Snyder is consulting with the Bowling Green Aquaculture center and two private growers in developing technology to bring a new baitfish species, the spotfin shiner, into commercial production. (Sep 2005)*

Result: *The first batch of spotfin shiner (*Cyprinella spiloptera*) fry have been spawned and hatched on artificial substrate in recirculating tanks at the Bowling Green Aquaculture Center. Further work will examine feeding regimes. This project aims to bring spotfin shiners, a wild species that is not propagated, into commercial production. (Snyder, McWhorter, Mar 2006)*

II. Coastal Communities and Economies (The National Sea Grant College Program

A. Improve coastal planning, educate planners, build leadership, and develop decision-support systems

Goal: Promote community revitalization, implementation of growth management strategies, sustainable development, land use planning, watershed planning, and the protection and restoration of coastal resources.

Objective: Develop proactive strategies to improve water quality in Lake Erie.

Action: All agents will disseminate information on land use planning and land use impacts on water quality to interested citizens and public officials.

Objective: Assist in the conduct of the Ohio Business Retention & Expansion (R&E) Programs in coastal counties.

Action: J. Lucente and W. Williams will assist with the R&E programs conducted within their counties of responsibility.

Result: Williams structured a \$280,000 financial package to enable American Mine Door to receive financing from National City Bank, Shorebank Enterprise, and the City of Cleveland. This will enable the company to expand its product line and employ five additional employees. (Mar 2005)

Result: Williams is assisting F Squared Laboratories to obtain financing to construct a new facility. A new 50,000 sq. ft facility will allow the company to consolidate its operations under one roof. Williams structured a loan package that will include county and SBA 504 funds. When completed the total investment is valued at \$400,000 and will create 11 new jobs with starting salaries of \$19.00/hr. (Dec 2005)

Result: Williams Chaired the Team NEO SAE show. In an ongoing effort to gain national exposure for the region, Team NEO, along with our partners - members from the Greater Akron Chamber, the Stark Development Board, the Lorain County Chamber of Commerce, the Youngstown-Warren Regional Chamber, Greater Cleveland Partnership, First Energy Corp., and the Medina County Economic Development Corporation — kicked off their aggressive campaign to showcase our region at the Society of Automotive Engineers in Detroit. In 2006, Williams along with Team NEO and the committee partners will attend more than four targeted events, presenting the region's assets and business benefits to more than 50,000 industry representatives and targeting more than 1,000 qualified leads for Northeast Ohio regional economic development

Result: Williams organized a reception for Ohio base companies supplying the auto industry. Approximately 40 people (30 guests, 10 Team NEO Members) 13 different companies were represented. Nuvera Fuel Cells has already identified chemical plants in Ohio, which could use their fuel cell technology to provide energy assistance at the plants. Bruce Johnson, Lt. Gov. has visited these companies and has encouraged them to locate in Ohio.

Result: OSU Extension, Cuyahoga County and Ecological Design Innovation Center, a non-profit organization, worked with community partners to set up a coalition of organizations working towards building a more sustainable regional food system. City Fresh, a program aimed at improving access to fresh produce in the two Cleveland neighborhoods emerged from these deliberations and was funded in October 2004. The three year grant supports three major initiatives including establishments of community food centers to provide improved access to nutritious, locally-grown foods; establishment of market Gardens to cultivate entrepreneurial opportunities for urban residents; and creation of new urban marketing opportunities for both rural producers and emerging urban growers.

Result: Thirty citizens registered for the City Fresh program learned more about small business management via 35 hours of classroom instruction provided by Williams. Participants are required to complete a business plan to be eligible for grant dollars to start their city gardens. Funding for this program has been provided through USDA's Community Food Project Program. (Feb. 28- May 2, 2006).

Action: J. Lucente will provide education and outreach to extension and other economic development professionals by providing instruction on conducting a business retention and expansion program in their respective areas of Ohio.

Result: *As a result of presenting the “2005 NORED Member Survey” by Lucente, the Northwest Ohio Regional Economic Development Association will align itself with the new privately funded Regional Growth Partnership in Toledo, Ohio and benefit through increased marketing efforts, business retention programming and project leads for regional economic development. (Lucente, July 14, 2005)*

Action: W. Williams will work with neighborhood or area organizations and develop cluster groups, electronic surveys, and other tools for urban R&E program development.

Result: *In March 2005, the Mayor for the City of Cleveland has announced the use job tax credits to retain and attract businesses to the Central Business District (CBD). Existing companies and companies relocating in the CBD hiring 25 or more new employees are eligible. In October of 2003 Williams designed a survey for the Downtown Cleveland Partnership to determine if current tenants intended to renew their existing lease or plan on moving out of the CBD. The survey revealed that more than 38% of existing office tenants had no intention of renewing their leases. Surveyed company’s requested; better security in the central business district, parking vouchers for employees and tax relief. Williams was an active member in the Downtown Office Task Force that recommended the use of job tax credits to attract and retain CBD tenants.*

Goal: Support research to expand our understanding of the biological, physical and socio-economic importance of coastal Lake Erie (including biodiversity and biocomplexity) and train coastal decision-makers to use this science-based information to improve management.

Objective: Support research and dissemination of information to enhance understanding of how land-use policies structure the demand for lakeshore and near-lakeshore development.

Action: J. Lucente will partner with various agencies to develop a statewide conference that provides education for coastal planning and decision making related to sustainable development in the Lake Erie watershed and other Ohio communities.

Result: *Over 200 participants at “The Future of Ohio’s Lake Erie Basin: Balancing Land Use and Water Quality” learned of land use and water quality; and its past, present and future impact on Lake Erie. Post conference surveys indicate a greater awareness of the importance of water quality and land use issues, increased understanding of current programs and officials, a higher likelihood of increased participation in land use and water quality decision making, and a need for continuing education related to this topic. This conference was sponsored in part through the NOAA/USEPA Smart Growth Grant to Sea Grant programs. (Lucente & Reutter Dec 1, 2005)*

Goal: Train community planners, business leaders, and citizens to use science-based tools more effectively in the decision making process, and help leaders in government, industry, and academia to understand the economic and environmental consequences of their choices in land use, energy and water use, and coastal building design.

Objective: Provide training for local leaders to support the design of sustainable economic development strategies for coastal businesses.

Action: Each Sea Grant Extension agent will initiate contact with county commissioners, mayors, township trustees, chambers of commerce, community improvement corporations, planning commissions etc. to provide informal outreach education and to assist in providing formal outreach relating to coastal economic development.

Result: *Over 65 Lucas County elected officials and residents learned more about Ohio Sea Grant, its mission, research, outreach and education capabilities as well as current coastal issues at the Lucas County Coastal Forum in partnership with the Ohio Coastal Management Program. (Lucente, Oct 19, 2005)*

Result: *Lucente, J. and Thomas, J. 2005. "Piloting an Applied Research Project with a Region" 2005 Urban Program Conversation in Columbus, Ohio. (Oct 7, 2005)*

Action: J. Lucente will work with extension professionals and other pertinent organizations to develop a sustainable development training model to provide outreach and education to business, government and citizen organizations.

Result: *Joe Lucente, Dr. Jerry Thomas, Dr. Cindy Torrrpa and Dr. Tom Archer won the Ohio Extension Agents Association 2005 Community Development Innovative Team Teaching Award from Ohio State University Extension's Department of Community Development for its work entitled "Act Fast! How Community Development Extension Professionals Can Rapidly Utilize Applied Research to Assist Organizational Development." (Dec 14, 2005)*

Action: J. Lucente will partner with the Greater Toledo Area Chamber of Commerce to continue the "Leadership Academy" for elected, appointed and volunteer community leaders.

Result: *Over 300 extension professionals learned about designing and delivering local government leadership education as Lucente presented a poster entitled "Community Government Leadership: Building Partnerships and Creating A Community Leadership Network" at the 2005 Ohio State University Annual Conference. (Lucente Dec 13-14, 2005).*

Result: *Lucente, J. 2005. "Community Government Leadership: Building Partnerships and Creating a Community Leadership Network" poster presented at the 2005 Urban Program Conversation in Columbus, Ohio. (Lucente, Oct 7, 2005)*

Result: *Lucente, J. 2005. "Local Government Leadership: Creating a Community Leadership Network" poster presented at the 2005 International Coastal Zone Conference in New Orleans, LA. (Lucente, Jul 17-21, 2005).*

Result: *As a result of presenting the "2005 NORED Member Survey" by Lucente, the Northwest Ohio Regional Economic Development Association will align itself*

with the new privately funded Regional Growth Partnership in Toledo, Ohio and benefit through increased marketing efforts, business retention programming and project leads for regional economic development. (Lucente, Jul 14, 2005)

Result: *“The 2005 Toledo Local Government Leadership Academy Results” indicated an 85% overall increase in knowledge gained by 12 area leaders that enrolled in the 10-week local government leadership course in Toledo, Ohio. (Lucente, Jul 14, 2005)*

Result: *Twelve leaders received certificates of completion from the fourth annual 10-week Toledo Local Government Leadership Academy. Lucente helped form a partnership and helped to create a curriculum to improve local government leadership capabilities. Since 2002, a total of 65 participants have increased their overall knowledge in local government by 86% according to class evaluations. (Lucente and Lacy Jan 2005- Mar 2005).*

Goal: Support communities in making smart choices that unite economic development with the protection of the quality of coastal life, e.g. developing tourism and nature-based recreation to offset economic declines in other areas.

Objective: Increase profitability in the charter fishing industry through business and technology development and education.

Action: F. Snyder will conduct the Ohio Charter Captains Conference annually.

Result: *The 24th Annual Ohio Charter Captains Conference, held in Sandusky Ohio, provided training for 201 licensed charter captains in fisheries management, charter business, marine electronics, laws and regulations and Lake Erie issues. Among captains attending over the last five years, 66% report increased profits by using conference information. Operating practices were modified by 84% of attendees and 95% said they use conference information in some aspect of their businesses. (Snyder, Riesen, Hageman and Lucente, Mar 2005)*

Action: F. Snyder will assist charter fishing operators and other marine businesses to incorporate new technology.

Result: *Thirty five licensed charter captains gained knowledge of Lake Erie issues affecting their businesses at the Western Basin Charter Boat Association meeting in Monroe, Michigan. (Riesen, Apr 2005)*

Result: *Over 50 licensed charter captains gained knowledge of Lake Erie issues affecting their businesses at the Sandusky Charter Boat Association annual meeting. (Snyder, Mar 2005)*

Action: F. Lichtkoppler will conduct business surveys of charter captains at 4-5 year intervals.

Result: *Kuehn, D., Lichtkoppler, F. and Pistis, C. 2005. The Great Lakes Charter Fishing Industry: 1973 to 2002. Fisheries 30 (3) 10-17.*

Action: K. Riesen’s new Ohio Sea Grant Fisheries Extension Advisory Committee will develop strategies to increase participation in angling and boating.

Result: *A Sea Grant Extension Advisory Committee (SGEAC) for Fisheries Extension representing state, federal and international agencies, private stakeholders and the outdoor media has been assembled and the first meeting was conducted in August, 2005 and now has regularly scheduled, quarterly meetings. Committee input is currently being used in program planning. (Riesen Aug 2005)*

Objective: Improve the decision-making process regarding the development and retention of coastal recreation businesses.

Action: K. Riesen will assist the charter fishing industry in developing new marketing strategies directed at underrepresented audiences.

Result: *Over 200 Lake Erie charter boat captains gained new marketing strategies for including underrepresented female clientele into their business operations through a new initiative entitled Women: Sport Fishing's Untapped Market. Two charter operators to date have requested copies of the presentation materials to incorporate into their businesses. (Riesen, Mar 2005)*

Action: Support research and outreach efforts to determine the economic and environmental impacts of various types of coastal recreation to assist resource managers.

Result: *Kelch, D, F. Lichtkoppler, B. Sohngen and K. Riesen. "Social and environmental factors impacting preferences and expenditures of Ohio's Lake Erie tributary steelhead anglers." Oral presentation, (Riesen), American Fisheries Society, 135th Annual Meeting, Anchorage, AK. (Sep 11-15, 2005)*

Result: *Kelch, D. O., Lichtkoppler, F. R., Sohngen, B. L., and K.M. Riesen, "Evaluating the Economic Contribution of Ohio's Lake Erie Tributary Steelhead Fishery, 2002-2003." 114th Annual meeting of the Ohio Academy of Science, Bowling Green State University, Apr 2, 2005.*

Objective: Enhance Lake Erie and Great Lakes regional tourism.

Action: F. Lichtkoppler and F. Snyder will participate on the leadership team to secure federal designation and implement a management plan for the Lake Erie Coastal Trail Scenic Byway.

Result: *The U.S. Secretary of Transportation, Norman Mineta, through the Federal Highway Administration designated the Lake Erie Coastal Ohio Trail as a Nationally recognized scenic byway and one of America's Byways™ on September 22, 2005 in Washington, D.C. (M. Huntley, P. Staley & F. Lichtkoppler)*

Result: *Ohio Governor Robert Taft officially dedicated the Lake Erie Coastal Trail as Ohio's 21st Scenic Byway on April 22, 2005. The designation is expected to provide additional opportunities to market Lake Erie coastal tourism according to Melinda Huntley, Executive Director, Lake Erie Coastal Ohio, Inc. Lichtkoppler shared the podium with the Governor at the dedication and stressed the LECO, Inc. goals of increasing nature based tourism and preservation of the natural coastline of Lake Erie.*

Result: The Lake Erie Coastal Ohio Trail Scenic Byway Corridor Management Plan 2005 was completed by M. Huntley with the assistance of Lichtkoppler and the Lake Erie Coastal Ohio, Inc. Byways Committee. (Mar 30, 2005).

Result: The 2005 National Scenic Byways Nomination was completed by M. Huntley with the assistance of Lichtkoppler and the Lake Erie Coastal Ohio, Inc. Byways Committee. (Mar 30, 2005).

Result: The Ohio Department of Transportation constructed and distributed 125 Lake Erie Coastal Ohio Trail signs to local highway departments. The signs are being installed this spring. Lake Erie Coastal Ohio Trail signage is up in Ashtabula, Lake, Lorain, Erie & Ottawa Counties. (Lichtkoppler & Huntley, Mar 2006)

Result: At the request of Representative Marcy Kaptur, Mr. Hageman served on a committee charged with developing and promoting Lighthouse tours along Lake Erie's Ohio shoreline. At a February 2006 meeting with the Representative, fellow lighthouse owner/operators and directors of Lake Erie area historical societies, visitor bureaus, Lake Erie Coastal Ohio and Ohio Sea Grant, a framework was established that lead to a "Guide to the Lighthouses of Ohio" which will be distributed to many local travel centers.

Objective: Investigate opportunities for development of new recreational activities and businesses on Lake Erie.

Action: D. Kelch and J. Lucente will develop a "Lake Erie Shipwreck Trails Guide" to be used by divers, students, and teachers.

Result: The specialist was invited by New York Sea Grant at SUNY, Oswego, to present a lecture during their annual conference for shipwreck preservation and research. The lecture, titled, "Underwater Preserves And Shipwreck Protection In Ohio's Lake Erie; A Success/ Failure Venture." He taught over 80 professionals more about shipwreck research and protection efforts in the Ohio portion of Lake Erie. (Kelch, Mar, 2005)

Result: A grant, totaling \$9,955, was received from the Lake Erie Protection Fund for the first half of funding towards the development of the Lake Erie Shipwreck Trails project. (Kelch, Lucente, March, 2006)

Objective: Provide outreach education and assistance to county visitors bureaus in the marketing and development of tourism on Ohio's North Coast.

Action: J. Lucente will assist the Toledo Area Convention and Visitors Bureau in the development and publication of the Western Lake Erie Waterfront Guide.

Result: Lucente won first place in the Epsilon Sigma Phi – Ohio Chapter 2005 Tools for Teaching & Media Contest for the 2005 Western Lake Erie Waterfront Guide publication. This publication assists visitors to western Lake Erie in finding public access, restaurants, hotels, marinas, charter fishing, local attractions, etc. (Dec 2005)

Objective: Support the Lake Erie marine trades industry, and other tourism related businesses.

Action: As part of the Ohio Clean Marinas Program, D. Kelch and F. Snyder will provide marina operators with current and appropriate in-water weed control procedures through personal contact and Clean Marinas publications and workshops, as appropriate.

Result: *Thousands learned more about aquatic nuisance species and other Lake Erie related topics through educational materials and contact with Sea Grant personnel during the 2005 LEMTA In-Water Boat Show, September 14-18, Sandusky, Ohio. Ohio Sea Grant maintained an educational display at the show at the request of LEMTA Director Norm Schultz. (Kelch & Comer)*

B. Resource valuation

Goal: Assist coastal communities to examine their natural resources, and support research to quantify the economic value of goods and services (including fisheries, recreation, waste assimilation, erosion/flood control, and biological diversity) derived from those resources, as a critical component of coastal planning.

Objective: Generate databases of public opinions, attitudes, and values as they relate to marine and aquatic issues to guide future research, education and outreach activities and to inform management decisions.

Action: F. Lichtkoppler will partner with others to help conduct applied socio-economic research on citizen (voter) willingness to pay for environmental amenities and environmental improvements such as green space preservation, recycling programs, and environmental cleanups as requested by local authorities and will share the results with citizens, local officials, resource managers and the scientific community.

Result: *“We (the Lake County Solid Waste District) did use the recycling survey (see reference below), and in many ways: 1. Results (summary pages) were faxed and mailed to all Lake County Community Mayors/Managers/ Service Directors; 2. Survey data was used by the News-Herald in one of their articles; 3. Survey information was part of info meetings held with each and every community administration in preparation of bidding for new countywide recycling contract (survey data helped administrators understand the positive recycling feelings of the majority of their residents)” wrote Chris Hodges, Public Services Coordinator, Lake County, Ohio. (Lichtkoppler, Blaine & Zondag, Jul-Nov 2005)*

Result: *Lichtkoppler, F.R., Blaine, T.W., and Zondag, R.H. Generating Information for Decision Making: Curbside Recycling in Lake County, Ohio. Poster presented at the 90th Annual Meeting and Professional Improvement Conference. National Association of County Agricultural Agents. Buffalo, NY. July 17-21, 2005.*

Result: *Blaine, T. W., Lichtkoppler, F. R., Jones, K.R. and Zondag, R.H. (2005) An Assessment of Household Willingness to Pay for Curbside Recycling: A Comparison of Payment Card and Referendum Approaches. Journal of Environmental Management 76 (2005) 15-22.*

C. Constructing indicators of sustainable development

Goal: Develop an integrated set of economic, environmental, and social indicators that track progress toward sustainable development.

Objective: Develop models to predict the effects of land use choices on coastal ecology.

Action: J. Lucente will represent Ohio Sea Grant on the Ohio Balanced Growth Roundtable Steering Committee and work with the Great Lakes Commission, Ohio Lake Erie Commission and Cleveland State University to develop programmatic, land use and water quality indicators to measure the effectiveness of the Lake Erie Balanced Growth Initiative.

Result: *Thirty four international educators learned how to establish and evaluate a leadership program as well as a 4 year impact analysis for local government officials as Lucente and Dr. Donald Lacy presented “Leadership Education for Public Officials: Assessing the Impact Over Four Years” at the Hawaii International Conference on Education in Honolulu, Hawaii. (Jan. 5-9, 2006)*

Result: *Twenty five elected and appointed officials as well as local board and commission members received certificates of completion from the fifth annual 10-week Toledo Local Government Leadership Academy. Lucente formed a partnership with the Toledo Area Chamber of Commerce, The Toledo Area Chamber of Commerce Leadership Fund and The Ohio State University Extension Service (OSUE) to develop the Toledo Local Government Leadership Academy. Lucente and Dr. Donald Lacy from OSUE created a curriculum that included duties and responsibilities of elected officials, ethics of public officials, conducting effective meetings, technology in local governments and more. Since 2002, and, as a direct result of the ten-week course, 92 total participants have increased their overall knowledge in local government by 85% according to class evaluations. (Jan. 2006- Mar. 2006).*

Result: *Twenty one Sea Grant Coastal Community Development Specialists learned about coastal community development efforts in Ohio as Lucente presented “Ohio’s Lake Erie Balanced Growth Initiative” in Denver Colorado at the New Partners for Smart Growth National Conference. (Lucente, Jan. 24, 2006)*

Result: *Scores of professional community development extension educators gained insight on education in local government leadership as Lucente presented a poster entitled “Local Government Leadership: Building Partnerships and Creating A Community Leadership Network” at the National Association of Community Development Extension Professionals Conference in San Antonio, TX. (Lucente, Feb. 13-16 2006)*

Result: *Eighteen professional community development extension educators learned of Sea Grant’s nationwide work as Lucente, Dr. John Jacob of Texas Sea Grant and Robert McCormick of Illinois-Indiana Sea Grant presented “Sea Grant’s Coastal Community Development Program” at the National Association of Community Development Extension Professionals Conference in San Antonio, TX. (Feb. 14, 2006)*

Result: *Thirty two professional community development extension educators gained a better perspective of conducting an applied research project in a short timeframe using a multi-programmatic approach as Lucente and Dr. Jerry Thomas of OSU Extension presented “Act Fast! How Community Development*

Extension Professionals Can Rapidly Utilize Applied Research to Assist Organizational Development” at the National Association of Community Development Extension Professionals Conference in San Antonio, TX. (Feb. 15, 2006.)

Result: *Twenty one professional community development extension professionals learned about improving and evaluating the impact of local government leadership programming as Lucente presented “Improving Local Government Leadership Education- A Qualitative Program Evaluation” at the National Association of Community Development Extension Professionals Conference in San Antonio, TX. (Lucente, Feb. 15, 2006)*

Result: *Seventeen agricultural representatives in Ottawa County participated in a focus group interview conducted by Lucente on the importance of agriculture and education as it pertains to rural community development issues. The agricultural representatives gained new insights on how to tap extension’s expertise in this area which is crucial to the county’s rural development needs. (Lucente, Feb. 20, 2006)*

III. Coastal Natural Hazards

A. Reducing the loss of life and property

Goal: Reduce the loss of life and property from coastal natural hazards.

Objective: Improve the ability of local governments and emergency management agencies to alert citizens and businesses to threats stemming from storms and fluctuating water levels.

Action: Provide news releases, alerts, web pages, and personal assistance to agencies and local officials on critical storm and water level information, including the Great Lakes Forecasting System.

Result: *F. Lichtkoppler successfully passed the Independent Study Course "IS-00700" entitled, "National Incident Management System (NIMS) an Introduction” on September 23, 2005 thus helping Lake County EMA to qualify for continued FEMA funding.*

IV. Ecosystems and Habitats

A. Understand the impact of and reduce stresses on coastal systems

Result: *Twenty-three watershed scientists learned Lake Erie eutrophication processes that will be used in their efforts to develop nutrient models for aquatic ecosystems. (Snyder, Elmer, Feb 2006)*

B. Coastal watersheds

Goal: Develop integrated watershed approaches that engage researchers and coastal communities to pursue the common goal of managing watersheds in a sustainable fashion by developing the science-based information needed to predict changes in coastal ecosystems and habitats arising from changes in land and water use in watersheds.

Objective: Quantify the impacts of human activities on the aquatic environment and transfer the information to managers to influence the decision-making process at the local community and watershed levels.

Action: Assist citizen advisory councils and resource managers with the interpretation of research/scientific information to develop watershed protection, best management practices, and tourism development programs.

Result: *Williams assisted in the development of a field guide for Cleveland's Dike 14, "Dike 14 Field Guide-Getting Ready to Visit Dike 14." Cleveland's children need wild places to connect with nature. Dike 14 is an amazing refuge for wildlife along an otherwise urban shoreline. The budget for the project is \$13,000. An \$8,000 grant has been received from The 1525 Foundation, \$2,000 from the Cleveland Museum of Natural History, \$1,500 from the Cuyahoga Soil and Water Conservation District and \$1,500 from the Ohio Sea Grant College Program. (Mar 2005)*

C. Conserving and restoring coastal habitats

Goal: Empower coastal communities to undertake well-planned coastal development that preserves, restores, and/or enhances coastal habitats by promoting wetland banking, rehabilitation of brownfields, stabilization and restoration of beaches, and establishment of protected areas.

Objective: Evaluate natural processes and alternative rejuvenation strategies (including wetland mitigation and biotechnology) to improve damaged ecosystems.

Action: F. Lichtkoppler will work with the Mentor Marsh Board to improve the Mentor Marsh ecosystem function and values.

Result: *The Mentor Marsh Board donated its entire \$11,000 land acquisition fund to support the purchase of the 97 acre Morton Salt properties adjacent to the Mentor Marsh State Nature Preserve. Lichtkoppler is a Marsh Board member and has helped the Marsh Board to prioritize key properties for acquisition to protect Mentor Marsh. The Trust for public Land and the City of Mentor are pulling together funding from at least eight funds, foundations, organizations and agencies to meet the friendly sale price of \$3 million. Backed by "grassroots" support Congressman Steve LaTourette and Senators Mike DeWine and George Voinovich have been instrumental in obtaining federal funds for this purchase. (Sep - Dec 2005)*

Result: *Citizens from the Mentor Marsh Board, the local Audubon Society and the Marsh Area Regional Coalition as well as the City of Mentor all presented testimony at the Ohio EPA public hearing on the LEIMCO, Inc. development upstream of Mentor Marsh State Nature Preserve documenting impacts on the water quality of the Mentor Marsh watershed. The data will be used by the Ohio EPA in determining the wetlands mitigation and storm water controls required for the development to proceed. (Lichtkoppler et al, Mar 29, 2006)*

V. Fisheries

A. Partnering to improve fisheries management

Result: *A planning committee of regional networks was assembled for the first Sea Grant-sponsored Nation Fisheries Extension Conference, to be held in Jacksonville, Florida in October 2006. (Snyder, representing the Great Lakes Network, Jan 2006)*

Result: *Over 250 licensed charter captain and exhibitors attended the 25th Annual Ohio Charter Captains Conference. This program provides the charter industry training and information in fishery resources, business management, laws and regulations and marine technology. Of the 161 captains returning a questionnaire, 95 percent said they use this information to improve their operations. Over 85 percent modified business practices using conference information, and 69 percent said the conference has improved their profitability. (Snyder, Mar 2006)*

B. Caring for people

Goal: Increase the sale of fishing licenses in Ohio, participation in angling activities, and angler satisfaction, and reduce conflict between anglers and managers.

Objective: Reverse the decline in sport fishing participation, enable fishing businesses to retain clientele, and increase youth participation.

Action: K. Riesen will develop youth-oriented sport fishing education programs to be presented at the LENS, coastal counties and selected inland locations.

Result: *About 480 fourth grade students learned to use fish seines and gained knowledge of local aquatic systems through 16 presentations made at a two day program "Exploring Your Backyard," held by Sandusky County's metroparks, SWCD and OSU Extension. (Snyder, Sep 2005)*

Result: *A youth education display entitled "Take Me Fishing" was developed for LENS. The display encourages families to participate in fishing and has an accompanying fact sheet providing public fishing locations across the Lake Erie shoreline. (Riesen, Jentes-Banicki, Aylsworth Aug 2005)*

Result: *Ohio Sea Grant and Lake Erie Nature and Science Center co-coordinated the first ever Lake Erie Camps, where 36 youth, grades 2-9, learned to fish Lake Erie's shoreline. (Riesen Jul 2005)*

Result: *Eighty youth from across Ohio attended the 22nd Annual Ohio 4-H Sea Camp, held June 27-July 1, 2005, at the Kelleys Island 4-H Camp. The camp provides youth with Lake Erie awareness and education, and teaches them the values associated with Lake Erie. (Kelch, Riesen)*

Result: *Forty-three Portage Elementary (Port Clinton) students gained knowledge of local fishes and angling techniques taught at the Hooked on Fishing, Not Drugs program. (Snyder, Riesen, May 2005)*

Result: *Over 450 students, grades K-12, increased their knowledge of Lake Erie through six presentations at local schools involving Lake Erie ecology and related topics. (Riesen, Apr-Jun 2005)*

Action: K. Riesen will conduct youth fishing education programs and coordinate these with related efforts by the Recreational Boating and Fishing Foundation, ODW, the GLSFC, and 4-H.

Result: *Riesen was asked and agreed to serve on the National Sea Grant's 2006 American Fisheries Society Sea Grant Symposium planning committee. (Riesen Sep 2005)*

Action: Conduct seminars about recent changes in Lake Erie and how these changes impact the fishery, fish behavior, and fishing techniques. Other potential topics include fishery biology, fishery management updates, exotic species impacts, and fish consumption advisories.

Result: *Over 40 community leaders and decision makers learned about Ohio Sea Grant, Lake Erie and the Dead Zone during a presentation at the ODNR Coastal Forum, Lorain County, on July 13th. (Kelch - 2005)*

Result: *Over 80 members of the South Cuyahoga Sportmen's Association learned about contaminants in fish and how to interpret Ohio's Fish Consumption Advisory during a presentation on July 5th. (Kelch - 2005)*

Result: *Over 200 individuals learned more about the Lake Erie fishery during two public seminars and presentations to three conservation groups. A post program university survey indicated over 80% learning new, useful information, 71% planned to adopt newly acquired angling tactics, and 91% gained useful information regarding fish consumption advisories. (Kelch, Apr-Jun 2005)*

Result: *Over 100 individuals gained or increased their skills in Lake Erie walleye fishing during three walleye seminars held in Bay Village, Akron, and Sheffield, Ohio. (Riesen, Kelch April-May 2005)*

Result: *Thirty one adults increased their angling skills during two presentations to the Firelands Fly Fishers angling club. (Riesen, Apr 2005)*

Objective: Increase public understanding of science-based fisheries management and the sometimes-controversial fisheries harvest and management practices needed to ensure sustainability of fisheries resources.

Action: K. Riesen will conduct public seminars in all shoreline counties and selected inland areas to keep fisheries resource users abreast of ecological and management information and initiatives.

Objective: Increase proficiency among fisheries resource users in identifying and locating sources of fisheries and marine technology information and in using technical information in their own fishing operations.

Action: K. Riesen will establish a visible presence at fisheries-related public events, sport and boat shows, and other venues, to establish the fisheries agent as a well-known fisheries information source.

Result: *Over 200 participants gained hands-on skills in shoreline fishing and lure-building at the Rocky River Watershed Festival, an event coordinated by the Rocky River Watershed Council, Cleveland Metroparks, Ohio Sea Grant, ODNR, and other organizations. (Riesen Sep 2005)*

C. Contaminants and fish consumption

Result: *At the request of the Lake Erie Marine Trades Association (LEMETA), the Sea Grant Specialist was asked to conduct a series of educational seminars during the 2006 Cleveland Boat Show. Over 175 individuals learned more about fish consumption safety and the current fish advisory for Lake Erie at six seminars. (Kelch, January, 2006)*

Result: *Over 110 individuals learned more about fish contaminants and fish consumption safety during three presentations to three interest groups; Extension*

Food Safety Training Workshop (3/7/06), Lake Erie Steelhead Angling Seminar (3/9/06) and Lorain County Bass Busters (2/24/06). (Kelch, February, March, 2006)

VI. Marine Aquatic Science Literacy

A. Create and sustain effective marine and aquatic science-based educational programs

Goal: Develop, offer, and evaluate programs that increase public knowledge and understanding of scientific processes and marine and aquatic science issues, make effective programs available to all formal and informal constituencies, and develop diverse instructional strategies to facilitate effective programs that complement and align with appropriate education standards.

Objective: Provide educational and training opportunities for undergraduate and graduate students that address real-world problems, opportunities, and management needs.

Action: Continue to recruit and provide support for undergraduate and graduate students on Sea Grant projects and at Stone Lab.

Result: *Eleven students in OSU's Dept of Ecology, Evolution and Organismal Behavior gained three credit hours in aquatic biology in Snyder's offering of EEOB 125. (Snyder, Jul 2004)*

Action: F. Snyder will develop a new undergraduate credit course in Lake Erie sport fishing within the OSU School of Physical Activity and Educational Services to be taught at Stone Lab.

Result: *Ten OSU students earned three credit hours through the College of Education's School of Physical Activity and Educational Services in a new course, PAES 140.07 – Lake Erie Sport Fishing, taught at the F.T. Stone Laboratory. The new course diversifies Stone Laboratory's curriculum and draws a new demographic of students to the laboratory. (Aug 2005)*

Result: *The Ohio State University College of Education, School of Physical Activity and Educational Services approved a new three credit-hour course entitled PAES 140.07 – Lake Erie Sport Fishing to be taught by Snyder during Summer Quarter at the F.T. Stone Laboratory. (Apr 2005)*

Objective: Educate and inform citizens of the most up-to-date research based technical information on Lake Erie.

Action: All agents will help inform citizens on current Lake Erie technical issues, problems, and opportunities.

Result: *Six interviews were provided to a newspaper, magazine and radio station to provide public education on Lake Erie fisheries issues and lake levels. (Snyder, Sep 2005)*

Result: *Twenty-eight Lucas County farm pond owners are implementing water quality and fish management techniques they learned from Snyder at the Lucas County Pond Clinic. (Snyder, Sep 2005)*

Result: *Five interviews were provided to a newspaper, magazine and radio station to provide public education on Lake Erie fisheries issues and lake levels. (Snyder, Aug-Sep 2005)*

Result: *Three interviews were provided to a newspaper, magazine and radio station to provide public education on Lake Erie fisheries issues and lake levels. (Snyder, Aug Sep 2005)*

Result: *Thirty-six Fulton County farm pond owners are implementing water quality and fish management techniques they learned from Snyder at the Fulton County Pond Clinic. (Apr 2005)*

Result: *Thousands of anglers and other outdoor enthusiasts gained knowledge and awareness of Ohio Sea Grant's fisheries outreach efforts and learned Lake Erie information through a booth maintained at the nine day American/Canadian Sport, Travel and Outdoor Recreation Show. Ohio Sea Grant booth space has been donated annually by show producers. (Riesen, Kelch, Lichtkoppler, Snyder, Hageman, Jentes, Aylsworth, Braig, Mar 2005)*

Result: *Over 510 individuals more about Lake Erie at ten educational presentations to angling groups, conservation organizations and at publicly conducted education seminars. Topics included fish consumption advisories, fishery biology, aquatic invasive species, the dead zone and pollution issues and angling topics. (Kelch, Jan-Mar 2005)*

Result: *WGTE (PBS station Channel 30 in Toledo) debuted Lake Erie - Ohio's Great Lake at the Cleveland Museum of Natural History on March 23, 2006. The one hour documentary presented information on Lake Erie's evolution, impact on Ohio's history and future. (Hageman, Herdendorf, Huntley, Reutter, & Thomas appeared in the documentary.)*

Objective: Increase knowledge levels and interest in aquatic science students.

Action: J. Hageman will continue to provide a unique, exciting aquatic science workshop experience to over 5,000 4-12 students, offering hands-on lessons about Lake Erie, the Great Lakes, and the oceans.

Result: *Over 3,090 elementary, junior high, senior high, and college students and adults were introduced to Lake Erie's ecosystem through a total of 98 Aquatic Science Workshop Programs and 51 other educational programs at Stone Laboratory in 2005. Since 2000, over 30,000 youth and adults have participated in Stone Laboratory's aquatic science workshop programs. Activities include a hands-on science cruise, plankton and fish identification lab sessions, an invertebrate walk for biological indicators, bird hikes, insect lab sessions and an AIS slide show. (Hageman)*

Objective: Increase public knowledge and understanding about Lake Erie, the Great Lakes, the oceans, the aquatic sciences, and the mission of Sea Grant and our research, education, and outreach efforts.

Action: Develop and update the Ohio Sea Grant exhibit for use at regional and local fishing and boating shows, staff the exhibit and respond to Lake Erie user requests for information generated by the shows.

Result: *Thousands of boaters and anglers gained knowledge and awareness of Ohio Sea Grant's fisheries outreach efforts, Clean Marinas and Clean Boater Programs, aquatic invasive species and learned Lake Erie information through a booth maintained at the ten day Mid-American Sail and Power Boat Show in Cleveland. Ohio Sea Grant booth space has been donated annually by show producers. (Kelch, Riesen, Lichtkoppler, Snyder, Hageman, Banicki, Reutter, Comer, January 13-22, 2006)*

Result: *Over 45 individuals learned to tie their own flies for fishing in Ohio Sea Grant Fly Tying Workshops. (Riesen, Jan/Feb 2006)*

Result: *Over 120 steelhead anglers gained skills in steelhead fishing through 3 seminars conducted in northeast Ohio. (Riesen & Kelch, Jan/Feb 2006)*

Result: *Over 500 people gained a better understanding of Ohio Sea Grant's mission during the Northeast Ohio Sport Show (Akron, Ohio) and Woods and Waters Club banquet. Ohio Sea Grant publications were also disseminated at these locations. (Riesen, Jan/Feb 2006)*

Result: *Thousands of anglers and other outdoor enthusiasts gained knowledge and awareness of Ohio Sea Grant's fisheries outreach efforts, Clean Marinas and Clean Boater Programs, aquatic invasive species and learned Lake Erie information through a booth maintained at the nine day American/Canadian Sport, Travel and Outdoor Recreation Show. Ohio Sea Grant booth space has been donated annually by show producers. (Kelch, Riesen, Lichtkoppler, Snyder, Hageman, Banicki, Braig, Mar 11-19, 2005)*

Objective: Increase communication between Sea Grant agents, their advisory committees and researchers.

Action: All Sea Grant agents will continue to review research proposals and work with their advisory committees to identify research needs. Meetings with researchers will be fostered at the quarterly staff meetings.

Result: *Lichtkoppler and Snyder reviewed 28 pre-proposals and 18 full research proposals as part of the Ohio Sea Grant Management Team and provided input to the OSG Director on the extension utility of the proposals. (Oct 2005)*

Action: K. Riesen will assemble and hold regular meetings with a Sea Grant Fisheries Extension Advisory Committee (SGFEAC) that will include the Ohio Division of Wildlife, Great Lakes Fishery Commission, U.S. Geological Survey, Lake Erie Biological Station, Lake Erie Charter Boat Association, Lake Erie Marine Trades Association and private sector fisheries stakeholder groups. Input from this committee will be provided to the research community and to management agencies.

Objective: Participate in the Great Lakes Sea Grant Network committees in all program areas and promote Great Lakes Sea Grant Extension agent professional development.

Action: Ohio Sea Grant, including Extension agents, co- program leaders and Communicator, will be represented on as many of the Great Lakes theme team committees as practical.

Result: *Fisheries Extension Coordinator, Riesen, was nominated to serve on the Great Lakes Network Conference 2006 planning committee. (Riesen, Jun 2005)*

B. Expand professional development opportunities for all educators

Goal: Provide professional development opportunities for pre-service and in-service teachers and other education professionals to prepare them to better teach aquatic sciences and help them meet accountability requirements.

Objective: Improve the technical training and capabilities of extension staff.

Action: F. Lichtkoppler, F. Snyder, and D. Kelch will mentor and assist extension coworkers in the OSU promotion and tenure process.

Result: *Twenty-six faculty dossiers were evaluated by Profesor Lichtkoppler as part of the the College of Food, Agriculture and Environmental Studies (CFAES) Promotion and Tenure (P&T) Committee. The Committee makes recommendations for CFAES Promotion and Tenure to Dr. Moser, the Dean and Vice President of the CFAES,. (Lichtkoppler, Nov-Dec 2005)*

Action: K. Riesen will participate in new agent training in 2005; both Extension and new Sea Grant Agent training to be conduct in Virginia and Florida during 2005.

Result: *Riesen, increased Sea Grant Program expertise by becoming a certified facilitator of both Ohio Division of Wildlife's Project Learning Tree and Hooked On Fishing, Not On Drugs programs. (April-May 2005)*

Result: *Skills in Sea Grant Extension programming were developed by attending the National Sea Grant Academy, and the Ohio Coastal Training Program. (Riesen, Mar 2005)*

C. Engage underrepresented populations in Sea Grant efforts

Goal: Provide programming and opportunities specifically targeted toward local constituencies who have been historically underrepresented in the aquatic sciences.

Objective: Increase participation in sport fishing and other outdoor activities by women.

Action: K. Riesen will develop materials in support of and conduct programs to encourage female participation in these activities and increase marketing efforts to this demographic group.

Result: *Riesen, K.E. 2005. Women: sport fishing's untapped market. American Fisheries Society, 135th Annual Meeting, Sept. 11-15, 2005, Anchorage, Alaska. (Riesen Sep 11-15 2005)*

Result: *Twenty five women involved in the National Wild Turkey Federation's Women in the Outdoors program, increased their skills in shoreline fishing and aquatic ecology in an on-water clinic, held at Grand River Marina. (Riesen Aug 2005)*

Result: *Twenty five women involved in the National Wild Turkey Federation's Women in the Outdoors program, increased their skills in pond fishing in an on-water clinic, held in Chatham, Ohio. (Riesen, Jun 2005)*

Result: *Over 30 handicapped anglers, ages 12-40, acquired angling and lure-building skills in an on-water fishing festival, held in Rocky River, Ohio. (Riesen, May 2005)*

Result: *Fourteen Cleveland inner city high school students developed skills in shoreline fishing in a partnership between Ohio Sea Grant and the National Science Foundation, Cleveland, Ohio. (Riesen, May 2005)*

Result: *Fisheries Extension Program Coordinator Riesen was nominated to serve on Ohio Central Basin Steelheaders board of directors, and the Women in the Outdoors planning committee. (Feb-Mar 2005)*

Result: *Women attending the Cleveland Sport Show learned about Lake Erie fishing opportunities during daily presentations. (Riesen, Jan 2006)*

VII. Urban Coasts

A. Reducing non-point source pollution

Goal: Reduce non-point source pollution from urban areas.

Objective: Decrease nonpoint source pollution from marinas and boaters through increased participation in the Ohio Clean Marinas and Clean Boater Programs.

Action: D. Kelch, J. Reutter, and L. Hushak will collaborate with the ODNR Divisions of Soil and Water Conservation, Office of Coastal Management, and Division of Watercraft; Ohio Department of Health; Ohio EPA; Ohio Department of Commerce, State Fire Marshall Division; U.S. Coast Guard; U.S. Army Corps of Engineers; LEMTA; Greater Cleveland Boating Association; local health departments; local fire marshals; and private-sector stakeholders to conduct educational training/certification workshops, develop marina incentive programs, and coordinate marina certification site visits through the Ohio Clean Marinas and Clean Boater Programs.

Result: *Three new pledges have also been received from previously held workshops, bringing the total number of pledged marinas to 21. (Oct, 2005, Comer & Kelch)*

Result: *The OCMP Advisory Board adopted updated policy concerning the BMP checklist that allowed the first marinas to achieve certification as Ohio Clean Marinas. Nine Lake Erie marinas were certified (Sept- Oct, 2005, Comer & Kelch)*

Result: *Scores of boaters learned more about the OCMP and clean boater programs at the Cedar Point In-Water Boat Show Sept 14-18, 2005. (Comer, Kelch et. al.)*

Result: *An OCMP workshop was conducted on July 20th in Port Clinton, Ohio, with five marinas represented and 2 new pledges resulting from this activity.*

Result: *Over 100 park managers and assistant managers learned more about the OCMP at the Ohio State Park Managers Conference on July 13, 2005 with one marina pledging.*

Result: *A \$5000 grant through ODNR, Soil and Water was used to develop and purchase Ohio Clean Marinas Program incentives, including metal and plastic signage, labeling stickers/decals and pennants. (Kelch, Comer, 2005)*

Result: *A \$2000 grant to purchase recycling containers was secured from Labor and Industry Council of Ohio (LICO). These containers, part of a recycling effort*

through ODNR Litter Prevention, will be provided to certified Clean Marinas as part of the incentive package. (Kelch, Comer, 2005)

Result: *Ohio Sea Grant was asked to implement the Ohio Clean Marinas Program (OCMP) by the ODNR/Ohio Coastal Management. The associate professor was identified as project PI and interim program coordinator for the OCMP on January 1. A \$75K grant to Ohio Sea Grant from ODNR/Ohio Coastal Management provided the funding to hire an OCMP coordinator, Gary Comer. (Hushak, Reutter, Kelch. Jan to Mar 2005)*

Result: *Three marinas received their Clean Marinas certification awards at a media event on January 13, 2006, at the 49th Mid America Power & Sail Show attended by over 50 clientele. (Comer and Kelch)*

Result: *Five new marinas pledged to become Clean Marinas as a result of two Clean Marinas workshops conducted by Comer and Kelch January 31, February 8, and March 30, 2006.*

Result: *Three nursery growers agreed to recycle seasonal plastic in order to recycle a product frequently land filled, and to make the collection of boat shrink-wrap cost effective. (Comer and Kelch, March 2006)*

Action: Gary Comer will be hired as the new Ohio Clean Marinas Coordinator.

Result: *Gary Comer was hired as the Ohio Clean Marinas Coordinator in May 2005.*

B. Enhancing port and harbor operations

Goal: Assess the risks of contaminants in dredged materials and identify disposal options and evaluate the ecology and water quality of major urban ports to assess cumulative effects, preserve coastal resources, and improve infrastructure.

Objective: Assist local Remedial Action Plan (RAP) Councils and the Ohio Environmental Protection Agency in the Remedial Action Plan process for Ohio Areas of Concern.

Action: F. Lichtkoppler will continue to assist the Ashtabula River Partnership in its effort to clean up (dredge) the Ashtabula River.

Result: *The USEPA Great Lakes National Program Office (GLNPO) awarded the Ashtabula City Port Authority \$25 million in Great Lakes Legacy Act (GLLA) funding to partially fund the \$50 million remedial dredging of the contaminated sediments from the Ashtabula River. The Ohio EPA is funding \$7 million and the PRP's are funding the remaining \$18 million of the project. The project will go out for construction bids on the landfill in January and should have it under construction in March. We plan to be dredging in September 2006. This is the largest GLLA project to date. (Lichtkoppler, Dec 9, 2005)*

Result: *The Assistant Secretary of the Army for Civil Works, J.P. Woodley, Jr. toured the Ashtabula River and listened to the local Ashtabula River Partners (ARP) members explain their support of the proposed cleanup of the Ashtabula River. Lichtkoppler was asked to speak and he explained the recreational and tourism implications of the proposed cleanup. The Ashtabula River cleanup would continue the restoration and protection of Lake Erie and its multimillion dollar fishing and tourism industries. (Apr 21, 2005)*

Result: *The Ashtabula Growth Partnership, a member of the Ashtabula River Partnership, sponsored an Ashtabula River cleanup kick off breakfast to update the public on the river dredging project on March 29, 2006. Almost \$25 million in funding for this project will come from the Great Lakes Legacy Act. Construction of the required landfill will begin this spring. (Lichtkoppler, Boehme IL-IN Sea Grant, et al)*

Action: F. Snyder and J. Lucente will support efforts in the Maumee RAP process.

Result: *Hundreds of decision makers learned of watershed management techniques as Ohio Sea Grant teamed with NOAA Sea Grant, Ohio NEMO and many others partners to provide a live satellite feed of a program entitled “Stormwater Management From a Watershed Perspective.” This innovative program technique is also available via CD and will enable other watershed management personnel to utilize its resources. (Lucente, McCall, Lawrence Oct 11, 2005)*

C. Managing coastal operations

Goal: Provide accurate, unbiased scientific data to help policymakers and resource managers prioritize and manage conflicts resulting from the allocation of limited space and scarce coastal resources.

Objective: Encourage business expansion and development on brownfield sites.

Action: W. Williams will provide information on resources and linkages to assist existing businesses with expansion plans to reduce urban sprawl and prevent the development of new brownfield sites caused by business relocations.

Result: *Williams worked with the Ohio Industrial Training Program to assist Energizer Corporation secure a training grant in the amount of \$100,700. These funds will be used to provide engineers additional training to enhance product development of Energizer’s consumer electronics. Laura Hurts Ohio Region 7, Training Coordinator 50%, Walt Williams 50%. (Jan-Mar. 2006)*

Result: *Williams worked with the Ohio Industrial Training Program to assist Pine Manufacturing Company of Westlake Ohio secure a training grant in the amount of \$ 70,000. These funds will be used to provide staff training on the computer software the company is using to run its business. Laura Hurts Ohio Region 7, Training Coordinator 50%, Walt Williams 50%. (Jan – Mar. 2006)*

Objective: Continue our successful outreach programs in Cleveland and Toledo emphasizing brownfield redevelopment and business retention and expansion within urban coastal communities.

Action: W. Williams and J. Lucente will provide technical assistance to existing businesses having expansion plans aimed at reducing urban sprawl and preventing the development of new brownfield sites caused by business relocations.

Result: *As a result of Williams’s business retention programming for the calendar year 2005, Williams was directly responsible for creating 58 new jobs and increasing business investment by \$27,922,000 in Northeast Ohio. This investment figure reflects actual approved loan amounts or the invoice for the*

purchase of machinery, equipment or facilities acquired by a specific business. See the table for January 1, 2005 to December 31, 2005 below:

Result: *A total of 65 new jobs were created and over \$27.9 million was invested in local businesses in the coastal zone. (Williams)*

VIII. Aquatic Invasive Species (AIS)

A. Prevention, control, economic impact, biology, and ecology of AIS

Objective: Develop methods to control and reduce the impact of AIS.

Action: F. Snyder will produce new multi-media educational materials to increase awareness of AIS and their impacts on the Lake Erie watershed.

Result: *Snyder, F.L. 2005. Lake Erie sport fishery alterations by non-native species. 114th Annual Meeting of the Ohio Academy of Science, Bowling Green, Ohio.*

Objective: Reduce the possibility of future AIS introductions.

Action: F. Snyder will conduct ANS-HACCP training workshops in Ohio and other states to promote the adoption of HACCP procedures in live fish transfer.

Result: *Nineteen inland lake managers and consultants throughout Indiana learned AIS-HACCP methods to prevent the spread of invasive species through transportation of boats and sampling gear. All developed formal HACCP plans for their particular operations and received AIS-HACCP certification at the South Bend, IN workshop. (Snyder, Charlevois, Apr 2005)*

Result: *Twenty-four aquaculturists, lake managers and aquatic weed harvesters learned AIS-HACCP methods to prevent the spread of invasive species through transportation of harvesting, equipment, boats and sampling gear. All developed formal HACCP plans for their particular operations and received AIS-HACCP certification at the Morrisville, NY workshop. (Snyder, Domske, Apr 2005)*

Result: *Twenty-two scientists with the Michigan Department of Environmental Quality learned AIS-HACCP methods to prevent the spread of invasive species through transportation of boats and sampling gear. All developed formal HACCP plans for their particular operations and received AIS-HACCP certification at the Lansing, MI workshop. (Snyder, M. Klepinger, Mar 2005)*

Action: F. Lichtkoppler and F. Snyder will work with the Great Lakes Network, Pet Industry Joint Advisory Council, and others to develop a national campaign to reduce aquarium introductions of non-native organisms.

Result: *Scores of pet industry managers, store owners and wholesalers learned more about the Habitattitude™ campaign to reduce aquatic plant and animal introductions to natural waters at the H.H. Backer Pet Industry Trade Show in Chicago Oct 6-9, 2005. (Lichtkoppler)*

IX. Administrative:

Result: *Lichtkoppler was the PI with Fred Snyder, Dr. Jeff Reutter and Dr. Ken Martin as Co-PI's on the Ohio Sea Grant Extension Core Grant Proposal for 2006-2010. The \$1.6 million grant (\$401,344/year for four years) was submitted*

to the National Sea Grant College Program as part of the Omnibus Ohio Sea Grant Proposal for 2006-2010. (Dec 1, 2005)

Result: *Lichtkoppler was the PI with Jeff Reutter as Co-PI on a \$200,000 (\$50,000/year for four years) Ohio Sea Grant Extension Coastal Community Development grant. The grant was submitted to the National Sea Grant College Program as part of the Omnibus Ohio Sea Grant Proposal for 2006-2010. (Dec 1, 2005)*

Result: *The Ohio Sea Grant College Program completed the PAT in August 21-24, 2005 scoring very high thus keeping OSG in the upper echelon of the NOAA Sea Grant Programs. (All Ohio Sea Grant College Program faculty and staff)*

Result: *Ohio State University Extension transferred \$110,275 in operations support funding for secretarial support, supplies, communications, etc. into the appropriate local accounts to support Ohio Sea Grant Extension operations for the period 1 Mar 2005 to 28 Feb 2006. A 5% (\$1,640) cut in operating funds was implemented to comply with mandated 5% cut in Extension funding. A \$26,031 increase in OSUE secretarial funding was offset by a \$26,031 reduction in the OSUE support for Fred Snyder. (Lichtkoppler, July 6, 2005)*

Ohio Sea Grant Extension Outreach Summary, 1 January 2005 – 31 March 2006:

During this reporting period Ohio Sea Grant Extension staff reached over 33,000 people through 1,300 programs, events and meetings. Many more clientele were impacted through individual consultations and phone calls. Sea Grant staff have instructional roles in most teaching events, and in many cases they chair or organize these events. Certain events were participated in where the agents had no formal instructional roles, but at which their presence was professionally acknowledged.

Teaching Events	Clientele Impacted	Events Chaired by Agents	Events Organized by Agents	Participation Contacts
1,299	28,150	128	243	4,936

Full details of agent contacts are available upon request.

Mass Media Efforts: 53. Ohio Sea Grant Extension participates in many mass media outreach efforts each year which have very large audiences in which exact numbers cannot be ascertained. Examples of mass media efforts are television, radio, newspaper and magazine interviews, which may have hundreds of thousands of potential audience members each, and sports and boats show expositions, which also can have tens of thousands of attendees spread over several days. During the 15-month reporting period, Sea Grant Extension personnel addressed the public through 53 of these events.

OHIO SEA GRANT COMMUNICATIONS

The mission of the Ohio Sea Grant Communications Program is to create and deliver communications for all elements of the Ohio Sea Grant College Program. To achieve this mission, our goals are to:

1. Increase awareness and educate a variety of audiences (general public, school children, officials, governmental resources managers, and scientific communities) about the efforts of Ohio Sea Grant researchers, educators, and extension specialists;
2. Interact and collaborate with communications efforts of the National Sea Grant College Program, the national and regional Sea Grant networks, and various outreach and research programs at The Ohio State University; and
3. Assist the director with managing the program, strategic planning, developing the core program proposal, and coordinating with investigators regarding the development of proposals and publications.

Communications distributes its workload under six major project headers:

- Stone Laboratory and Education Projects (20% of staff time)
- Extension-Related Projects (20% of staff time)
- Communications Management and Administration Projects (15% of staff time)
- Web-Related Projects (15% of staff time)
- Twine Line Newsletter (10% of staff time)
- Media Relations and Publicity (10% of staff time)
- Special/Regional Projects (10% of staff time)

The following sections highlight projects and accomplishments in these selected areas for 1 March 2005 through 31 March 2006:

Stone Laboratory and Friends of Stone Lab Projects

Stone Laboratory Promotional Campaign

Communications works with Stone Lab staff and Sea Grant Education to develop the Stone Laboratory annual promotional campaign for its Summer College Program, Science Workshop Program, and Research and Conference facilities. Beginning in late summer/early fall of each year, Communications builds the new campaign which traditionally consists of a 12-page color brochure, a tri-fold flier, course brochure, and poster, for the next year's (summer) program. To increase student enrollment, Communications developed an aggressive strategy to add longevity to the campaign in 2004. New promotional materials included full-color pocket calendars, bookmarks, reminder postcards, and posters—each to be delivered at different times of the campaign year in an effort to continue public awareness of the program. Note: All promotional materials included the new Stone Lab campaign logo along with the www.stonelab.osu.edu web site for program questions. The new campaign received several awards, including two APEX awards for marketing, two ACE Gold and Bronze Awards for the direct mailers and web site, and the People's Blue Choice Award at 2005's national Sea Grant conference. Communications develops and distributes more than 80 pieces of promotional pieces within each campaign. These materials included:

- **Program Brochures:** 10,000 sent to all inquiring students and teachers
- **Program Tri-Fold Flyers:** 30,000 sent to all inquiring students, former students, State Science Day high school students, and OSU science and education majors
- **Pocket Calendars:** 15,000 pocket calendars sent to 6000 Ohio State dorm residents, attendants of Stone Lab information sessions, career expos, and teaching conferences, along with all major Ohio State department offices in late December.
- **Reminder Postcards:** 4000 reminder postcards sent to all Ohio State education and science majors in February 2006.
- **Course Supplement:** brochure of all course descriptions sent to all inquiring students
- **Workshop Brochure:** brochure about Science Workshop program to all inquiring teachers
- **Posters:** 2000 full-color posters were sent to all Stone Lab faculty, Ohio State department and library bulletin boards, and Ohio High School guidance counselors for posting in December.
- **Bus Posters:** Six posters throughout the school year were placed in the Ohio State bus system (60 buses) starting in Fall 2005 and early 2006. These posters highlighted Stone Lab information sessions on campus along with job and scholarship deadlines.
- **Course Flier Series:** Eleven summer courses were highlighted in an 8.5 x 10 inch flier series which would be posted at key Ohio State science and education buildings and distributed to Stone Lab faculty teaching the courses in January 2006. These courses were deemed as 'high risk' to be canceled due to previous years' enrollment numbers.
- **Opportunity & Event Flyers:** 16 different flyers about program events and student opportunities were designed and distributed
- **Advertisements:** Four ads in the Academy Journal of Science, Ohio State Biological Science Journal, OSU Recreational Sports handbook, and the State Science Day program. Communications partnered with University Student Affairs Recreational Sports to be

featured in a freestanding display with accompanying table tent ads at a nearby study lounge. More than 1100 brochures and flyers were distributed.

- **Flash Ad:** A 15-second flash ad was developed and distributed in March 2006 to market to all Ohio State science and education majors. Communications sent a web link directly to the science and education majors along with sent it to an OSU student listserv for all OSU undergraduate and graduate students.
- **Stone Lab Displays:** New design to incorporate current “Explore Science and Discover Yourself” promotional tagline and Stone Lab logo. Large and small tabletop displays along with bulletin displays, were created to post in university buildings and used for all career days, conferences, and informational sessions.

Communications developed a new partnership with OSU’s Student Affairs department to house a freestanding display at the new Sports Recreation Center (RPAC) in March 2006. The Stone Lab display, positioned outside of the main locker room, capitalized on the adventurous and sport attributes of the program. More than 1,100 brochures and flyers were distributed within a two-month period.

Coupled with the display were table tent ads positioned in the student study lounge and café within the recreational center. Design of the ad had youthful appeal with the Stone Lab web site listed in order for students to directly go to the web site within the hi-fi wireless lounge and café areas.

Communications also added a new tri-fold flyer to target only high school students. Flyers were sent to all Ohio guidance counselors and science teachers, along with all high school students who participated in the State Science Day.

Stone Lab Blogs

In March 2006, Communications organized a new education and outreach effort that promoted students to talk about their experiences at Stone Lab via blogs. One student from each of the 25 Stone Lab summer courses was asked to write about their day-to-day life as a Stone Lab student. Students could quote classmates, upload pictures, and link to useful web sites—all to better document their adventures at Stone Lab. The project was organized and managed by Communications undergrad intern, Daniella Nordin. These blogs will be used in the following year’s Stone Lab web site and promotion to show potential students what they will do in a specific Stone Lab course through the eyes and descriptions of a fellow student. The blogs are located at www.stonelaboratory.blogspot.com.

Friends of Stone Laboratory Fundraising and Promotion

Communications coordinates with the non-profit Friends of Stone Lab (FOSL) Board to develop fundraising materials for its scholarship programs. As part of the annual fundraising promotion, Communications creates brochures, flyers, and postcards for distribution to 2,500 FOSL members. In 2005, the annual fundraising mailer, which Communications creates and prints, raised more than \$7,000 for FOSL.

Communications promotes FOSL activities, such as the annual Open House, Guest Lecture Series at Stone Lab, the Buckeye Island Hop, and the Winter Program and Silent Auction, to

local and university media. Starting in 2002, Publications Manager Nancy Cruickshank took the lead to oversee the FOSL's newly-created Silent Auction fundraiser. In addition to soliciting for donations from local vendors, she organized and publicized the event. The Silent Auction event raised \$3,111 in 2005 and \$2295 in 2006 for Stone Lab endowments.

One-Click Donation Web Page

In 2005, Communications partnered with Ohio State University's Development Department to create a one-click donation. Web master George Oommen created new FOSL web pages and an on line donation system in cooperation with the University's e-giving development department. As one of the first university departmental sites to directly link to the University's e-giving services, the web page allows donors to select Sea Grant and Stone Lab endowments by way of a drop-down list.

Extension-Related Communications Projects

Discussion Board

In 2002, Extension and Communications created an on line Lake Erie Discussion Board to provide plain-talk answers to science inquiries and a forum to discuss Lake Erie-related concerns. Extension monitors the site daily and Communications web master, George Oommen provides tech support. In October 2005, Communications upgraded the Discussion Board with new software which provided more features for users and more web trends data.

Ohio Sea Grant Display

Communications creates 20-foot displays throughout the year for Sea Grant's participation in sport and boat trade shows and educational conferences. Working with Sea Grant Extension, Communications has produced displays covering a variety of issues including: water quality, Areas of Concern, fish advisories, steelhead fishing, and recreation. In 2005, Sea Grant focused on new posters for aquatic invasive species, Great Lakes fishing, and the new Clean Marinas and Boater Programs. To accompany a new fish tank exhibit within the display area, Communications produced a fish identification booklet for visitors to use with the display. The Sea Grant 20-foot display offers Sea Grant information to more than 75,000 visitors at the Cleveland Boat Show every year.

Lake Erie Nature and Science Center Display

Ohio Sea Grant has had permanent exhibit space at the Lake Erie Nature and Science Center (LENSC) in Bay Village, Ohio since 1999. As part of the Cleveland Metroparks, LENSOC offers educational programs and wildlife rehabilitation to students K-12 and adults. Communications work with Sea Grant Extension Agents Dave Kelch and Kelly Riesen, to develop displays at the center. Displays have featured artificial reefs, aquatic invasive species, the Lake Erie food web, the Lake Erie Dead Zone, and sports fishing. Communications also provides related fact sheets and other materials to accompany each exhibit. The LENSOC display reaches more than 200,000 visitors every year, including 15,000 students from more than 1000 schools.

Poster Session Posters and Fact Sheets

Communications works with Extension to produce Extension conference posters and accompanying fact sheets. Communications started this project in June 2005 with the anticipation of the PAT Review poster session in 2005. Communications designed a template for the posters and factsheets. Six posters were designed for the PAT, along with 14 fact sheets highlighting individual extension programs and achievements. Two additional posters were developed for later Extension poster sessions.

Ohio Clean Marinas and Boater Programs

As a partnered effort with divisions of Ohio Department of Natural Resources, LEMTA, and other state agencies, Ohio Sea Grant developed and launched the Ohio Clean Marinas and Clean Boater Programs in September 2004. Besides being the media contact lead, Communications developed two web sites, logos, educational displays, instructional materials, and promotional stickers and flags for both programs. The web sites house all program materials, including the Marinas Guidebook and appendices, program brochures, and pledge information. In early 2005, Communications added an on line pledge option for boaters who desired to become clean boaters. Communications maintains the searchable record of all pledged boaters. The following is a list of products Communications created for the Ohio Clean Marinas and Boater Programs.

Products for Ohio Clean Marinas Program

- Identity standard guidelines
- Press release template
- BMP Guidebook (4 revisions)
- Guidebook print and assembly (3 rounds)
- 1-page ad for newsletter
- Gary intro postcard insert
- Four-color marina brochure
- Program Letterhead design
- Certified Marinas Checklist
- Certified Marinas Certificate
- Certified Marinas packets (5 components and CD of all pdfs)
- Media packets Event nametags and folder assembly
- New web site design

Products for Ohio Clean Boater Program

- Identity standard guidelines
- Online boater registration system
- Best Boater Practices Brochure
- Tipsheets
- Clean Boater Pledge form
- Boater decal letter
- Personalized pledge poster (7 marinas; 14 posters) Spr 2005
- Personalized pledge poster (12 marinas; 24 posters) Spr 2006
- New Web site design

Future of Ohio's Lake Erie Basin Conference

Communications worked with Extension's Joe Lucente to develop a four-color conference program, awards certificates, nametags, and press release for his Future of Ohio's Lake Erie Basin Conference in December 2005.

Great Lakes Fishery Leadership Institute

Ohio Sea Grant conducted its first Great Lakes Fishery Leadership Institute to promote fisheries leadership education and reduce conflict with fish managers in 2003. Communications worked with Ohio Sea Grant Extension to create a technical summary documenting the Great Lakes Sea Grant Network's comprehensive survey of the Great Lakes charter fishing industry along with separate summaries for each Great Lake state.

Eco-History Island Passport

More than 1.2 million people visit the Put-in-Bay, Ohio area, on Lake Erie every year. Popular tourist sites around the area include Perry's Monument, the Lake Erie Islands Historical Society (LEIHS), the Aquatic Education Center, and South Bass Island Lighthouse. In an effort to increase education about the history and ecology of the Put-in-Bay area and ultimately increase tourism, Extension's John Hageman and Communications developed the Eco-History Island Passport, an informational booklet and ticket system that allowed a visitor to tour five venues for one price. The project occurred during summer 2004 and 2005.

Mirrored after Chicago's successful museum City Pass, tourists are able to visit all the major Put-in-Bay attractions (Perry's Monument, Aquatic Education Center, South Bass Island Lighthouse, and the Lake Erie Islands Historical Society) with just the purchase of one ticket. The goal is to increase attendance at the venues because of the one-ticket convenience and capitalize on consolidated marketing of the program.

Communications took the lead to partner with the National Park Service, LEIHS, ODNR Wildlife, and Ohio State University's Office of Student Affairs. The passport contains general information, pictures, and calendar events of each site and serves as a take-home piece for the participants. Like a true passport, visitors receive a stamp in their passport at each venue they see.

Communications Management and Administration Projects

PUBLICATION SERIES

The Ohio Sea Grant College Program maintains a publication series that is divided into 11 different categories. Each category serves different purposes and audiences, including the scientific community, the media, educators, governmental agencies, associations, industries, Sea Grant, and the general public. Publication policies are established by the Communications Manager, Publications Manager, and the Extension Program Coordinators.

Most general publications (books, brochures, education materials, fact sheets, guides, and public

relations materials) are written and designed “in-house” by Ohio Sea Grant staff members or affiliated researchers.

Before adding items to a series, each one is analyzed in regards to the potential audience, and the best method of disseminating the information in a cost-effective manner; the document is also peer-reviewed as part of the publication process. A brief description of each series is listed below:

- **Book Series (BS)** are usually produced in cooperation with another agency or publisher.
- **Brochures (B)** describe programs and projects, list publications, or general information about a specific topic.
- **CLEAR Technical Reports (CTR)** are reports produced by the Center for Lake Erie Area Research on Lake Erie. Reports are primarily “historic.” This category is no longer active.
- **Education Publications (EP)** include curriculum materials and related items about Lake Erie and the Great Lakes. Materials are developed primarily by the Ohio Sea Grant Education Program and the Education Coordinator.
- **Fact Sheets (FS)** are one to four pages of information usually written for the general public.
- **Guide Series (GS)** include publications for the general public that focus on Lake Erie natural features and attractions.
- **Public Relations (PR)** include the media coverage reports and other items produced by staff or others about the program.
- **Reprints (RS)** are articles published in professional journals written as a result of Sea Grant sponsored projects.
- **Technical Bulletins (TB)** are based on Sea Grant research findings and written for technical and scientific audiences.
- **Technical Summaries (TS)** are based on Sea Grant research findings and are written for non-technical audiences.
- **Theses and Dissertations (TD)** were written by Sea Grant-supported graduate students. Copies are made only for the National Sea Grant Library.

Publications Produced by Communications

The following table lists the number of publications in each series produced by Ohio Sea Grant College Program from 2005–March 2006.

Technical Reports

- Ohio Sea Grant College Program Strategic Plan 2005-2010
- Ohio Sea Grant College Program Implementation Plan 2004-2006
- Ohio Sea Grant College Program Implementation Plan 2005-2007
- Ohio Sea Grant College Program Omnibus Proposal 1Mar 2006-28 Feb 2008
- Ohio Sea Grant College Program Progress Report, 2004-2005.
- Stone Laboratory 2004 Program Review
- PAT 2005 Preparatory Package/ Manual, July 2005

Videos/CDs/DVDs

- CD: Ohio Sea Grant College Program Strategic Plan 2005-2010
- CD: Ohio Sea Grant College Program Implementation Plan 2004-2006
- CD: Ohio Sea Grant College Program Implementation Plan 2005-2007
- CD: Ohio Sea Grant College Program Omnibus Proposal 1Mar 2006-28 Feb 2008
- CD: Ohio Sea Grant College Program Progress Report, 2004-2005.
- CD: Stone Laboratory 2004 Program Review
- CD: Ohio Clean Marinas: Certification Ceremony Packet, Oct 2005
- CD: Ohio Clean Marinas: Certification Ceremony Media Packet, Oct 2005

Handbook/Manuals/Guide/Brochure

- *Ohio Clean Marinas Program BMP Guidebook*, May 2005, TB-071a
- *Ohio Clean Marinas Brochure*, April 2005, OHSU-B-069
- *Ohio Clean Boater Best Boater Practices 2005*, Leroy Hushak and Jill Jentes, 2005, B-073
- *COSEE Great Lakes Brochure*, Rosanne Fortner and Jill Jentes, February 2006, OHSU-B-074
- *Ohio Clean Marinas Identity Standards Guidelines*, April 2005
- *Ohio Clean Boater Identity Standards Guidelines*, April 2005
- *Lake Erie Programs at The Ohio State University: Media Coverage 2005*, PR-013
- *2005 Friends of Stone Laboratory brochure*, 2005, B-071.
- "The Future of Ohio's Lake Erie Basin" Conference Brochure, Dec 2005.
- *2004 Island Passport: Ecology, science and history* (Seasonal guided tour booklet) brochure 2005, B-067
- *2005 Island Passport: Ecology, science and history* (Seasonal guided tour booklet) brochure 2005, B-068
- *Stone Laboratory Guide for Familiarization Tours for Students: Ohio Division of Travel and Tourism*, Jill Jentes Banicki, March 2006.
- *Stone Laboratory Guide for Familiarization Tours for Adults: Ohio Division of Travel and Tourism*, Jill Jentes Banicki, March 2006.
- *Western Lake Erie guide to public waterfront access, charter fishing, marinas, boating excursions, festivals and events guide*, Joe Lucente, 2005, GS-019f 2005
- *Western Lake Erie guide to public waterfront access, charter fishing, marinas, boating excursions, festivals and events guide*, Joe Lucente, 2006, GS-019g 2006
- *Ohio Clean Boater Tipsheets*, Leroy Hushak, March 2005.
- *Ohio Clean Marinas Program Checklist*, Gary Comer, April 2005.
- 2005 Ohio Sea Grant College Program Preproposal, brochure, 2005.
- 2005 Ohio Sea Grant College Program Proposal, brochure, 2005.

Newsletters/Periodicals

- Twine Line Winter Edition, Vol 27, no.1.
- Twine Line Spring Edition, Vol 27, no. 2
- Twine Line Summer Edition, Vol 27, no 3.
- Twine Line Fall Edition, Vol 27, no. 4.

- Twine Line Winter Edition, Vol 28, no. 1.

Books

- *Birds of Western Lake Erie: Documented observations and notes*, Trautman. 2005

Factsheets

- *Where to take kids fishing in Northern Ohio*. Kelly Riesen. FS-084
- *Basic fishing equipment for kids*, Kelly Riesen, FS-085
- *The Lake Erie Discussion Board*, Fred Snyder, July 2005, TS-043
- *Ohio Clean Marinas and Boater Program*, Dave Kelch, July 2005, TS-043
- *Boosting Fisheries Education on Lake Erie*, Fred Snyder, July 2005, TS-043
- *Buffer Strips Improve Lake Erie Water Quality*, Fred Snyder, July 2005, TS-043
- *Lake Erie Coastal Ohio*, Frank Lichtkoppler, July 2005, TS-043
- *Great Lakes Fishery Leadership Institute*, Frank Lichtkoppler, July 2005, TS-043
- *MARC Special Area Management Plan*, Frank Lichtkoppler, July 2005, TS-043
- *Retention, Expansion and Needs Analysis for Rural and Urban Lake Erie Coastal Business Development*, Joe Lucente, July 2005, TS-043
- *Ohio Charter Captains Conference*, Fred Snyder, July 2005, TS-043
- *Using Technology to Change Perceptions on Environmental Challenges*, Walker Williams, July 2005, TS-043
- *Stone Laboratory Provides Education and Outreach on Lake Erie*, John Hageman, July 2005, TS-043
- *Discovering Ohio Steelhead Increasing Sportfishery Participation*, Dave Kelch, July 2005, TS-043
- *Port Clinton Transience Municipal Marina*, Fred Snyder, July 2005, TS-043
- *Local Government Leadership Training for Elected and Appointed Officials*, Joe Lucente, July 2005, TS-043

Web Sites

- Ohio Sea Grant College Program
- F.T. Stone Laboratory
- Center for Lake Erie Area Research
- GLAERC
- Lake Erie Discussion Board
- Friends of Stone Laboratory
- Biocomplexity Project
- Ohio Clean Boater Program
- Ohio Clean Marinas Program

Promotional Materials

- 2006 Stone Lab Campaign Brochure
- 2006 Stone Lab Campaign Flyer
- 2006 Stone Lab Campaign Supplemental Brochure
- 2006 Stone Lab Campaign Workshop Brochure

- 2006 Stone Lab Campaign Bus Poster Series (6 posters)
- 2006 Stone Lab Campaign Poster
- 2006 Stone Lab Campaign Reminder Post Card Series
- 2006 Stone Lab Campaign Pocket Calendar Series
- 2006 Stone Lab Campaign Job Flyer
- 2006 Stone Lab Campaign FOSL Open House Flyer
- 2006 Stone Lab Campaign Open House stud/par/teacher flyer
- 2006 Stone Lab Campaign Workshop Demo Teachers
- 2006 Stone Lab Campaign Virtual Workshops flyer
- 2006 Stone Lab Campaign Photo Workshop flyer
- 2006 Stone Lab Campaign At Risk Course Series (11 flyers)
- 2006 Stone Lab Campaign Dorm Poster
- 2006 Stone Lab Campaign Bio Sci Mag Ad
- 2006 Stone Lab Campaign State Science Day Ad
- 2006 Stone Lab Campaign Academy of Science Ad
- 2006 Stone Lab Campaign REU Flyer
- 2006 Stone Lab Campaign HS Student Tri-fold Flyer
- 2006 Stone Lab Campaign Teacher Fellowships flyer
- 2006 Stone Lab Campaign Courses open flyer
- 2006 Stone Lab Campaign Distance Learning flyer
- 2006 Stone Lab Campaign Photo release adult, minor
- 2006 Stone Lab Campaign Stone Lab map/directions flyer
- 2006 Stone Lab Campaign Housing form series (med history, housing, consent)
- 2006 Stone Lab Campaign Faculty/student handbook
- 2006 Stone Lab Campaign Student promotional flash ad
- 2006 Stone Lab Campaign OSU Newark flyer
- 2006 Stone Lab Campaign University Rec Sports Center handbook ad
- 2006 Stone Lab Flyer FOSL Guest lecture flyer
- 2006 Stone Lab Flyer FOSL Research Brief flyer
- 2006 Stone Lab Flyer FOSL Winter Program flyer
- 2006 Stone Lab Flyer FOSL Buckeye Island Hop flyer
- 2005 FOSL endowment flyer

Press Releases

Research Examines Heat Tolerance in Zebra Mussels (2/25/05)

Stone Lab Announces Teacher Fellowships (3/3/05)

Endangered Water Snakes Feed on Invasive Round Gobies in Lake Erie (3/10/05)

Stone Lab Classes Still Available for Summer 2004 (3/28/05)

Research Finds Reasons Why Invasive Watermilfoil Not in Lake Erie Wetland (4/07/05)

Ohio Sea Grant Program Receives ACE Awards (4/25/05)

New Research Credit for College Students (5/5/05)

Stone Lab Offers Photography Workshop (5/17/05)

Stone Lab Offers OSU Employees Conference Opportunities (5/27/05)

Eco-History Island Passport at Put-in-Bay (6/7/05)

Gibraltar Island Tours at Put-in-Bay (6/7/05)
 Invasive Phragmites Decreased in Lake Erie Wetland by Controlled Flooding (6/14/05)
 Ohio Sea Grant Program Receives APEX Award (7/15/05)
 Annual Stone Lab Open House (8/1/05)
 Mini Dead Zone in Sandusky Bay (9/3/05)
 Lake Erie Coastal Trail Becomes National Byway (9/22/05)
 Biological Fieldstation Positions Available (9/24/05)
 Nine Lake Erie Marinas to Receive Ohio Clean Marinas Certification (10/7/05)
 Future of Ohio's Lake Erie Basin Conference Announcement (11/4/05)
 Ohio Clean Marinas Workshops to Help Grow Program (11/21/05)
 Ohio Sea Grant Promotes New License Plate Petition (12/13/05)
 Web Site under Construction (12/16/05)
 Lake Erie License Plates (12/16/05)
 Knauss Fellowship Applications Due Mar 27 (1/04/06)
 Sea Grant Awarded \$2.5 Million to Support Great Lakes and Ocean Sciences Education (1/05/06)
 Research Finds Genetic Diversity Key to Successful Zebra Mussel Invasion (1/10/06)
 8th Annual Open House and Silent Auction (1/23/06)
 New Stone Lab Courses Available (1/25/06)
 New Certified Clean Marinas (2/2/06)
 Research Uses Engineered Algae as Biosensors (2/6/06)
 New Research Discovers Round Gobies Decrease Smallmouth Bass Growth (2/14/06)
 Invasive Species Just as Diverse as Native Counterparts (2/20/06)
 Sea Grant Research Finds Fish Ear Stones Provide Map of Fish Migration 3/30/06

Posters/Displays

- 2006 Stone Lab Campaign Stone Lab display, small table top, Jill Jentes Banicki, May 2005.
- 2006 Stone Lab Campaign Stone Lab display, large table top, Jill Jentes Banicki, May 2005.
- 2006 Stone Lab Campaign Stone Lab University Rec Sports Center freestanding display, Jill Jentes, March 2006
- 2006 Stone Lab Campaign University building bulletin board display, Greg Aylsworth, March 2005.
- 2006 Stone Lab Campaign University Rec Sports Center table tent ad, Jill Jentes and Greg Aylsworth, March 2006
- Ohio Sea Grant Education, PAT 2005 poster, Rosanne Fortner and Jill Jentes, 2005.
- COSEE Great Lakes, poster-horizontal, Rosanne Fortner and Jill Jentes, 2006.
- COSEE Great Lakes, poster-vertical, Rosanne Fortner and Jill Jentes, 2006.
- *Lake Erie Discussion Board*, PAT 2005 poster, Fred Snyder, 2005.
- *Boosting Fisheries Education on Lake Erie*, PAT 2005 poster, Fred Snyder, 2005.
- *Ohio Clean Marinas Program*, PAT 2005 poster, Leroy Hushak and Jill Jentes, 2005.
- *Ohio Clean Boater Program*, PAT 2005 poster, Leroy Hushak and Jill Jentes, 2005.
- *Ohio Charter Captains Conference*, PAT 2005 poster, Fred Snyder, 2005.
- *Buy a Fish Lake Erie License Plate*, poster, Cleveland Boat Show, Dave Kelch and Jill Jentes Banicki, 2005.

- *Take me Fishing*, LENS C poster, Kelly Riesen, July 2005.
- *Great Lakes Fishing*, poster, Dave Kelch and Kelly Riesen, Cleveland Boat and Sport Shows, 2005.
- *Aquatic Invasive Species*, poster, Cleveland Boat Show, Dave Kelch and Jill Jentes Banicki, 2005.
- Conference poster, Walter Williams, Nov 2005.
- *Great Lakes Fishery Leadership Institute*, poster, Frank Lichtkoppler, July 2005
- *Lake Erie Fish Identification*, flipcard display, Cleveland Boat and Sport Shows, 2005
- *Generating Information for Decision Making*, poster, Frank Lichtkoppler, July 2005
- *Take the Pledge*, marina posters (series of 12), Mar 2006.
- *Take the Boater Pledge*, marina poster series (series of 7), March 2005.
- *Ohio Sea Grant Funding Sources*, Sea Grant Week poster, Jill Jentes, May 2005

Table 1. Ohio Sea Grant Publications, 01 Mar 2005 – 31 Mar 2006	
Technical Reports	9
Videos/CD/DVDs	8
Handbooks/Manuals/Guides/Brochures	20
Books	1
Fact Sheets	16
Newsletter	5
Web Sites	9
Promotional materials (flyers, ads, posters)	62
Posters/Displays	24
Public relations	1
Press releases	33
Total Publications Produced	188
Popular-press articles (venues)*	206* (64)
* 2006 TBD	

Publication Distribution

Ohio Sea Grant publications are distributed according to the guidelines provided by the National Sea Grant College Program. In addition, publications are distributed through Ohio State University Extension and selected organizations such as the Lake Erie Marine Trades Association and the Lake Erie Nature and Science Center, and during special events such as the Ohio Sea Grant & Stone Laboratory Winter Program and summer Open House. Materials are also distributed through Stone Laboratory classes, teacher workshops, university courses in the region, and by request (web site, telephone, or through the publications brochure order form).

Publication announcements are sent via e-mail to GLIN Announce (maintained by the Great Lakes Information Network), the Sea Grant Communicators Network, and our own e-mail distribution list that contains addresses for scientists, researchers, educators, agency personnel,

and media. Table 2 shows the publication distribution for 1 March 2005–31 March 2006. See Table 3 for a list of the different groups that requested materials for this time frame, and a list of unique special events and collaborating agencies that requested “bulk” quantities of Ohio Sea Grant publications. Table 4 lists unique special events and collaborating agencies that requested “bulk” quantities of Ohio Sea Grant publications.

Table 2. Distribution of Ohio Sea Grant Outreach Publications, 01 Mar 2005 – 31 Mar 2006	
Fact Sheets ⁱ	23,233
Technical Pubs. ⁱⁱ	1,105
Education Pubs.	3,248
Guides	25,000
Brochures	36,635
Books	12
AID ID Cards	-
Newsletter	25,000
Stone Lab Materials	
Fliers	41,539
Brochures	10,621
Event fliers ⁱⁱⁱ -REUs, Virtual Workshops, Open House, Jobs	4,443
Educator Flier	1,098
Workshop Brochure	1,321
Dorm Flier	894
Handbook	250
Posters	2,891
Bus Posters	520
Course Fliers ^{iv}	223
Postcards	5,000
Pocket Calendars	27,000
Total Requests	210,033

¹ Most of our Fact Sheets can now be downloaded from our Web site.

¹ Includes journal reprints, technical bulletins, and technical summaries.

¹ Number does not include files sent via e-mail..

¹ Number does not include files sent via e-mail.s

Table 3. Audiences Requesting Ohio Sea Grant Materials, 01 Mar 2005 – 31 Mar 2006	
Audiences	
General Public	258
Organization/Zoo/Park/Museum	25
K-12 student	112
K-12 educator	22
University educator	22
Government	1
Researcher	5
University student	1
Industry	2
Stone Lab Application Materials	
Grades 10-12 student	154
K-12 educator	87
University student	122
University educator	43
Others	69
Total Requests	923

Table 4: Special Events/Collaborating Agencies that Requested/Distributed Ohio Sea Grant Publications

2005	Ohio Sea Grant Charter Captains Conference
Cedar Point in Water Boat Show	Congressional Legislature Day on Lake Erie
Cleveland Boat Show	Ohio Sea Grant Clean Marinas/Boater Programs
Cleveland in Water Boat Show	Ohio Sea Grant Stone Lab Winter Lecture
Cleveland Museum of Natural History	Lake Erie Conference/State of the Lake
Cleveland Sport Show	Ohio Sea Grant Teacher Workshop/Lichtkoppler
Detroit River Fest	OSU OSURF Presentation
Earth Science Teacher Workshop	OSU Rhoades Scholars
Eisenhower National Clearing House	OSU Young Scholars Program
Farm Science Review, London Ohio	Ottawa County Visitors Bureau, Port Clinton Ohio
Great Lakes Historical Society, Vermilion Ohio	Perry's Victory and International Peace Memorial, Put-in-Bay Ohio
Great Lakes Sea Grant Network Conference	Rocky River Watershed Festival
Great Lakes Student Summit, Buffalo New York	SECO Conference, Columbus Ohio
Lake Erie Nature and Science Center, Lorain Ohio	Steelhead Extension Seminar, Lorain Ohio
Lake Erie Islands Historical Society, Putinbay, Ohio	Stone Lab Open House
Make a Splash Project Wet Festival at Sharon Woods Metro Parks, Westerville Ohio	Walnut Springs Middle School Fishing Club, Westerville Ohio
National Teacher Training Institute for Math Science and Technology, Cleveland	Xenos Resource Fair

<p>Ohio North Coast Fall Fishing Fest Ohio Department of Natural Resources, Division of Watercraft, Cleveland Ohio Ohio Department of Natural Resources, Division of Watercraft, Columbus Ohio Ohio EPA Earth Day Event Ohio Lake Erie Commission, Toledo Ohio</p>	<p>Jan-March 2006 Cleveland Boat Show Cleveland Sport Show Great Lakes Student Summit, Buffalo New York Ohio Sea Grant Stone Lab Winter Lecture</p>
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Program Assessment Team Visit Materials

In June 2005, Communications took the lead to organize the design of the PAT visit materials. The PAT briefcase was arranged with seven appendices and 14 booklets which highlighted a specific PAT view requirement. Organization of the materials was designed to allow the reader to pull out different documents at the same time for easy comparisons. Also, the loose publications allowed the reviewer take only the publications needed for that day. A CD with a menu of all documents in pdfs was within the packet. Communications designed the template for the powerpoint presentations, the nametags, and all signage.

Ohio Sea Grant Strategic Plan and Implementation Plans

Communications created the design of the four-color Ohio Sea Grant Strategic Plan 2006-2010 and the two Implementation Plans for 2004 to 2006 and 2005 to 2007 in Spring 2005. New pictures and graphics were incorporated within the publication designs along with the accompanying CDs.

Web-Related Communications Projects

OHIO SEA GRANT WEB SITE

Ohio Sea Grant Communications designs and oversees the program web site, which includes Ohio Sea Grant, Stone Laboratory, GLAERC, CLEAR, Friends of Stone Lab, and four individual Sea Grant project web sites. The Communications Manager creates the content for the web pages and the webmaster designs and oversees the site.

Over the last five years, the web site has grown to contain information including publications, research projects, summer courses, on line giving, and new web pages for the Clean Marinas and Boater Programs, Biocomplexity Project, and the Friends of Stone Lab. Program fact sheets, technical summaries, and newsletter issues are also available on line as PDF documents as well as access to the project reporting system.

In 2003, the web site was overhauled and redesigned to make it Section 508 compliant. By consolidating web site pages and offering site indexes, the revised site provides users with easier navigation and accessibility and allowed Communications to easily update the site. The site also

provided users the opportunity to be informed of new *Twine Line* issues via an e-mail notification.

Communications restructured the web site in Spring 2005 in order to add new features. These additions included a new Lake Erie discussion board, database-driven calendar of events, on line proposal submissions, and new searchable subject and publication directories. More than 95% of all Sea Grant technical reports and other publications were also added to the site and are now available as pdfs.

Host Change and New Web Addresses

In October 2005, the Communications transitioned over to a new web provider through University Relations, which hosts the main Ohio State University web site. This partnership provided more exposure University-wide for the programs, continuity with very little downtime, along with more software support opportunities. These software upgrades gave the program faster speed for compiling web requests and the use of the MySQL database also gave the program better database management. While the old web provider gave the program monthly or quarter reports of the web statistics, the new host allows the program to view live information. This has allowed the program to adjust priorities to meet web demands. More features and better exposure have increased the new web site activity by more than 20 times than the old sites with now between 300,000 to 400,000 hits per month.

New Project Reporting System

In Spring 2005, Ohio Sea Grant Communications began to overhaul its on line project reporting system with the anticipation of changing to a different server that supported the leading MySQL database. George Oommen took the lead to overhaul the system and incorporated several new features to make the new reporting system easier and faster to update reports.

PI Control Over Content—Within the new password-protected system, the Project Investigators with their personal passwords have responsibility over the content of their reports. The new system allows the PIs to update by project section (body, publications, awards, etc.) instead of submitting an entire report for only one updated section. This also helps decrease the amount of lost data in the event of a system crash. Oommen also added a rich text editor feature to the system which allows the PIs to make content (boldface, italicized, etc.) appear the way the PIs want. When updates are made by the PI, Sea Grant Administration is sent an email and must approve changes before changes are officially in the system. Unlike the previous system, where a Sea Grant technician had to manually update to the live system, the new system provides more dynamic data by requiring the PI to update and Sea Grant to approve

Uploading Capabilities—New to the system is a PI's capability to upload images, graphics, pdfs, and presentations to a PI's specific project. This allows the program to store and the public to view, project-specific products on the site.

New Search Features—Users can now search the database by searchable keywords and by US regions.

New Manual and Flash Demonstration—The new system provides an instruction manual and video to troubleshoot update questions.

Lake Erie Discussion Board

In 2002, Extension and Communications developed the Lake Erie Information Discussion Board. Monitored daily by our Extension Specialists/Educators, the Board provides plain-talk answers to science inquiries and a forum to discuss Lake Erie-related concerns. Since its start, the Board has consistently been in the top ten most visited pages on the Sea Grant web site accessible at www.ohioseagrant.osu.edu/discuss. It currently averages between 30,000 to 40,000 hits every month.

Stone Lab Web Site

For easier navigation and a newer look, Communications overhauled the Stone Lab web site in late 2004, incorporating the new, youthful graphic elements of the current Stone Lab Promotional Campaign. Besides easier navigation, new features include database-driven news and event calendar, a program photo gallery, and a custom-built weather forecast. Potential Stone Lab students can download applications faster, and icons better direct students to syllabi, course calendars, and text and supply requirements. Since moving to the new host in Oct 2005, the Stone Lab web site traffic has increased by 25 to 40 percent. See Table 5 for web statistics and Table 6 for most viewed pages..

Ohio Clean Marinas and Clean Boater Web Sites

In September 2005, Communications redesigned web sites for the newly-created Ohio Clean Marinas and Clean Boater Programs. The sites house all program materials, including the Marinas Guidebook and appendices, program brochures, and pledge information. In March 2005, Communications added an on line pledge option for those who want to become clean boaters. Communications maintains the searchable record of all pledged boaters.

Biocomplexity Project Web Site

Communications developed a new web page for the National Science Foundation funded Biocomplexity Project in 2005. The project required a site for the general public and an internal discussion board for its 15 researchers. The discussion board serves as an organizational system for the researchers, allowing them to categorize and upload data by subject and sub-committee.

Web Site Statistics

Table 5 shows information related to the number of hits and visitors to the site from 1 March 2005 to 31 March 2006. Note in October 2005, the program's web sites transitioned over to a new host and server with Ohio State University Relations. Since this transition, the web site has averaged 300,000 hits per month.

Table 5. Number of Hits and Visitors to the Ohio Sea Grant Web Site, 01 Mar 2005 – 31 Mar 2006	
Hits for entire site	1,684,229
Average hits per month	129,556
Average pages viewed per month	38,910

During this timeframe, the most frequently visited pages within our site included various fact sheets, information on zebra mussels (and other aquatic invasive species) and the Stone Laboratory course schedule. The most visited page has been the Lake Erie Discussion Board, averaging between 30,000 to 40,000 hits every month. Table 6 shows the most frequently requested pages and materials for this timeframe.

Awards and Recognition

The Stone Laboratory web site has received several awards over the last two years. The site received the 2005 APEX Award in web design, the 2005 Bronze Award from ACE for best web site, and was part of the Communications project that won the 2005 Blue Ribbon People’s Choice Award at the 2005 Sea Grant Week Conference. Ohio State’s University Relations also featured Stone Lab site on the “OSU splash page” in Spring 2005.

Table 6. Most Frequently Requested Pages and Materials, 01 Mar 2005 – 31 Mar 2006		
Pdf downloaded		
Twine Line		
Farm Pond Management Tips (FS_061)		
Fish Smoked at Home (FS-032)		
Zebra Mussels in North America: The Invasion and its Implications (FS-045)		
Find Maps and Charts (FS-010)		
Lake Erie Water Quality: Past, Present and Future (FS-046)		
Ohio Clean Marinas BMP Guidebook		
College Course Application		
REU Program Application		
Sea Grant Progress Report 2004-2005		
Certified Ohio Clean Marinas Checklist		
Twine Line Issues		
Spring 2005		
Winter 2006		
Other Pages or Sites		
Lake Erie Information Discussion Board	Stone Laboratory Summer Courses	FOSL
Current Events	Research Project Reporting	News

Twine Line Newsletter

Ohio Sea Grant’s Twine Line has provided coverage of Lake Erie and Great Lakes environmental issues, outreach, and research for over 26 years. As one of Ohio Sea Grant Communications’ primary tools for disseminating information to the media, Twine Line highlights Extension activities and programming, new Sea Grant-funded research, and educational opportunities. Jill Jentes Banicki oversees the production of the newsletter and writes

75% of its content. Staff members representing Sea Grant research, education, and extension, and Friends of Stone Lab members write the other 25%.

Approximately 6,000 newsletters are distributed quarterly through paid and free subscriptions and at special events and conferences. Subscribers include the general public, elected officials, libraries, Sea Grant and Extension personnel, outdoor writers, teachers (K-12 and university), and Great Lakes media reporters. Past and current issues of *Twine Line* are also available via the web site and subscribers have the opportunity to be notified of new issues via e-mail.

Partnerships

From February 1993 to June 2004, Ohio Sea Grant partnered with the Ohio Lake Erie Commission to include its four-page North Coast Newsletter into each of its six issues of *Twine Line*. The Commission is an agency that represents six state agencies overseeing Lake Erie. The partnership with the Commission allowed Sea Grant to increase its outreach audience by more than one-eighth and helped finance the production costs of *Twine Line*. The Commission discontinued its newsletter in hardcopy in 2004 due to budget constraints.

To compensate for the funding loss, Communications made *Twine Line* a quarterly publication in July 2004, but expanded it from eight pages to 12 pages. This decision gave readers the same amount of information but saved over \$2000 in postage costs per year. Communications contacted all unique North Coast News readers and offered them the option to subscribe to *Twine Line* (hardcopy or electronically) in order to maintain the newsletter's current readership.

In 1998, Sea Grant partnered with the non-profit volunteer group, Friends of Stone Lab (FOSL), to incorporate its two-page newsletter into *Twine Line*. This partnership allowed subscribers to read about the most current research going on at the lake, while also finding out how they can help further Stone Lab's educational and research initiatives through volunteer and donation assistance. In addition to increasing readership, FOSL also shares in the costs of the newsletter. When *Twine Line* moved to a quarterly, 12-page publication in July 2004, FOSL's coverage was increased from two to three pages per issue.

Research Reviews

In January 1998, Communications created Research Reviews, a series of articles that summarized and promoted the latest Ohio Sea Grant research to the public. Run as a regular feature in *Twine Line*, these articles have been a successful relationship between Communications and researchers, with the science writer working with researchers to develop custom graphics and one-to-two page research summaries. To target the media twice, Communications regularly sends each research article out as a news release. The combination of the article and the news release has resulted in increased media exposure, with typically five to ten media stories generated by each *Twine Line* articles.

Newsletter Improvements and Awards

Communications has overhauled the look of *Twine Line* twice over the past seven years. Beginning with the July/August 1998 issue, *Twine Line* was updated to a two-color publication to increase clarity of graphics. In June 2004, it was switched to a quarterly newsletter.

On the basis of these improvements, *Twine Line* won a number of national awards, including an APEX Award for “best feature series writing” in 2005.

Special and Regional Communications Projects

COSEE Great Lakes

Communications created two poster session posters and a four-color brochure for Dr. Rosanne Fortner and Great Lakes COSEE in February 2006. Besides creating text and design of the three publications, Communications designed new media packets for the first Lake Guardian workshop on Lake Erie. Jill Jentes serves as one of the communicators for the regional project.

Fish Lake Erie License Plate

In Spring 2005, Communications coordinated the development of Ohio Sea Grant’s license plate. Staff created different designs, organized survey opinions on the designs and worked with the Ohio Bureau of Motor Vehicles. Communications produced ads, displays and press releases for the plate petition campaign.

MEDIA RELATIONS AND COVERAGE

Reporters frequently request information on Lake Erie issues from Ohio Sea Grant. Communications staff members provide background information, interviews, and contact information to media.

News Releases

Communications distributes releases to the media through an e-mail distribution list, the Great Lakes Information Network (GLIN), and The Ohio State University’s Communications Office. News releases are also available on line through our web site. Communications distributed 23 in 2005 and 10 by March 2006.

Table 7: News Releases Distributed

2005

Research Examines Heat Tolerance in Zebra Mussels (2/25/05)
Stone Lab Announces Teacher Fellowships (3/3/05)
Endangered Water Snakes Feed on Invasive Round Gobies in Lake Erie (3/10/05)
Stone Lab Classes Still Available for Summer 2004 (3/28/05)
Research Finds Reasons Why Invasive Watermilfoil Not in Lake Erie Wetland (4/07/05)
Ohio Sea Grant Program Receives ACE Awards (4/25/05)
New Research Credit for College Students (5/5/05)
Stone Lab Offers Photography Workshop (5/17/05)
Stone Lab Offers OSU Employees Conference Opportunities (5/27/05)
Eco-History Island Passport at Put-in-Bay (6/7/05)
Gibraltar Island Tours at Put-in-Bay (6/7/05)

Invasive Phragmites Decreased in Lake Erie Wetland by Controlled Flooding (6/14/05)
Ohio Sea Grant Program Receives APEX Award (7/15/05)
Annual Stone Lab Open House (8/1/05)
Mini Dead Zone in Sandusky Bay (9/3/05)
Lake Erie Coastal Trail Becomes National Byway (9/22/05)
Biological Fieldstation Positions Available (9/24/05)
Nine Lake Erie Marinas to Receive Ohio Clean Marinas Certification (10/7/05)
Future of Ohio's Lake Erie Basin Conference Announcement (11/4/05)
Ohio Clean Marinas Workshops to Help Grow Program (11/21/05)
Ohio Sea Grant Promotes New License Plate Petition (12/13/05)
Web Site under Construction (12/16/05)
Lake Erie License Plates (12/16/05)

2006

Knauss Fellowship Applications Due Mar 27 (1/04/06)
Sea Grant Awarded \$2.5 Million to Support Great Lakes and Ocean Sciences Education (1/05/06)
Research Finds Genetic Diversity Key to Successful Zebra Mussel Invasion (1/10/06)
8th Annual Open House and Silent Auction (1/23/06)
New Stone Lab Courses Available (1/25/06)
New Certified Clean Marinas (2/2/06)
Research Uses Engineered Algae as Biosensors (2/6/06)
New Research Discovers Round Gobies Decrease Smallmouth Bass Growth (2/14/06)
Invasive Species Just as Diverse as Native Counterparts (2/20/06)
Sea Grant Research Finds Fish Ear Stones Provide Map of Fish Migration 3/30/06

Media Coverage and Partnerships

Media receive *Twine Line*, along with its accompanying news releases. Smaller papers frequently reprint articles, while reporters at larger papers tend to use the newsletter as a tip sheet. Some newspapers have reprinted as many as four articles from *Twine Line* in one of their single issues. Since implementing the Research Review column, reporters find it easier to locate current information about Ohio Sea Grant research projects.

The tracking of articles that originally appeared in *Twine Line* and other articles about Ohio Sea Grant programs is coordinated by Publications Manager Nancy Cruickshank. She reviews newspapers and uses Lexus-Nexus and other on-line search engines and databases. With the availability of on-line search engines, Communications has found it more cost efficient to conduct searches in-house rather than hire a clipping service.

Articles have appeared in prominent Ohio newspapers such as the Columbus Dispatch, Toledo Blade, The Plain Dealer (Cleveland), and the Akron Beacon Journal. Articles have also appeared in national publications such as the Washington Post, Nature, Chicago Tribune, and the Christian Science Monitor. In addition, Ohio Sea Grant programs and projects have been featured on National Public Radio, Earthwatch Radio, Ohio News Network, NOAA's OAR "Featured Research" web page, and on local television newscasts around Ohio.

206 articles were printed within 64 different publications in 2005. These articles are compiled annually into a media coverage report. At the time of this report, media exposure for 2006 is currently being organized.

Ohio Division of Travel and Tourism Partnership

In 2004, Communications partnered with Ohio's largest tourism agency, the Ohio Division of Travel and Tourism to market Stone Laboratory as an educational tourism destination. Jill Jentes Banicki and Greg Aylsworth created two brochures to market Stone Lab to tourism officials in the agency's Familiarization (FAM) tours. These tours are attended by tourism officials from around the world. In Spring 2005 and 2006, Travel and Tourism with the tourism officials toured Stone Lab.

Ohio Sea Grant and Stone Laboratory in the Media 2005

January

01.01.2005. "Suit will decide rights on North Bass Island." OHIO OUTDOOR NEWS
01.01.2005. "Night time the right time for fall eyes." OHIO OUTDOOR NEWS
01.01.2005. "Spring women's steelhead fishing clinic." loraincounty.com
01.01.2005. "Cooke Castle in stereo." PUT-IN-BAY GAZETTE
01.01.2005. "South Bass Island Lighthouse." PUT-IN-BAY GAZETTE
01.01.2005. "Choosing a path to sustainable growth." THE BIG PICTURE, TMACG
01.04.2005. "Put ice fishing plans on back burner." TOLEDO BLADE
01.10.2005. "Public forum set." THE PRESS
01.20.2005. "Ohio EPA issues wastewater discharge permits." BEACON
01.28.2005. "Tallmadge welcomes sport and travel expo." PLAIN DEALER
01.30.2005. "Bay boat all the rage." LIMA NEWS
Jan-Feb 2005 "24th annual Ohio charter captains conference." CHARTER CHATTER
Jan-Feb 2005 "Lake Effects." OHIO STATE ALUMNI MAGAZINE
Jan-Feb-March 2005 "Sea Grant." OSU EXTENSION LAKE COUNTY

February

02.01.2005. "Walleye capital license plate." INFISHERMAN WALLEYE INSIDER
02.01.2005. "Stinger hook pays." PUT-IN-BAY GAZETTE
02.04.2005. "Education, Steelhead seminar." CHRONICLE TELEGRAM
02.04.2005. "Steelhead fishing seminar." CHRONICLE TELEGRAM and FIN FUR FEATHER
02.06.2005. "Gather valuable pointers before trout season heats up." PLAIN DEALER
02.06.2005. "Erie ice nice." DAYTON DAILY NEWS
02.08.2005. "Lake Erie tributary, stream and river steelhead." loraincounty.com
02.13.2005. "Diverse topics at conference." COLUMBUS DISPATCH
02.20.2005. "Outdoor notebook." COLUMBUS DISPATCH
02.21.2005. "Firelands Land Conservancy." FIRELANDS CONSERVANCY NEWS
02.22.2005. "Date book." TOLEDO BLADE
02.24.2005. "Erie still icy." DAYTON DAILY NEWS
02.25.2005. "\$26,000 allocated to un-threatened snake." NEWS HERALD
02.26.2005. "Watersnake population rebounding." NEWS MESSENGER
Feb-March. "The value of Lake Erie beaches." COASTAL CONNECTIONS

March

03.01.2005. "Safe boating council." MID-AMERICA BOATING
03.03.2005. "Ask and receive." COLUMBUS DISPATCH
03.05.2005. "24th Charter Captains Conference."
03.16.2005. "Legislation covers \$295M shortfall." TOLEDO BLADE
03.17.2005. "Lake Erie Lab." OSU ONCAMPUS
03.17.2005. "Effectiveness of man-made wetlands." OSU ONCAMPUS
03.20.2005. "Killdeer nests tough to find." PITTSBURGH POST GAZETTE
03.20.2005. "The wild side." CHARLESTON GAZETTE
03.24.2005. "Waning walleye cause worry." COLUMBUS DISPATCH
03.28.2005. "Freshwater shrimp culture in Ohio workshop. OSU EXTENSION
03.31.2005. "Taft signs bill aiding education." TOLEDO BLADE

April

04.01.2005. "Kudos to. . ." OSU EXTENSION NC REGION
04.01.2005. "Ohio Clean Marina and Clean Boater Program." MID-AMERICA BOATING
04.01.2005. "Ohio Clean Boater Program." MID-AMERICA BOATING
04.01.2005. "\$26,296 funding to un-threaten Lake Erie water snake." PUT-IN-BAY GAZETTE
04.01.2005. "New programs work to improve Lake Erie, other waterways." FISHWRAPPER
04.01.2005. "Sport fishing course at Stone Lab." OUTDOOR LOVE, OUTDOOR WRITERS OF OH
04.01.2005. "Lake Erie walleye seminar." MORNING JOURNAL
04.07.2005 "Yellow perch and walleye are abundant this year." LORAIN MORNING JOURNAL
04.11.2005. "Education." lakecounty.com
04.15.2005. "New rules expand hunting in Ohio." PLAIN DEALER
04.18.2005. "Waterfront Guide available." THE PRESS
04.25.2005. "NOAA Great Lakes Lab on mission." STATE NEWS SERVICE

May

05.01.2005. "Birding on South Bass Island." PUT-IN-BAY GAZETTE
05.01.2005. "Who is who at Stone Lab." PUT-IN-BAY GAZETTE
05.01.2005. "Milestones." PUT-IN-BAY GAZETTE
05.01.2005. "The season is looking good." PUT-IN-BAY GAZETTE
05.01.2005. "Stone Lab facts." PUT-IN-BAY GAZETTE
05.01.2005. "Nature camp at the Bay 2005 & Enviro Adventure camp." PUT-IN-BAY GAZETTE
05.01.2005. "Protecting Lake Erie's natural heritage." LAKE ERIE WATERSNAKE NEWS USFWS
05.01.2005. "Attention kids, Nature Camp." LAKE ERIE WATERSNAKE NEWS USFWS
05.01.2005. "Got Snakes?" LAKE ERIE WATERSNAKE NEWS USFWS
05.01.2005. "Have you seen this snake?" LAKE ERIE WATERSNAKE NEWS USFWS
05.01.2005. "Programs puts young anglers on Lake Erie." LIMA NEWS
05.05.2005. "Program teaches youth about Lake Erie." OSU ONCAMPUS
05.05.2005. "Sea Grant lauded for communications excellence." OSU ONCAMPUS
05.07.2005. "Coast Guard looks to stop pests." CLEVELAND PLAIN DEALER
05.07.2005. "College students who would like to learn." MANSFIELD NEWS JOURNAL
05.08.2005. "Mentor, Wickliffe link up to golf business for first time." MENTOR NEWS HERALD
05.15.2005. "Do you know the way to grow." CLEVELAND PLAIN DEALER
05.19.2005. "Beacon Bits." THE BEACON
05.21.2005. "Get growing." PLAIN DEALER
05.29.2005. "Death from the lake." CLEVELAND PLAIN DEALER
05.31.2005. "Arthur Charles Boone." AKRON BEACON JOURNAL

June

April May June 2005 “Sea Grant Lake Erie Coastal Trail.” OSU EXTENSION LAKE COUNTY
April May June 2005 “Sea Grant Ashtabula River.” OSU EXTENSION LAKE COUNTY
06.01.2005. “Have you seen this snake.” PUT-IN-BAY GAZETTE
06.01.2005. “Stone Lab guest lectures.” PUT-IN-BAY GAZETTE
06.01.2005. “Got snakes?” PUT-IN-BAY GAZETTE
06.01.2005. “Start the count down.” PUT-IN-BAY GAZETTE
06.01.2005. “Stream of Time” (Fishes of Ohio featured photo) OHIO MAGAZINE
06.01.2005. “Drum out the distasteful reputation of sheepshead.” MID-AMERICA BOATING
06.01.2005. “Nature camp at the bay.” LAKE ERIE ISLAND HISTORICAL SOCIETY NEWS
06.01.2005. “Elderhostel begins.” LAKE ERIE ISLAND HISTORICAL SOCIETY NEWS
06.03.2005. “Art Boone.” COLUMBUS DISPATCH
06.07.2005. “Stone Lab guest lectures.” OSU TODAY
06.09.2005. “Lectures.” OSU ONCAMPUS
06.09.2005. “Stone Lab to offer summer lecture series.” OSU ONCAMPUS
06.09.2005. “F.T. Stone Lab.” OSU ONCAMPUS
06.09.2005. “Lake Erie Island offers secluded setting.” OSU ONCAMPUS
06.10.2005. “Attorney says tribe may risk arrest to fish.” NEWS HERALD
06.15.2005. “Snakes alive-or so it’s hoped.” COLUMBUS DISPATCH
06.26.2005. “Ohio’s lighthouses .” DAYTON DAILY NEWS
06.27.2005. “Stone Lab guest lecture.” OSU TODAY
06.30.2005. “Taft makes annual Fish Ohio Day visit.” PORT CLINTON NEWS HERALD
Summer 2005. “Barnes Nursery Contributes Landscaping for Stone Lab.” OSU ALUMNI UPDATE
Summer 2005. “Annual reunion luncheon held April 22.” OSU ALUMNI UPDATE
Summer 2005. “Camp Sweetwater, Jr. Naturalist, A Day at the Beech.” ERIE VIEWS

July

07.01.2005. “Stone Lab stays busy.” PUT-IN-BAY GAZETTE
07.01.2005. “Stone Lab offers Gibraltar tours.” PUT-IN-BAY GAZETTE
07.01.2005. “Stone Lab guest lectures.” PUT-IN-BAY GAZETTE
07.01.2005. “Precision trolling for walleye.” PUT-IN-BAY GAZETTE
07.01.2005. “Eco-history island passport at PIB.” PUT-IN-BAY GAZETTE
07.01.2005. “NERODIO 2005 numbers are in.” PUT-IN-BAY GAZETTE
07.01.2005. “Nature camp at the bay.” PUT-IN-BAY GAZETTE
07.01.2005. “Miller 100th anniversary.” PUT-IN-BAY GAZETTE
07.03.2005. “Snake lady wrapped up in research.” PITTSBURCG POST GAZETTE
07.03.2005. “The wild side.” CHARLESTON GAZETTE
07.05.2005. “Help keep our waterways healthy.” boatohio.com e-newsletter
07.05.2005. “Stone Lab guest lectures.” OSU TODAY
07.09.2005. “Re-emergence of algae threatens water quality.” TOELDO BLADE
07.11.2005. “Ohio State’s Sea Grant Program.” TOLEDO BLADE
07.20.2005. “Scenic Byway to link stories of Lake Erie.” NORTH COAST BUSINESS JOURNAL
07.19.2005. “Newest Lake Erie ‘dead zone’ brings horror story for fish.” TOLEDO BLADE
07.21.2005. “Stone Lab to offer summer lecture series.” OSU ONCAMPUS
07.22.2005. “Robert Boyce.” COLUMBUS DISPATCH
07.22.2005. “Robert Boyce supporter of Stone Lab.” NEWARK (OH) ADVOCATE
07.22.2005. “Kent State expert on Lake Erie Dead Zone.” kent.edu news
07.24.2005. “On a Lake Erie Island.” POST JOURNAL Jamestown NY
07.30.2005. “State warns of aquatic nuisance.” TOELDO BLADE

August

08.01.2005. "Stone Lab guest lecture." PUT-IN-BAY GAZETTE
08.01.2005. "Middle Bass nature camp." PUT-IN-BAY GAZETTE
08.01.2005. "Rattlesnake found?" PUT-IN-BAY GAZETTE
08.01.2005. "Emerald ash borers closer to the islands" PUT-IN-BAY GAZETTE
08.01.2005. "Ohio Clean Boater program encourages cooperation." FISHWRAPPER
08.08.2005. "Stone Lab summer lecture series." OSU TODAY
08.12.2005. "Ohio youth take aim." PLAIN DEALER
08.15.2005. "Bones tell the story BGSU researchers study Lake Erie fish." BGSU MONITOR
08.18.2005. "Roads Scholars." OSU ONCAMPUS
08.18.2005. "Stone Lab hosts annual open house." OSU ONCAMPUS
08.21.2005. "News from the stump." PLAIN DEALER
08.28.2005. "Lake on rebound." PORT CLINTON NEWS HERALD
08.29.2005. "Coast weeks is month long celebration." PORT CLINTON NEWS HERALD
08.31.2005. "Seafood sea change." CLEVELAND PLAIN DEALER
July/August/September. "Sea Grant independent study." OSU EXTENSION LAKE COUNTY
July/August/September. "Sea Grant independent study." OSU EXTENSION LAKE COUNTY

September

09.01.2005. "Island nature camp a success." LAKE ERIE WATER SNAKE NEWS UFWS
09.01.2005. "Contaminants in LEWS have not increased." LAKE ERIE WATER SNAKE NEWS UFWS
09.01.2005. "Getting to know your island snakes." PUT-IN-BAY GAZETTE
09.01.2005. "Underwater cleanup on Sept 19." PUT-IN-BAY GAZETTE
09.01.2005. "State legislatures visit the islands." PUT-IN-BAY GAZETTE
09.01.2005. "Put-in-Bay novelist busy" PUT-IN-BAY GAZETTE
09.01.2005. "September algae and higher aquatic plants" PUT-IN-BAY GAZETTE
09.01.2005. "Events in September" PUT-IN-BAY GAZETTE
09.01.2005. "Nature camp at the bay" PUT-IN-BAY GAZETTE
09.01.2005. "Ohio Sea Grant program helps keep waterways clean." FISHWRAPPER
09.01.2005. "Open House." FISHWRAPPER
09.02.2005. "Club news." PORT CLINTON NEWS HERALD
09.10.2005. "Water lab puts Lake Erie at kids' fingertips." PORT CLINTON NEWS HERALD
09.11.2005. "AFS Annual Meeting." AFS
09.20.2005. "New fishing bait for bass anglers." DAYTON DAILY
09.20.2005. "What goes down comes up at Put-in-Bay." TOLEDO BLADE
09.20.2005. "Keeping it clean." SANDUSKY REGISTER
09.20.2005. "Water at Put-in-Bay yields unusual assortment." ASSOCAITED PRESS
09.20.2005. "Management practices." PORT CLINTON NEWS HERLD
09.20.2005. "Divers tackle harbor at Put-in-Bay." PORT CLINTON NEWS HERLD
09.22.2005. "Erie's shoreline gets byway boost." CLEVELAND PLAIN DEALER
09.23.2005. "Festival aims to hook Cleveland youth." CLEVELAND PLAIN DEALER
09.27.2005. "Kids take messy field trip." SANDUSKY REGISTER

October

10.01.2005. "Island memories by Everett 'Pal' Seymour." LAKE ISLAND HISTORICAL SOCIETY NEWS
10.01.2005. "Getting to know your island snakes." PUT-IN-BAY GAZETTE
10.01.2005. "North American monarch." PUT-IN-BAY GAZETTE
10.01.2005. "Underwater cleanup produces smiles." PUT-IN-BAY GAZETTE
10.04.2005. "Turkey hunting dogs latest trick." TOLEDO BLADE
10.10.2005. "Ten threats: natives fight back." GREAT LAKES RADIO CONSORTIUM
10.13.2005. "Four Lorain County marinas honored." LORAIN COUTY VISITORS BUREAU

10.14.2005. "County marinas hailed by state." CHRONICLE TELEGRAM
 10.15.2005. "Lake Erie marinas receive Clean Marina certificate." BELLEFONTAINE EXAMINER
 10.15.2005. "Eco-tourism is goal for Erie shore." TOLEDO BLADE
 10.15.2005. "Shipshape." COLUMBUS DISPATCH
 10.15.2005. "The perils of a warm autumn." SANDUSKY REGISTER
 10.18.2005. "Four Lorain County marinas get designated." LORAIN MORNING JOURNAL
 10.18.2005. Stone Lab session set for today." OSU TODAY
 10.20.2005. "Ask and Receive." COLUMBUS DISPATCH
 10.23.2005. "State eyes shipwrecks as tourism draw." TOLEDO BLADE
 10.23.2005. "Marina, park project put on ODNR on spot." COLUMBUS DISPATCH
 10.24.2005. "State Trying to Promote Historic Shipwreck Locations." WTOL CHANNEL 11 TOLEDO
 10.26.2005. "2 locals certified Ohio Clean Marinas." PORT CLINTON (OTTAWA CO) NEWS HERALD

November

11.01.2005. "Middle Bass yacht club marina gets Clean Marina designation." PUT-IN-BAY GAZETTE
 11.01.2005. "PIB kids head to OSU's Stone Lab." PUT-IN-BAY GAZETTE
 11.01.2005. "Cormorant control underway." PUT-IN-BAY GAZETTE
 11.05.2005. "Cooke Castle." NEWS HERALD
 11.06.2005. "Darcy Egan looks at interesting places to go." CLEVELAND PLAIN DEALER
 11.07.2005. "Success in science leads to additional opportunities." LIMA NEWS
 11.08.2005. "North's war effort backed by Cooke." PORT CLINTON NEWS MESSENGER
 11.08.2005. "Time not kind to Jay Cooke Castle." PORT CLINTON NEWS MESSENGER
 11.08.2005. "Cooke Castle restoration needs to be completed." PORT CLINTON NEWS HERALD
 11.13.2005. "Unwanted pets need to find right home." HERALD NEWS CHICAGO IL
 11.17.2005. "Lake Erie conference deadline." OSU TODAY
 11.17.2005. "Registration open." OSU ONCAMPUS
 November December. "Nine Lake Erie marinas to receive certification." MID-AMERICA BOATING
 November December. "Seeing the writing on the web." COASTAL SERVICES NOAA

December

12.01.2005. "Ladd Carr Wildlife Woods. PUT-IN-BAY GAZETTE
 12.02.2005. "Reutter radio interview with NPR." NPR CLEVELAND
 12.09.2005. "New trouble for the Great Lakes." COLUMBUS DISPATCH
 12.15.2005. "Anglers must wait for safe ice." DAYTON DAILY
 12.23.2005. "Lake Erie panel gives 5 grants." TOLEDO BLADE
 December 2005. "Stone Lab fund remembers Jack Dunlap." OSU.COM

Publishers List 2005

AKRON BEACON JOURNAL	COASTAL CONNECTIONS
AMERICAN FISHERIES SOCIETY	COASTAL SERVICES NOAA
ASSOCIATED PRESS	COLUMBUS DISPATCH
BELLEFONTAINE EXAMINER	DAYTON DAILY NEWS
BGSU MONITOR	ERIE NEWS
BOATOHIO.COM	FIN FUR FEATHER
CHARLESTON GAZETTE	FIRELANDS CONSERVANCY NEWS
CHARTER CHATTER , LAKE ERIE	FISHWRAPPER
CHARTER BOAT ASSOCIATION	GREAT LAKES RADIO CONSORTIUM
CLEVELAND CHRONICLE	HERALD NEWS CHICAGO IL
CLEVELAND PLAIN DEALER	INFISHERMAN WALLEYE INSIDER

KENT.EDU
 LAKE ERIE ISLANDS HISTORICAL
 SOCIETY
 LIMA NEWS
 LORAIN (OH) MORNING JOURNAL
 LORAINCOUNTY.COM
 LORAIN (OH) COUNTY VISITORS
 BUREAU
 MANSFIELD NEWS JOURNAL
 MENTOR NEWS HERALD
 MID-AMERICA BOATING
 MORNING JOURNAL
 NEWS HEARLD
 NEWSMESSENGER.COM
 NEWARK ADVOCATE
 NORTHCOAST BUSINESS JOUNAL
 NPR CLEVELAND
 OHIO STATE UNIVERSITY ALUMNI
 MAGAZINE
 OHIO STATE UNIVERSITY EXTENSION
 LAKE COUNTY, NC REGION
 OHIO STATE UNIVERSITY ONCAMPUS

OHIO STATE UNIVERSITY TODAY
 EMAIL NEWS
 OSU.COM
 OHIO MAGAZINE
 OHIO OUTDOOR NEWS
 OUTDOOR LOVE, OUTDOOR WRITERS
 OF OHIO
 PITTSBURG POST GAZETTE
 POST JOURNAL
 PORT CLINTON (OH) NEWS-HERALD
 PORT CLINTON (OH) NEWS
 MESSANGER
 PUT-IN-BAY (OH) GAZETTE
 SANDUSKY (OH) REGISTER
 STATE NEWS SERVICE
 THE PRESS
 TOLEDO (OH) BLADE
 TOLEDO METRO AREA COUNCIL OF
 GOVERNMENTS, THE BIG PICTURE
 USFWS, LAKE ERIE WATERSNAKE
 NEWS
 WTOL CHANNEL 11 TOLEDO

The following is a complete list of all products produced by Communications with Extension, Stone Lab and Ohio Sea Grant staff during 1 March 2005-31 March 2006.

List of Ohio Sea Grant Communications Products

1 March 2005-31 March 2006

Stone Laboratory Products (20% of staff time)

(80 Products)

Brochure	At Risk Course Series (11 flyers)
Flyer	Dorm Poster
Supplemental Brochure	Bio Sci Mag Ad
Workshop Brochure	State Science Day Ad
Bus Poster Series (6 posters)	Academy of Science Ad
Poster	REU Flyer
Reminder Post Card Series	HS Student Tri-fold Flyer
Pocket Calendar Series	Teacher Fellowships flyer
Job Flyer	Courses open flyer
FOSL Open House Flyer	Distance Learning flyer
Open House stud/par/teac flyer	Photo release adult
Workshop Demo Teachers	Photo release minor
Virtual Workshops flyer	Stone Lab map/directions flyer
Photo Workshop flyer	

Housing forms (med history, housing, consent)
Faculty/student handbook
Small table top display panels
Large table top display panels
Table acrylic posters
Student promotional flash ad
OSU Newark flyer
Annual Report design
Univ bulletin board display (3)

Rec Center display panel
Rec Center table tent ad
Rec Center handbook ad
FOSL Guest lecture flyer
FOSL Research Brief flyer
FOSL Winter Program flyer
FOSL Buckeye Island Hop flyer
FOSL fundraising mailer (brochure, endowment, pres letter)
FOSL business cards

Extension-Related Products (20% of staff time) (125 Products)

Web site

Discussion Board redesign and manual archive entry

Ohio Clean Marinas

- Identity standard guidelines
- Press release template
- Guidebook (4 revisions: Mar 05, May 05, Jan 06, Mar 06)
- Guidebook print and assembly (3 rounds)
- 1-page ad for newsletter
- Gary intro postcard insert
- 4-color marina brochure
- Letterhead design (not used)
- Checklist (3 revisions)
- Certificate (2 rounds)
- Certified marina packets (5 components and CD of all pdfs)
- Media packets (5 components)
- Event nametags and folder assembly
- News releases
- New web site design

Ohio Clean Boater

- Identity standard guidelines
- Online boater registration system
- Brochure revision/reprint
- Tipsheets (2 revisions)
- Pledge form (2)
- Boater decal letter
- Personalized pledge poster (7 marinas; 14 posters) Spr 2005
- Personalized pledge poster (12 marinas; 24 posters) Spr 2006
- Pledge poster assembly
- News releases

Poster Session Posters

- GLFLI and recycling posters-Frank

- Funding sources poster (Sea Grant week)
- Development—Walt
- 5 case study posters for PAT
- Discussion Board (version 2)
- License Plate poster for Shows
- LENSC fishing display

Extension fact sheets

- 14 case study fact sheets for PAT and conference handouts
- 2 youth fishing fact sheets for Kelly

Display

- GL fishing poster
- AIS poster
- Fish ID flip cards
- Table tent acrylics for license plate petition

Conference

- Joe Lucente Dec 05 conference: certificates, nametags, program brochure

Web-Related Products (15% of staff time)

New project reporting system and combined database

Redesign into asp (April 2005) of four major program sites (Sea Grant, Stone Lab, OCM, OCB)

Change of web server and software (php) (Sept 2005) to increase university exposure

New Extension Discussion Board and manual input of discussion archive (Oct 2005)

New On line Donation page—2nd Univ department with link

Redesign all 4 sites to adhere to University design guidelines

New Biocomplexity Project web site with separate discussion board

Compliance with University and NOAA standards

Stone Lab web site course updates

Media Relations Products (10% of staff time)

New partnership with Division of Travel and Tourism

- 2 brochures for FAM tours for tourism officials
- Stone Lab featured as tourism destination

New partnership with University Student Affairs

- Display at new Rec Center
- Table tent ad
- Rec Ad in handbook (25,000 circulation)
- Stone Lab materials in all incoming freshmen orientation materials

Partnership with University Communications

- Web server provider
- Stone Lab featured on splash page Spr 05

Partnership with OSU/Battelle's Metro High School

- Students to Stone Lab workshop program Oct 06, Apr 07

30 news releases to media, University communications, and national office

Two Stone Lab features (one written by OSG Comm) in staff newspaper
Assemblage of media packet with all Sea Grant-generated media articles
Media packet cover

Twine Line (10% of staff time)

Five issues of Twine Line
Archive Twine Line online as pdf from 1999 to current
Research features linked to specific research within new project reporting system
10 Sea Grant research projects featured
Renewal card

Communications Mgmt and Administrative Products (10% of staff time)

All PAT publications, posters, and templates

- 7 appendices with 14 publications within PAT package
- Poster session posters (8 Extension and 1 education)
- Power point template
- Poster session logistics

Strategic Plan (2006-10)
Implementation Plan (2005 to 2007)
Implementation Plan (2004 to 2006)
2004-2005 Annual Report
2004-2005 Stone Lab Annual Report
Publications brochure
Preproposal brochure
Omnibus proposal and cover design
Proposal brochure
National Archive publication entries

Regional & Special Projects (15%)

GL Communications Chair
COSEE Great Lakes vertical poster session poster
COSEE Great Lakes horizontal poster
COSEE 4-color brochure
GLRRIN representative
Coastal Ohio Lake Erie Island Guidebook
Ecohistory Passport and tickets (3 partners)
License Plate design and promotion campaign

I.c. Award reporting

Institution/Grantee: The Ohio State University Research Foundation

Award Number: NA16RP2748

Time Period: 07/01/2002-06/30/2006

Award Title: F. T. Stone Laboratory: A Proposal to Enhance Facilities and Equipment

We received \$348,000 from NOAA to enhance equipment and facilities at Stone Laboratory. We used the funds to enhance all aspects of our program including research, education and outreach. Among other things we were able to purchase three passenger vans for students, research scientists and workshop participants, 30 microscopes for students, a repair to the viewing platform at Cooke Castle, and a repair to the entrance of the South Bass Island Lighthouse. These enhancements have greatly improved our research, education, and outreach programs and benefit over 5,000 students from grade 4 to adults, each year.

I.d. Award reporting

Institution/Grantee: The Ohio State University Research Foundation

Award Number: NA04OAR4170031

Time Period: 02/01/2004-04/30/2005

Award Title: Sea Grant Federal Fellowship: LeAnn Southward

LeAnn Southward received her MS Degree from The Ohio State University Department of Evolution, Ecology and Organismal Biology in December 2003 and began a Knauss fellowship on 1 February 2004. LeAnn worked for the US State Department specializing in Pacific fishing issues. Upon completion of her Fellowship, LeAnn was hired by NOAA.

I.e. Award reporting

Institution/Grantee: The Ohio State University Research Foundation
Award Number: NCNS0000-5-00034
Time Period: 09/12/2005-09/14/2005
Award Title: Aquatic invasive species database summit workshop

From 12-14 September, we hosted a National AIS Database Summit at Stone Laboratory. This effort received partial funding from NOAA to cover meeting registration fees for the representatives of 10 national databases dealing with aquatic invasive species. The summit resulted in agreements to prevent duplication of effort and strategies to rapidly search all databases at the same time. The group continues to communicate regularly via conference call.

I.f. Award reporting

Institution/Grantee: The Ohio State University Research Foundation
Award Number: NRMP0000-5-00294
Time Period: 08/21/2005-08/25/2005
Award Title: Registration Fees for the National Sea Grant College Grant Office to the Ohio Sea Grant College Program to attend the Program Assessment Review

Program Assessment Team (PAT) Review. We were reviewed by a team of experts from the National Sea Grant College Program from 21-25 August 2005. Dr. Jerry Schubel, Chair of the National Sea Grant Review Panel and President of the Aquarium of the Pacific, and Dr. Frank Kudrna, Member of the National Sea Grant Review Panel and President of Kudrna and Associates, were the chairs of the PAT. The rest of the team consisted of: Dr. William Frost, Program Leader, Natural Resources, University of California; Dr. Robert Stickney, Director of the Texas Sea Grant College Program; Dr. William Stubblefield, Retired Admiral of NOAA Corp; Dr. Keith Criddle, a member of the National Research Council and an observer on the PAT; Jonathan Eigen, an ex-officio member of the PAT and the Ohio Sea Grant Program Officer within the National Sea Grant College Program; Jennifer Greenamoyer, an observer and Executive Director of the Sea Grant Association; and Jamie Krauk, Communications Director of the National Sea Grant College Program and an ex-officio member of the PAT. We are rated in 4 major categories and 14 subcategories. "Organizing and Managing the Program" receives 20% of the weight; "Connecting with Users" receives 20%, "Effective and Aggressive Long-Range Planning" receives 10%, and "Producing Significant Results" receives 50%. In each of the subcategories we can receive a grade of "Needs Improvement" (we got none of these), "Meets Benchmark" (we got none of these), "Exceeds Benchmark" (we got 2 of these in the planning area), or "Highest Performance" (we got 12 of these). The team was very impressed with the expertise, involvement, understanding, dedication, and commitment of everyone they met.

II.a. Recent impacts

Sea Grant stimulates coastal communities and economies: In 2005-06, Sea Grant Extension in the Cleveland Region has focused on retaining and expanding small local businesses by actively initiating contacts, developing surveys and proactively responding to the needs of local businesses to aid them in their efforts to remain viable and competitive. **Impact:** A total of 65 new jobs were created and over \$27.9 million was invested in local businesses in the coastal zone.

Sea Grant promotes coastal tourism and protects Lake Erie resources: Two Ohio Sea Grant Extension Specialists helped to organize Lake Erie Coastal Ohio, Inc. a non-profit organization dedicated to promoting Lake Erie tourism and to protecting Lake Erie resources. The OSG Extension Specialists are members of the Lake Erie Coastal Ohio, Inc. (LECO) Board of Directors. OSG chaired the LECO Scenic Byways Committee and helped develop the required Scenic Byway Corridor Management Plan. As a result, Ohio Governor Robert Taft dedicated the Lake Erie Coastal Trail as Ohio's 21st Scenic Byway on April 22, 2005, increasing awareness of Lake Erie coastal tourism opportunities. On September 22, 2006 the US Secretary of Transportation designated the LECO Trail as one of America's Byways. **Impact:** Over \$550,000 in local, state and federal monies have been received by LECO, Inc. to improve the Lake Erie tourism economy and protect Lake Erie resources. The Lake Erie Coastal Ohio Trail is eligible for US Department of Transportation Federal Highway Administration scenic byways grants to help promote and protect Lake Erie coastal, cultural, historic, scenic, natural and recreational resources.

Sea Grant instrumental in the restoration of a Lake Erie "Area of Concern": In 1994, Ohio Sea Grant was one of the founding partners of the Ashtabula River Partnership (ARP) dedicated to an environmental cleanup dredging of the Ashtabula River. Over the years, Ohio Sea Grant provided data, ideas and information to the ARP, helping the ARP move toward dredging the contaminated sediments from the lower Ashtabula River. The ARP has been a leader in working on contaminated sediment dredging in the Great Lakes and Ohio Senators Mike DeWine and George Voinovich provided leadership for the passage of the Great Lakes Legacy Act of 2002. On June 5, 2006, USEPA Administrator Stephen L. Johnson joined Ohio Governor Bob Taft, U.S. Rep. Steven C. LaTourette (R-14), other government officials, members of the ARP and local partners in Ashtabula, OH to celebrate the beginning of a \$50 million project to clean up contaminated sediment from the Ashtabula River, a tributary to Lake Erie. **Impact:** 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 and is the largest Legacy Act project funded to date.

Sea Grant facilitates community recycling efforts: In 2001 and 2004 Ohio Sea Grant lead the development and implementation of willingness to pay surveys for curbside recycling in Lake County Ohio. In addition to timely reports to Lake County officials, a poster and a peer reviewed journal article were generated. Lichtkoppler, F.R., Blaine, T.W., and Zondag, R.H. Generating Information for Decision Making: Curbside Recycling in Lake County, Ohio. Poster presented at the 90th Annual Meeting and Professional Improvement Conference. National

Association of County Agricultural Agents. Buffalo, NY. July 17-21, 2005. Blaine, T. W., Lichtkoppler, F. R., Jones, K.R. and Zondag, R.H. (2005) An Assessment of Household Willingness to Pay for Curbside Recycling: A Comparison of Payment Card and Referendum Approaches. *Journal of Environmental Management* 76 (2005) 15-22. **Impact:** Lake County officials used the survey results in 2001 to continue the curbside recycling program because local residents were willing to pay for the local share (\$.69) of the curbside recycling program. The results of the 2004 survey were used to largely discontinue the curbside recycling effort and replace it with a less expensive drop off recycling program because local citizens were not willing to pay the local share (~\$2.00) for an increasingly expensive curbside recycling program. “We (the Lake County Solid Waste District) did use the recycling survey, and in many ways: 1. Results (summary pages) were faxed and mailed to all Lake County Community Mayors/Managers/ Service Directors; 2. Survey data were used by the News-Herald in one of their articles; 3. Survey information was part of info meetings held with each and every community administration in preparation of bidding for new countywide recycling contract (survey data helped administrators understand the positive recycling feelings of the majority of their residents)” wrote Chris Hodges, Public Services Coordinator, Lake County, Ohio (Jul-Nov 2005).

Sea Grant promotes and teaches better local government decision making: Ohio Sea Grant has contributed to providing an effective 10-week local government leadership curriculum consisting of best management practices and effective decision making for local leaders. **Impact:** Since 2002, 92 elected and appointed officials, as well as those involved on local government boards, commissions and task forces have increased their overall knowledge of local government operations and processes by 85%.

Sea Grant promotes tourism, waterfront amenities and businesses: Sea Grant has contributed to the western Lake Erie tourism economy by creating the Western Lake Erie Waterfront Guide to promote hotels, restaurants, festivals, cultural amenities and destination experiences. **Impact:** Since 2001, a partnership was formed with the Toledo, OH and Monroe, MI visitors bureaus and the Lake Erie Protection Fund resulting in the creation, printing and distribution of 50,000 copies of the Western Lake Erie Waterfront Guide. Each of the 52 participating businesses in the guide reported increased sales from new customers as a result.

Sea Grant helps state, county and local government agencies to understand the importance of balanced growth and conservation: Sea Grant developed the statewide conference entitled *The Future of Ohio's Lake Erie Basin: Balancing Land Use and Water Quality*. Over 200 participants from government, academia, the private sector and general citizens learned of land use and water quality; and its past, present and future impact on Lake Erie. Twenty afternoon breakout sessions offered a wide variety of coastal issues such as sustainable development, smart growth, NEMO, watershed management practices, brownfield redevelopment, etc. **Impact:** Post conference surveys indicate a greater awareness of the importance of water quality and land-use issues, increased understanding of current programs and officials, a higher likeliness of increased participation in land use and water quality decision making and a need for continuing education related to this topic. This conference was sponsored in part through the NOAA/USEPA Smart Growth Grant to Sea Grant programs.

Sea Grant collaborates with state and federal agencies, local municipalities, regional associations, stakeholders, and NOAA to clean up Ohio's Lake Erie marinas: The Ohio Department of Natural Resources (ODNR) and The Lake Erie marine Trades Association (LEMTA) asked the Ohio Sea Grant Program to help develop and administer the Ohio Clean Marinas Program. Ohio Sea Grant faculty and staff have successfully launched the program using grant funding received by the Ohio Coastal Management Program (ODNR) from NOAA and OSU Extension support. Ohio Sea Grant collaborated with the ODNR Divisions of Soil and Water Conservation, Office of Coastal Management, and Division of Watercraft; Ohio Department of Health; Ohio EPA; Ohio Department of Commerce, State Fire Marshall Division; U.S. Coast Guard; U.S. Army Corps of Engineers; LEMTA; Greater Cleveland Boating Association; local health departments; local fire marshals; and private-sector stakeholders to conduct educational training/certification workshops, develop marina incentive programs, and coordinate marina certification site visits through the Ohio Clean Marinas and Clean Boater Programs. **Impact:** To date, 35 marinas have pledged to become Clean Marinas and 19 marinas have been certified as Clean Marinas. Additionally as a direct result of an Ohio Clean Marinas pilot program effort, 146,000 pounds of shrink wrap and greenhouse plastic was recycled by Mondo Plastics, Inc. into 21,000 guard-rail blocks and other products.

Lake Erie discussion board keeps clientele connected: Ohio Sea Grant maintains an interactive, Internet-based question-and-answer forum allowing anyone with questions about Lake Erie and its resources to receive prompt, accurate answers. **Impact:** Since January 2006 the discussion board has averaged 43,417 hits by viewers each month and has become linked to dozens of other organizational Web sites.

Sea Grant strengthens charter industry: Ohio Sea Grant provides training to Ohio's charter fishing industry in fishery resources, business management, laws and regulations and marine technology. **Impact:** 69 percent of participating captains improved their profitability, 85 percent modified business practices, and 95 percent improved business operations.

Sea Grant increases public relations. Ohio Sea Grant Communications increases media exposure for the program by way of press releases, event media packets, and direct contact (media requests) with media. **Impact:** 206 media articles about Ohio Sea Grant have appeared in local, state and regional newspapers in 2005. More than 1,000 new stories have been generated since 2001.

Sea Grant increases exposure of its research accomplishments. Ohio Sea Grant Communications created *Research Reviews*, a series of articles that summarized and promoted the latest Ohio Sea Grant research to the public. Run as a regular feature in *Twine Line*, these articles have been a successful relationship between Communications and researchers, with the science writer working with researchers to develop custom graphics and one-to-two page research summaries. To target the media twice, Communications regularly sends each research article out as a news release. **Impact:** Each Research Review article in the past five years has generated five to ten media stories about Sea Grant research. **Impact:** Between 10 to 20% of all media articles about Sea Grant in last five years were a direct result of the Research Review

article or press release. **Impact:** Eight-part Research Review series won 2004 APEX Award for best feature series.

II.b. New businesses/jobs and/or patents/licenses received

New businesses and jobs

Company Name	Value Added	Job Creation	New Investments
American Mine Door	Loan structure, equity investment, financial reporting enhancement	5	\$280,000
Lake Erie Creamery	Site identification	2	
Genesis Energy LLC	Site identification/location	2	\$400,000
Cresthaven Development	Loan structuring		\$2,500,000
McTech	Loan Structuring, financial accounting enhancements	10	\$1,250,000
LZ custom Cabinets	Loan structuring		\$210,000
Upris Corporation	Loan structuring		\$750,000
Miceli Dairy	Land assembly	35	\$20,000,000
Ascus Technologies	Loan structuring		\$500,000
Auto Bolt	Structured purchased for asset purchase of business		\$1,500,000
Lefco Pallet & Crate	Loan structuring		\$132,000
F Squared Labs	Loan structuring	11	\$400,000
Total		65	\$27,922,000

Patents and active patent applications

Sayre RT and Wagner RE (August 23, 2005) Method of making microalgal-based animal foodstuff supplements, microalgal-supplemented foodstuffs and method of animal nutrition. US Patent Number 6,932,980.

Sayre RT, Wagner RE and Siripornadulsil S (2003) Transgenic algae for delivering antigens to an animal. (US. 20030022359, pending)

Sayre RT and Moon H (June 2005, provisional US application) Production of recombinant selenoprotein mutants with enhanced catalytic activity.

Sayre RT and Rajamani S (April 2005, provisional US application) Bacterial Quorum Sensing Biosensor.

III. Performance measures
N/A

IV. Appendices

IV.a. Management team and staff composition

FTEs (Full Time Employees = 12 man months) Devoted to Sea Grant

Sea Grant Staffing	of Individuals	of FTEs funded by Sea Grant \$	FTEs funded by Non-Sea Grant \$
Administrative	6	3.0	2.0
Communications	5	0.5	3.0
Extension	8	4.5	2.75
Education	1	0.0	0.25
Total	20	8.0	8.0

Mgmt. Team Member	Position	FTEs devoted to Sea Grant
Dr. Jeffrey M. Reutter	Director	0.75
Eugene C. Braig	Assistant Director	1.0
Dr. Rosanne W. Fortner	Education Coordinator	0.25
Jill Jentes Banicki	Assistant Director and Communications Coordinator	1.0
Frank R. Lichtkoppler	Extension Co-Coordinator	1.0
Fred L. Snyder	Extension Co-Coordinator	1.0

IV.b.i. Projects initiated during reporting period

Project Title	PI	Federal Funds	Matching Funds
E/TER-3: Great Lakes Teacher Education: High Tech/High Touch Learning	Rosanne W. Fortner	\$115,385	\$72,781
R/BT-009: Mercury bioremediation using self-monitoring, mercury bio-sponges	Richard T. Sayre	\$89,975	\$90,117
R/ER-071: Redfield Revisited: Addressing current perspectives on the phosphorus quotas of freshwater plankton	Robert M.L. McKay & George S. Bullerjahn	\$93,244	\$75,347
R/ER-67: Field and laboratory tests of the Microbial Shunt Hypothesis of Phosphorus Availability in the Great Lakes	Robert T. Heath	\$100,021	\$50,092
R/LR-8: Employing Trace Element Contents of Otoliths for Fish Stock Discrimination and Habitat Use	John R. Farver & Jeffrey G. Miner	\$173,414	\$95,319
R/ME-031: Linking individual decisions and aggregate outcomes to assess potential demands for lake-based recreation and tourism in the Lake Erie region	Elena Irwin & Timothy C. Haab	\$117,193	\$61,085
R/PS-037: Sonochemical sequestration of PAHs in sediments	Linda K. Weavers, Samuel J. Traina & Patrick G. Hatcher	\$110,774	\$56,610
R/PS-35: Reduction of Agricultural Pesticides in the Sediments of a Coastal Great Lakes Wetland	Yu-Ping Chin	\$105,211	\$52,726
R/PS-36: Mercury in the Water and Phytoplankton of Western Lake Erie	W. Berry Lyons & Timothy O. Fitzgibbon	\$99,654	\$62,519

IV.b.ii. Program development projects initiated during reporting period

Project Title	PI	Federal Funds	Matching Funds
A/P-7-PD: Dike 14 Field Guide	Walt Williams	\$1,890	\$0
R/ER-70-PD: Trophic structure and water quality along a patch-size gradient of herbicide-treated <i>Phragmites</i> in a Lake Erie coastal wetland	Joseph R Holomuzki	\$9,985	\$6,367
R/ER-76-PD: Rates of Oxygen and Nutrient Exchange Between Sediments and Water in the Great Lakes	Gerald Matisoff	\$9,996	\$33,065
R/ER-77-PD: Boundary Dynamics of the Hypoxic Hypolimnion of Lake Erie's Central Basin	Kenneth A Krieger	\$9,981	\$5,058
R/LR-9-PD: Genetic Diversity and Divergence of Darter and Unionid Populations as Urban Ecological Indicators	Carol A. Stepien & Robert A. Krebs	\$7,500	\$11,442

IV.c. List of Ohio Sea Grant partnerships, 2005-2006

Federal

Coastal Services Center
GLERL, NOAA
National Science Foundation
Ocean.US
Old Woman Creek NERR
Perry's International Peace Memorial,
National Park Service
US Coast Guard
USEPA
US Fish and Wildlife Service
US Geological Survey
US Army Corps of Engineers

Regional

Council of Great Lakes Governors
Great Lakes Fishery Commission
Great Lakes Commission
Great Lakes National Program Office, EPA
Great Lakes Protection Fund
International Joint Commission
Lake Erie Millennium Network
Northeast Association of Marine and Great
Lakes Laboratories
Northeast-Midwest Institute

Local and State

City of Ashtabula
City of Cleveland
City of Lorain
City of Mentor
City of Port Clinton
City of Sandusky
City of Toledo
County Commissioners from all eight
coastal counties
Lake Erie Commission
Lake Erie Protection Fund
ODNR, Division of Geological Survey
ODNR, Division of Soil and Water
Conservation
ODNR, Division of Watercraft
ODNR, Division of Wildlife
Ohio Coastal Management Program
Ohio Department of Development

Local and State, cont.

Ohio Department of Health
Ohio Division of Travel and Tourism
Ohio EPA
Ohio Lake Erie Office
Ohio Legislature

NGOs

Cleveland Museum of Natural History
Columbus Foundation
Erie/Sandusky County Community
Foundation
Great Lakes Sport Fishing Council
Lake Erie Charter Boat Association
Lake Erie Nature and Science Center
Lake Erie Coastal Ohio, Inc.
Ohio Chapter of the American Fisheries
Society
National Association of Marine Laboratories

International

Council of Great Lakes Research Managers
Environment Canada
Fisheries and Oceans Canada
International Joint Commission
National Water Research Institute, Canada
Ontario, Ministry of the Environment
Ontario, Ministry of Natural Resources

Industry/Business

Cedar Point Amusement Park
Lake Erie Marine Trades Association
Lake Erie Charter Boat Association
Put-in-Bay Jet Express Ferry
Battery Park Marina, Sandusky*
Beaver Park Marina, Lorain*
Beaver Park North, Lorain*
City of Huron Boat Basin, Huron*
Cedar Point Marina, Sandusky*
Edgewater Yacht Club, Cleveland*
Forest City Yacht Club, Cleveland*
Hoty Marina - Son Rise, Sandusky*
Harbor North, Huron*
Holiday Harbor Marina, Huron*
Huron Lagoons Marina, Huron*

Industry/Business, cont.

Lakefront Marina, Port Clinton*
Marina Del Isle, Marblehead*
Middle Bass Is Yacht Club, Middle Bass*
Sandusky Harbor Marina, Sandusky*
Sandusky Yacht Club, Sandusky*
Spitzer Lakeside Marine, Lorain*
Spitzer Harbor Walk & Rack Storage
Marina, Lorain*
The Dock of the Bay Marina, Sandusky*
Bass Haven, Lakeside/Marblehead**
Blue Water Condominiums, Marblehead**
Bulan's Boatyard, Vermilion**
Brenner Marine, Toledo**
Castaway Bay, Sandusky**
Channel Park Marina, Cleveland**
Harrison Marina, Toledo**
Lake County Yacht Club, Eastlake**
Mario's Landing, Vermilion**
Maumee Bay Resort Marina, Oregon**
Mentor Lagoons Marina, Mentor**
Monroeville Marina Inc., Sandusky**
Pier 75 Marina, Toledo**
Romps Water Port, Vermilion**
Sima Marine, Eastlake**
Vermilion Power Boats, Vermilion**

Academic Institutions

Baldwin-Wallace College
Bowling Green State University
Case Western Reserve University
Cleveland State University

Academic Institutions, cont.

Cornell University
Heidelberg College
John Carroll University
Kent State University
Miami University
Mount Union College
Northern Illinois University
Ohio State University
Ohio University
Otterbein College
Penn State University
SUNY at Buffalo
University of Akron
University of Cincinnati
University of Michigan
University of Southern California
University of Toledo
University of Toronto
University of Windsor
Wittenberg University
Wright State University

Sea Grant Programs

Illinois/Indiana Sea Grant College Program
Michigan Sea Grant College Program
Minnesota Sea Grant College Program
New York Sea Grant College Program
Pennsylvania Sea Grant
Wisconsin Sea Grant Institute

Other

Ohio Certified Volunteer Naturalist Program

* Certified Clean Marina

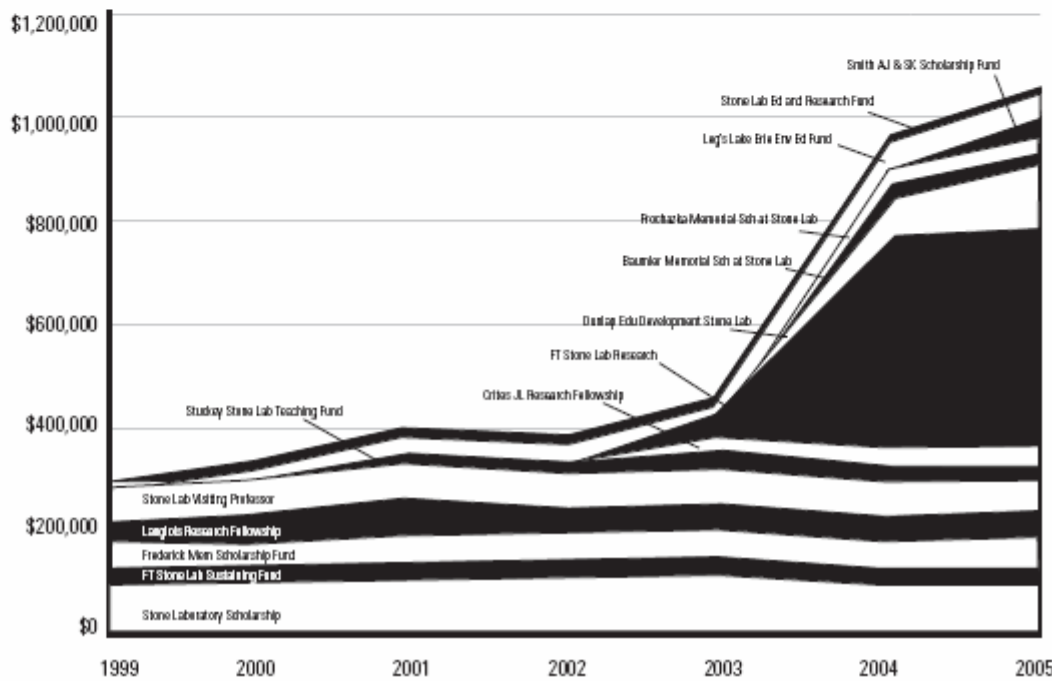
** Pledged Clean Marina going through certification process

IV.d.i. Leveraged funds (not shown as match)

Project	Source	Amount	Years
COSEE	NSF	\$1.25 million	5
Biocomplexity	NSF	\$15,000	4
GLRRIN	NOAA	\$150,000	3 (\$50k/yr)
College Scholarships	Endowments	Approx \$20,000	Every year
High School Scholarships	Endowments	Approx \$5,000	Every year
REUs	Endowments	Approx \$30,000	Every year
Visiting Scientists	Endowments	Approx \$10,000	Every year
Congressional Days	Endowments	Approx \$2,000	Every year
Congressional Days	Private-sector donations	\$20,000	Every other yr
Sea Grant Outreach	Greater Cleveland Partnership	\$15,000	Every year
Sea Grant Outreach	Sport Shows	\$5,000	Every year

IV.d.ii. Endowment values (30 June 2005 equity reports)

Fund	Description	1999	2000	2001	2002	2003	2004	2005
607012	Stone Laboratory Scholarship <i>(Established Sept. 2, 1983)</i>	\$99,731	\$104,029	\$112,524	\$115,349	\$117,373	\$99,255	\$99,991
607015	FT Stone Lab Sustaining Fund <i>(Established Dec. 8, 1983)</i>	\$43,766	\$44,361	\$45,046	\$46,016	\$46,601	\$47,651	\$49,870
602290	Frederick Memorial Sch Fund <i>(Established April 4, 1986)</i>	\$30,616	\$32,524	\$45,701	\$45,786	\$45,911	\$45,996	\$46,086
603930	Langlois Research Fellowship <i>(Established Dec. 5, 1986)</i>	\$33,716	\$39,148	\$46,638	\$34,896	\$40,146	\$40,271	\$40,296
607014	Stone Lab Visiting Professor <i>(Established Sept. 7, 1987)</i>	\$45,669	\$45,669	\$45,719	\$45,719	\$45,719	\$45,779	\$45,791
605406	Sea Grant Endowment <i>(Established Feb. 6, 1987)</i>	\$18,312	\$18,822	\$19,472	\$20,202	\$20,742	\$21,552	\$21,812
	Leg's Lake Erie Env Ed Fund <i>(Established July 1, 1999)</i>	—	\$9,508	\$33,330	\$29,262	\$33,468	\$35,308	\$35,308
	Stone Lab Ed and Research Fund <i>(Established November 30, 1999)</i>	—	\$14,431	\$13,358	\$11,533	\$13,075	\$13,787	\$13,787
607052	Stuckey Stone Lab Teaching Fund <i>(Established Feb. 2, 1996)</i>	—	—	\$16,455	\$16,905	\$17,325	\$18,100	\$18,405
601510	Crites JL Research Fellowship <i>(Established Sept. 6, 2002)</i>	—	—	—	—	\$30,815	\$33,757	\$36,307
602289	FT Stone Lab Research <i>(Established Sept. 6, 2002)</i>	—	—	—	—	\$67,901	\$458,555	\$459,384
641960	Dunlap Edu Development Stone Lab <i>(Established Feb. 6, 2004)</i>	—	—	—	—	—	\$54,692	\$130,343
600389	Baumler Memorial Sch at Stone Lab <i>(Established March 5, 2004)</i>	—	—	—	—	—	\$25,000	\$25,170
605928	Prochazka Memorial Sch at Stone Lab <i>(Established March 5, 2004)</i>	—	—	—	—	—	\$25,025	\$25,495
646690	Smith AJ & SK Scholarship Fund <i>(Established Nov. 5, 2004)</i>	—	—	—	—	—	—	\$25,100
Total Equity		\$271,810	\$308,493	\$378,243	\$365,669	\$479,076	\$964,719	\$1,073,147
Percentage change		—	13.50%	22.61%	-3.32%	31.01%	101.37%	11.24%



IV.e.i. Publications list

Peer-reviewed Journal articles/published abstracts/book chapters

A/EP-1: (Start: 9/1/1978)

Blaine, T.W., F.R. Lichtkoppler, K.R. Jones, and R.H. Zondag. 2005. An Assessment of Household Willingness to Pay for Curbside Recycling: A Comparison of Payment Card and Referendum Approaches. *Journal of Environmental Management*.

Kuehn, D., Lichtkoppler, F., and Pistis, C. 2005. The Great Lakes Charter Fishing Industry: 1973 to 2002. *Fisheries* 30 (3) 10-17.

E/TER-3: (Start: 3/1/2005 - Completion: 2/28/2007)

Kim, Chankook and Rosanne Fortner Issue-specific barriers to addressing environmental issues in the classroom: An exploratory study. *The Journal of Environmental Education* 37(3)

M/P-1: (Start: 9/1/1978 - Completion: 7/31/2007)

Reutter, J.M. 2005. 2004 Program summary. The Ohio State University. Ohio Sea Grant Program. *Twine Line* 27(1): 4-5.

R/EM-22: (Start: 3/1/2002 - Completion: 2/28/2004)

Rothman, E., Bouchard, V. 2006. Does the invasive species *Phragmites australis* impact local carbon dynamics in a Great Lakes coastal wetland? *Wetlands*, in review.

Bouchard, V. 2006. Export of organic matter from a coastal freshwater wetland to Lake Erie: An extension of the outwelling hypothesis. *Aquatic Ecology*, in press.

R/ER-52-PD: (Start: 7/1/1999 - Completion: 2/28/2002)

Twiss, M.R., S.P. Gouv, R.A. Bourbonniere, R.M.L. McKay and S.W. Wilhelm. 2005. Field investigations of trace metal effects on Lake Erie phytoplankton productivity. *Journal of Great Lakes Research*.

R/LR-9-PD: (Start: 4/1/2005 - Completion: 2/28/2006)

Krebs, R. A. and L. J. Rundo. 2005. Diversity of Unionidae in the Rocky River, Ohio. *Journal of Freshwater Ecology*, 20:603-608.

Lyons, M. S., R. A. Krebs, J. P., Holt, L. J Rundo, and W. Zawiski 2006. Ecological impacts on the diversity of unionid mussels in the Black River, Ohio. *American Midland Naturalist* (in revision)

R/MB-2: (Start: 9/1/2002 - Completion: 8/31/2004)

QingWei Xu, Carlos A. Barrios, Teresa Cutright, Bi-min Zhang Newby. 2005. Assessment of Antifouling Effectiveness of Two NPAs by Attachment Study with Freshwater Bacteria. *Journal of Environmental Science and Pollution Research*.

Carlos A. Barrios, QingWei Xu, Teresa Cutright, Bi-min Zhang Newby. 2005. Incorporating

Zosteric Acid into Silicone Coatings to Achieve its Slow Release while Reducing Fresh Water Bacterial Attachment Colloids and Surfaces B: Biointerfaces.

Qing Wei Xu, Carlos A. Barrios, Teresa Cutright, Bi-min Zhang Newby. 2005. Toxicity Evaluation of Capsaicin and Zosteric Acid and their Potential Applications as Antifoulants Environmental Toxicology.

Bi-min Zhang Newby, Teresa J. Cutright, Carlos A. Barrios, Qingwei Xu. 2006. Zosteric Acid - An Effective Antifoulant for Reducing Fresh Water Bacterial Attachment on Coatings. Journal of Coatings Technology Research.

R/ME-24: (Start: 3/1/2001 - Completion: 2/28/2003)

Yeh, C., T. Haab, B. Sohngen. 2006. Modeling Multiple-Objective Recreation Trips with Choices over Trip Duration and Alternative Sites. Environmental & Resource Economics.

R/PS-26: (Start: 3/1/2000 - Completion: 2/28/2003)

Z. He, S. J. Traina, and L. K. Weavers. 2006. Release of mercury from cinnabar (HgS) by sonochemical dissolution. Submitted to Environmental Science & Technology.

Z. He, S. J. Traina, and L. K. Weavers. 2006. Sonolytic desorption of mercury from aluminum oxide: effects of pH, chloride, and organic matter. Submitted to Environmental Science & Technology.

Z. He, S. J. Traina, J. M. Bigham, L. K. Weavers. 2005. Sonolytic Release of Mercury from Aluminum Oxide. Environmental Science and Technology, 2005, 39(4), 1037-1044.

R/PS-30: (Start: 3/1/2003 - Completion: 2/28/2005)

Z. He, S. Siripornadulsil, R. Sayre, S. J. Traina, and L. K. Weavers. 2006. Remediation of mercury from sediment by ultrasound combined with biomass (transgenic *Chlamydomonas reinhardtii*). Submitted to Environmental Science & Technology.

Z. He, S. J. Traina, L. K. Weavers. 2006. Sonolytic release of metals (Hg, Pb, Ni, Cr) from sediments. In preparation to submit to Environmental Science & Technology

R/PS-31: (Start: 3/1/2003 - Completion: 12/31/2006)

Lee, J.J. and H.W. Walker. 2005. Removal of Microcystin-LR Using a Hybrid PAC-Ultrafiltration System. Abstract and presentation at American Chemical Society Pacifichem International Conference, December, 2005.

Lee, J.-J. and H.W. Walker 2006. Removal of Microcystin-LR from Drinking Water Using Ultrafiltration and Activated Carbon. Abstract and presentation for the Ohio Lake Management Society Annual Conference, March, 2006.

Total peer-reviewed publications/book chapters in print: 14

In press: 7

Technical reports

Ohio Sea Grant College Program Strategic Plan 2005-2010
Ohio Sea Grant College Program Implementation Plan 2004-2006
Ohio Sea Grant College Program Implementation Plan 2005-2007
Ohio Sea Grant College Program Omnibus Proposal 1Mar 2006-28 Feb 2008
Ohio Sea Grant College Program Progress Report, 2004-2005.
Research Review Summaries, 1998-2005, Jill Jentes Banicki, M/P-2
Stone Laboratory 2004 Program Review
PAT 2005 Preparatory Package, July 2005
Scientific surveys of Lake Erie: A historical review, TB-077
Substrate Distribution on Western Basin reefs with depth and storm impacts on walleye reproductive habitat, TB-078

Total technical reports: 10

Theses/Dissertations

TD-096 Christine Brothers. 2005. Impact of television on public environmental knowledge of Great Lakes issues (E/TE-1)
TD-097 Sreenivasa Chopakatla. 2005. A CFD model for wave transformations and breaking in the surf zone (R/CE-6)
TD-098 Edward Roseman. 2005. Physical and biological processes influencing walleye early life history in western Lake Erie (R/ZM-028)
TD-099 Tarig Ali. 2005. GIS modeling of phosphorus concentrations, soil loss due to water erosion and coastal terrain change detection in Lake Erie coastal areas (R/NP-01)
TD-100 Chia-Yu Yeh. 2005. Three economic applications of non-market valuation (R/ME-24)

E/TER-2: (Start: 3/1/2002 - Completion: 2/28/2005)

Sara White. Environmental attitudes of high school students attending college courses at F.T. Stone Laboratory.

Dudley, Jennifer. The effect of participation in place-based environmental education programs on student affect toward science: A case study of F.T. Stone Laboratory's middle school program.

Paul Genzman. Developing proficiency in systems thinking among secondary science students at Put-in-Bay School through sequential use of concept mapping.

Manzo, Lyndsey. Evaluating the use of a structured decision-making framework as a method of teaching about environmental issues.

Duan, Hongxia. Public Understandings of Environmental Issues: Relating to Characteristics, Information Sources, Knowledge and Attitudes.

R/BT-7: (Start: 3/1/2002 - Completion: 7/31/2007)

Sathish Rajamani. 2006. Small molecule signaling and detection systems in protists and

bacteria

R/EM-22: (Start: 3/1/2002 - Completion: 2/28/2004)

Erin Rothman. 2005. *Phragmites australis* in a freshwater coastal wetland: implications for carbon dynamics

R/EM-23: (Start: 3/1/2003 - Completion: 8/1/2005)

Smith, Cynthia. Land use and habitat change in the Sandusky Watershed: Development of ecological unit models.

Moreno, Rocio. The Role of Spatial Externalities and Income in Residential Development Patterns.

Miyata, Takeshi. A Simultaneous Model of Residential Zoning and Rural Land Conversion.

R/LR-9-PD: (Start: 4/1/2005 - Completion: 2/28/2006)

Haponski, Amanda. Genetic divergence among greenside darter subspecies *Etheostoma blennioides*.

Mark Lyons. 2005. A Comparative Analysis Between the Distribution of Freshwater Mussels and Their Fish Hosts in the Black River, Ohio.

R/MB-2: (Start: 9/1/2002 - Completion: 8/31/2004)

Al-Juhni, Abdulhadi A.. 2006. Incorporation of Less Toxic Antifouling Compounds into Silicone Coatings to Study Their Release Behaviors.

R/PS-30: (Start: 3/1/2003 - Completion: 2/28/2005)

Maggie Pee. Desorption of PAHs from natural sediment.

Ziqi He. 2006. Sonochemical remediation of mercury from contaminated sediments.

R/PS-34: (Start: 3/1/2004 - Completion: 7/31/2007)

Michael C. Scullion. 2006. Management of PCB-contaminated sediments through sediment characterization and evaluation of active capping techniques.

Total theses and dissertations: 21

Videos/CDs/DVDs

CD: Ohio Sea Grant College Program Strategic Plan 2005-2010

CD: Ohio Sea Grant College Program Implementation Plan 2004-2006

CD: Ohio Sea Grant College Program Implementation Plan 2005-2007

CD: Ohio Sea Grant College Program Omnibus Proposal 1Mar 2006-28 Feb 2008

CD: Ohio Sea Grant College Program Progress Report, 2004-2005.

CD: Stone Laboratory 2004 Program Review

CD: Ohio Clean Marinas: Certification Ceremony Packet, Oct 2005

CD: Ohio Clean Marinas: Certification Ceremony Media Packet, Oct 2005

Total videos/CDs/DVDs: 8

Handbooks/Manuals/Guides

Ohio Clean Marinas Program Guidebook, May 2005, TB-071a

Ohio Clean Marinas Brochure, Gary Comer and Jill Jentes, April 2005, OHSU-B-069

Ohio Clean Boater Best Boater Practices 2005, Leroy Hushak and Jill Jentes, 2005, B-073

COSEE Great Lakes Brochure, Rosanne Fortner and Jill Jentes, February 2006, OHSU-B-074

Ohio Clean Marinas Identity Standards Guidelines, Greg Aylsworth, April 2005

Ohio Clean Boater Identity Standards Guidelines, Greg Aylsworth, April 2005

Lake Erie Programs at The Ohio State University: Media Coverage 2005, Nancy Cruickshank, PR-013

2005 Friends of Stone Laboratory brochure, Dr. Chris Stanton and Jill Jentes, 2005, B-071.

“The Future of Ohio’s Lake Erie Basin” Conference Brochure, Joe Lucente, Dec 2005.

2004 Island Passport: Ecology, science and history (Seasonal guided tour booklet) brochure 2005, Jill Jentes Banicki, B-067

2005 Island Passport: Ecology, science and history (Seasonal guided tour booklet) brochure 2005, Jill Jentes Banicki, B-068

Stone Laboratory Guide for Familiarization Tours for Students: Ohio Division of Travel and Tourism, Jill Jentes Banicki, March 2006. M/P-2

Stone Laboratory Guide for Familiarization Tours for Adults: Ohio Division of Travel and Tourism, Jill Jentes Banicki, March 2006. M/P-2

Western Lake Erie guide to public waterfront access, charter fishing, marinas, boating excursions, festivals and events guide, Joe Lucente, 2005, GS-019f 2005

Western Lake Erie guide to public waterfront access, charter fishing, marinas, boating excursions, festivals and events guide, Joe Lucente, 2006, GS-019g 2006

Ohio Clean Boater Tipsheets, Leroy Hushak, March 2005.

Ohio Clean Marinas Program Checklist, Gary Comer, April 2005.

2005 Ohio Sea Grant College Program Preproposal, brochure, 2005.

2005 Ohio Sea Grant College Program Proposal, brochure, 2005.

Total handbooks/manuals/guides: 19

Press releases

Research Examines Heat Tolerance in Zebra Mussels (2/25/05)

Stone Lab Announces Teacher Fellowships (3/3/05)

Endangered Water Snakes Feed on Invasive Round Gobies in Lake Erie (3/10/05)

Stone Lab Classes Still Available for Summer 2004 (3/28/05)

Research Finds Reasons Why Invasive Watermilfoil Not in Lake Erie Wetland (4/07/05)

Ohio Sea Grant Program Receives ACE Awards (4/25/05)

New Research Credit for College Students (5/5/05)

Stone Lab Offers Photography Workshop (5/17/05)

Stone Lab Offers OSU Employees Conference Opportunities (5/27/05)

Eco-History Island Passport at Put-in-Bay (6/7/05)

Gibraltar Island Tours at Put-in-Bay (6/7/05)

Invasive Phragmites Decreased in Lake Erie Wetland by Controlled Flooding (6/14/05)
Ohio Sea Grant Program Receives APEX Award (7/15/05)
Annual Stone Lab Open House (8/1/05)
Mini Dead Zone in Sandusky Bay (9/3/05)
Lake Erie Coastal Trail Becomes National Byway (9/22/05)
Biological Fieldstation Positions Available (9/24/05)
Nine Lake Erie Marinas to Receive Ohio Clean Marinas Certification (10/7/05)
Future of Ohio's Lake Erie Basin Conference Announcement (11/4/05)
Ohio Clean Marinas Workshops to Help Grow Program (11/21/05)
Ohio Sea Grant Promotes New License Plate Petition (12/13/05)
Web Site under Construction (12/16/05)
Lake Erie License Plates (12/16/05)
Knauss Fellowship Applications Due Mar 27 (1/04/06)
Sea Grant Awarded \$2.5 Million to Support Great Lakes and Ocean Sciences Education
(1/05/06)
Research Finds Genetic Diversity Key to Successful Zebra Mussel Invasion (1/10/06)
8th Annual Open House and Silent Auction (1/23/06)
New Stone Lab Courses Available (1/25/06)
New Certified Clean Marinas (2/2/06)
Research Uses Engineered Algae as Biosensors (2/6/06)
New Research Discovers Round Gobies Decrease Smallmouth Bass Growth (2/14/06)
Invasive Species Just as Diverse as Native Counterparts (2/20/06)
Sea Grant Research Finds Fish Ear Stones Provide Map of Fish Migration 3/30/06
Total press releases: 33

Newsletters/Periodicals

Twine Line Winter Edition, Vol 27, no.1
Twine Line Spring Edition, Vol 27, no. 2
Twine Line Summer Edition, Vol 27, no 3
Twine Line Fall Edition, Vol 27, no. 4
Twine Line Winter Edition, Vol 28, no. 1

Total newsletters/periodicals: 5

Other

Books

BS-014 Birds of Western Lake Erie: Documented observations and notes, Forsythe. 2005

Total books: 1

Factsheets

Where to take kids fishing in Northern Ohio. Kelly Riesen. FS-084

Basic fishing equipment for kids, Kelly Riesen, FS-085

The Lake Erie Discussion Board, Fred Snyder, July 2005, TS-043

Ohio Clean Marinas and Boater Program, Dave Kelch, July 2005, TS-043

Boosting Fisheries Education on Lake Erie, Fred Snyder, July 2005, TS-043

Buffer Strips Improve Lake Erie Water Quality, Fred Snyder, July 2005, TS-043
Lake Erie Coastal Ohio, Frank Lichtkoppler, July 2005, TS-043
Great Lakes Fishery Leadership Institute, Frank Lichtkoppler, July 2005, TS-043
MARC Special Area Management Plan, Frank Lichtkoppler, July 2005, TS-043
Retention, Expansion and Needs Analysis for Rural and Urban Lake Erie Coastal Business
Development, Joe Lucente, July 2005, TS-043
Ohio Charter Captains Conference, Fred Snyder, July 2005, TS-043
Using Technology to Change Perceptions on Environmental Challenges, Walker Williams, July
2005, TS-043
Stone Laboratory Provides Education and Outreach on Lake Erie, John Hageman, July 2005, TS-
043
Discovering Ohio Steelhead Increasing Sportfishery Participation, Dave Kelch, July 2005, TS-
043
Port Clinton Transience Municipal Marina, Fred Snyder, July 2005, TS-043
Local Government Leadership Training for Elected and Appointed Officials, Joe Lucente, July
2005, TS-043

Total Factsheets: 16

Web Sites

Ohio Sea Grant College Program
F.T. Stone Laboratory
Center for Lake Erie Area Research
GLAERC
Lake Erie Discussion Board
Friends of Stone Laboratory
Biocomplexity Project
Ohio Clean Boater Program
Ohio Clean Marinas Program

Total web sites: 9

Promotional Materials

2006 Stone Lab Campaign Brochure
2006 Stone Lab Campaign Flyer
2006 Stone Lab Campaign Supplemental Brochure
2006 Stone Lab Campaign Workshop Brochure
2006 Stone Lab Campaign Bus Poster Series (6 posters)
2006 Stone Lab Campaign Poster
2006 Stone Lab Campaign Reminder Post Card Series
2006 Stone Lab Campaign Pocket Calendar Series
2006 Stone Lab Campaign Job Flyer
2006 Stone Lab Campaign FOSL Open House Flyer
2006 Stone Lab Campaign Open House stud/par/teac flyer
2006 Stone Lab Campaign Workshop Demo Teachers
2006 Stone Lab Campaign Virtual Workshops flyer
2006 Stone Lab Campaign Photo Workshop flyer
2006 Stone Lab Campaign At Risk Course Series (11 flyers)

2006 Stone Lab Campaign Dorm Poster
 2006 Stone Lab Campaign Bio Sci Mag Ad
 2006 Stone Lab Campaign State Science Day Ad
 2006 Stone Lab Campaign Academy of Science Ad
 2006 Stone Lab Campaign REU Flyer
 2006 Stone Lab Campaign HS Student Tri-fold Flyer
 2006 Stone Lab Campaign Teacher Fellowships flyer
 2006 Stone Lab Campaign Courses open flyer
 2006 Stone Lab Campaign Distance Learning flyer
 2006 Stone Lab Campaign Photo release adult, minor
 2006 Stone Lab Campaign Stone Lab map/directions flyer
 2006 Stone Lab Campaign Housing form series (med history, housing, consent)
 2006 Stone Lab Campaign Faculty/student handbook
 2006 Stone Lab Campaign Student promotional flash ad
 2006 Stone Lab Campaign OSU Newark flyer
 2006 Stone Lab Campaign University Rec Sports Center handbook ad
 2006 Stone Lab Flyer FOSL Guest lecture flyer
 2006 Stone Lab Flyer FOSL Research Brief flyer
 2006 Stone Lab Flyer FOSL Winter Program flyer
 2006 Stone Lab Flyer FOSL Buckeye Island Hop flyer
 2005 FOSL endowment flyer

Total promotional materials: 36

Posters/Displays

2006 Stone Lab Campaign Stone Lab display, small table top, Jill Jentes Banicki, May 2005.
 2006 Stone Lab Campaign Stone Lab display, large table top, Jill Jentes Banicki, May 2005.
 2006 Stone Lab Campaign Stone Lab University Rec Sports Center freestanding display, Jill Jentes, March 2006
 2006 Stone Lab Campaign University building bulletin board display, Greg Aylsworth, March 2005.
 2006 Stone Lab Campaign University Rec Sports Center Rec table tent ad, Jill Jentes and Greg Aylsworth, March 2006
 Ohio Sea Grant Education, PAT 2005 poster, Rosanne Fortner and Jill Jentes, 2005.
 COSEE Great Lakes, poster-horizontal, Rosanne Fortner and Jill Jentes, 2006.
 COSEE Great Lakes, poster-vertical, Rosanne Fortner and Jill Jentes, 2006.
Lake Erie Discussion Board, PAT 2005 poster, Fred Snyder, 2005.
Boosting Fisheries Education on Lake Erie, PAT 2005 poster, Fred Snyder, 2005.
Ohio Clean Marinas Program, PAT 2005 poster, Leroy Hushak and Jill Jentes, 2005.
Ohio Clean Boater Program, PAT 2005 poster, Leroy Hushak and Jill Jentes, 2005.
Ohio Charter Captains Conference, PAT 2005 poster, Fred Snyder, 2005.
Buy a Fish Lake Erie License Plate, poster, Cleveland Boat Show, Dave Kelch and Jill Jentes, 2005.
Take me Fishing, LENS C poster, Kelly Riesen, July 2005.
 Great Lakes Fishing, poster, Dave Kelch and Kelly Riesen, Cleveland Boat and Sport Shows, 2005.
Aquatic Invasive Species, poster, Cleveland Boat Show, Dave Kelch and Jill Jentes, 2005.

Conference poster, Walter Williams, Nov 2005.
Great Lakes Fishery Leadership Institute, poster, Frank Lichtkoppler, July 2005
Lake Erie Fish Identification, flipcard display, Cleveland Boat and Sport Shows, 2005
Generating Information for Decision Making, poster, Frank Lichtkoppler, July 2005
Take the Pledge, marina posters (series of 12), Mar 2006.
Take the Boater Pledge, marina poster series (series of 7), March 2005.
Ohio Sea Grant Funding Sources, Sea Grant Week poster, Jill Jentes, May 2005
Total posters/displays: 24

Presentations

A/EP-1: (Start: 9/1/1978)

Dave Kelch. 2005. Underwater Preserves And Shipwreck Protection In Ohio's Lake Erie; A Success/ Failure Venture. New York Sea Grant at SUNY, Oswego, Annual Conference for Shipwreck Preservation and Research. Presented: 3/15/2005

Kelch, D. O., Lichtkoppler, F. R., Sohngen, B. L., and K.M. Riesen. 2005. Evaluating the Economic Contribution of Ohio's Lake Erie Tributary Steelhead Fishery, 2002-2003. 14th Annual meeting of the Ohio Academy of Science, Bowling Green State University. Presented: 4/2/2005

Lichtkoppler, F. and D. Jensen. 2005. A Change in Habitattitude™ Leads to a New Outreach Partnership. 48th International Association of Great Lakes Research Conference, May 23-26. Ann Arbor, Michigan. Presented: 5/26/2005

Lichtkoppler, F.R., Blaine, T.W. and Zondag, R.H. 2005. Generating Information for Decision Making: Curbside Recycling in Lake County, Ohio. Applied Research poster accepted for the National Association of County Agricultural Agents Annual meeting and Professional Improvement Conference. Buffalo, New York, July 17-21. Presented: 7/17/2005

Lichtkoppler, F.R., Snyder, F.L., Kelch, D.O., Hageman, J.R. and Reutter, J.M. 2005. Ohio's 2003 Great Lakes Fishery Leadership Institute. Extension Education poster accepted for the National Association of County Agricultural Agents Annual meeting and Professional Improvement Conference. July 17-21. Buffalo, New York. Presented: 7/17/2005

Joe Lucente. 2005. Local Government Leadership: Creating a Community Leadership Network. 2005 International Coastal Zone Conference in New Orleans, LA. Presented: 7/17/2005

Kelch, D, F. Lichtkoppler, B. Sohngen and K. Riesen. 2005. Social and environmental factors impacting preferences and expenditures of Ohio's Lake Erie tributary steelhead anglers. Oral presentation by Riesen at the American Fisheries Society, 135th Annual Meeting, Anchorage, AK. Presented: 9/12/2005

Riesen, K.E. 2005. Women: sport fishing's untapped market. American Fisheries Society,

135th Annual Meeting, Sept. 11-15, 2005, Anchorage, Alaska.
Presented: 9/12/2005

Joe Lucente. 2005. Community Government Leadership: Building Partnerships and Creating a Community Leadership Network. Poster presentation at the 2005 Urban Program Conversation in Columbus, Ohio. Presented: 10/7/2005

Lucente, J. and Thomas. 2005. Piloting an Applied Research Project with a Region. Urban Program Conversation in Columbus, Ohio. Presented: 10/7/2005

Joe Lucente. 2005. Community Government Leadership: Building Partnerships and Creating A Community Leadership Network. 2005 Ohio State University Annual Conference. Presented: 12/13/2005

Joe Lucente. 2006. Improving Local Government Leadership Education- A Qualitative Program Evaluation. National Association of Community Development Extension Professionals Conference in San Antonio, TX. Presented: 2/15/2006

Lichtkoppler, F.R., Blaine, T.W., and Zondag, R.H. Generating Information for Decision Making: Curbside Recycling in Lake County, Ohio. Poster presented at the 90th Annual Meeting and Professional Improvement Conference. National Association of County Agricultural Agents. Buffalo, NY. July, 2005

Joe Lucente, Dr. John Jacob of Texas Sea Grant and Robert McCormick of Illinois-Indiana Sea Grant Sea Grant's Coastal Community Development Program. Poster presentation at the National Association of Community Development Extension Professionals Conference in San Antonio, TX. February, 2006

A/EP-4: (Start: 3/1/2002 - Completion: 2/28/2006)

Lucente, J.E. 2005. Local Government Leadership: Creating A Community Leadership Network. 2005 International Coastal Zone Conference. New Orleans, Louisiana, July. Presented: 7/1/2005

A/EP-7: (Start: 6/1/2003 - Completion: 7/31/2007)

Jensen, D., and Lichtkoppler, F. R. 2005. A Change in Habitattitude™ Leads to a New Outreach Partnership. Paper presented at the 48th International Association of Great Lakes Research Conference,. Ann Arbor, Michigan. Peer Reviewed. Presented: 5/24/2005

M/P-1: (Start: 9/1/1978 - Completion: 7/31/2007)

Reutter, J.M. 2005. "The Future of the National Association of Marine Laboratories." Annual Meeting of the National Association of Marine Laboratories. Presented: 3/8/2005

Reutter, J.M. 2005. "Strategies to Enhance NAML's Public Policy Capability." Annual Meeting of the National Association of Marine Laboratories. Presented: 3/9/2005

Reutter, J.M. 2005. "Understanding the Changing Lake Erie Ecosystem: Should We Be.

Ohio Coastal Management Program. Presented: 3/25/2005

Reutter, J.M. 2005. "Lake Erie, Ohio Sea Grant, and Stone Laboratory." Ohio State Newark Campus. Presented: 4/8/2005

Reutter, J.M. 2005. "Lake Erie Science for Teachers." Science Education Class. Ohio State University. Presented: 4/13/2005

Reutter, J.M. 2005. "Ohio State University's Impact on Lake Erie." Alumni Meeting of College of Food, Agricultural and Environmental Sciences. Presented: 4/22/2005

Reutter, J.M. 2005. "NAML's Public Policy Initiative." Annual Meeting of NEAMGLL. USEPA. Presented: 5/12/2005

Reutter, J.M. 2005. "Current Issues Affecting Lake Erie." Columbus Power Squadron. Presented: 6/9/2005

Reutter, J.M. 2005. "Understanding the Changing Lake Erie Ecosystem." Ohio Coastal Training Program for Erie and Sandusky County Officials. Presented: 6/29/2005

Reutter, J.M. 2005. "Ohio Sea Grant, Stone Laboratory and Lake Erie." Put-in-Bay Legislative Day. Presented: 8/10/2005

Reutter, J.M. 2005. "The State of Lake Erie." Summer Lecture Series. Presented: 8/11/2005

Reutter, J.M. 2005. "Ohio Sea Grant College Program History, Impacts, and Management Structure." Program Assessment Team Visit. Presented: 8/21/2005

Reutter, J.M. 2005. "Director's Report." Friends of Stone Laboratory Annual Meeting. Presented: 9/10/2005

Reutter, J.M. 2005. "The Work of Ohio Sea Grant and Stone Laboratory on Lake Erie." Stone Laboratory Open House. Presented: 9/10/2005

Reutter, J.M. 2005. "Ohio Sea Grant's Electronic Reporting System." NOAA AIS Database Summit. Presented: 9/13/2005

Reutter, J.M. 2005. "Ohio State University's Impact on Lake Erie." Ohio State Roads Scholars Tour. Presented: 9/13/2005

Reutter, J.M. 2005. "NAML's Public Policy Initiative." Annual Meeting of the National Association of Marine Laboratories. Presented: 9/21/2005

Reutter, J.M. 2005. "Lake Erie and the Great Lakes." Annual Meeting of the Great Lakes Regional Coastal Zone Management Programs. Presented: 9/27/2005

Reutter, J.M. 2005. "Opportunities for Teachers and Students at Stone Laboratory." Northeastern Ohio Education Association. Presented: 10/14/2005

Reutter, J.M. 2005. Farms, Factories, Fish, and Sprawl: A Recent History of Land Use and Water Quality in the Lake Erie Region." Microbiology Guest Lecture, Ohio State University. Presented: 11/29/2005

Reutter, J.M. and E. Irwin 2005. "Farms, Factories, Fish, and Sprawl: A Recent History of Land Use and Water Quality in the Lake Erie Region." Lake Erie Balanced Growth Conference. Presented: 12/1/2005

Reutter, J.M. and E. Irwin 2005. "What is Sea Grant." Lake Erie Balanced Growth Conference. Presented: 12/1/2005

Reutter, J.M. 2005. "The History of the Lake Erie Millennium Network." Lake Erie Millennium Conference. Presented: 2/28/2006

Reutter, J.M. 2005. "The Great Lakes Regional Research and Information Network." Lake Erie Millennium Conference. Presented: 3/2/2006

Reutter, J.M. 2006. "AIS." Great Lakes Sea Grant Network Conference. Presented: 3/13/2006

Reutter, J.M. and E. Irwin 2006. "Invasive Species and Development." Maumee Bay Conference. Presented: 3/30/2006

M/P-2: (Start: 9/1/1980)

Jill Jentes Banicki 2006. Effective Program Marketing on a Tight Budget: Getting your Program Message Out Without Breaking the Bank. ODNR Soil and Water Conservation District Conference, Columbus, OH. Presented: 3/1/2006

R/A-19-PD: (Start: 5/15/2004 - Completion: 4/30/2005)

Tiu, L. 2005. Business planning and marketing freshwater shrimp. Freshwater Shrimp Culture Videoconference. March 28, 2005 Piketon, Lima and Wooster, Ohio. Presented: 3/28/2005

Wallat, G. 2005. Pond Construction for freshwater shrimp culture. March 28, 2005 Piketon, Lima and Wooster, Ohio. Presented: 3/28/2005

R/BT-8: (Start: 6/1/2003 - Completion: 7/31/2007)

Sayre RT, Rajamani S, Falcao V, Torres M, Ewalt J and Colepicolo P 2005. Microalgae as Heavy Metal Biosensors. International Marine Biotechnology Conference. St Johns, Newfoundland, Canada. Third Place Poster Award. Presented: 6/5/2005

Rajamani S, Ewalt J, Torres M, Falcao V, Colepicolo P and Sayre RT 2006. Transgenic Microalgae as Heavy Metal Biosensors. ASLO/AGU Ocean Sciences Meeting, Honolulu, HI. Presented: 2/28/2006

R/EM-22: (Start: 3/1/2002 - Completion: 2/28/2004)

Rothman, E., Bouchard, V. 2005. Effect of the invasive species *Phragmites australis* on the carbon cycle in a lake Erie coastal wetland. Ohio Academy of Science Annual Meeting.

Rothman, E., Bouchard, V. 2005. The effect of *Phragmites australis* on carbon dynamics in a Lake Erie coastal wetland. Society of Wetland Scientists, Charleston, South Carolina. Presented: 6/5/2005

R/EM-23: (Start: 3/1/2003 - Completion: 8/1/2005)

Elena G. Irwin and Rocio Moreno. 2005. Explaining Scattered Residential Development. Invited paper to be presented, Workshop on Urban Decentralization and Open Space. Amenities, Dijon, France, December 2005. Presented: 12/1/2005

R/ER-60: (Start: 3/1/2002 - Completion: 2/28/2004)

Hurley, J.P. and R.T. Heath. 2005. Bacterial growth limitation by phosphorus and carbon at an offshore station in Lake Erie. Poster presentation at the Annual Meeting of The Ohio Academy of Science, April 2005, Bowling Green State University. Presented: 4/1/2005

Meilander, T. and R. T. Heath. 2005. The "not so dead" zone of Lake Erie. Oral Presentation. Annual Meeting of the Ohio Academy of Science. April 2005, Bowling Green State University. Presented: 4/1/2005

R. T. Heath and D. Hansen. 2005. Adenosine triphosphate (ATP) as a source of P and C to bacterioplankton in a temperate hardwater lake. Poster presentation. Annual Meeting of the American Society of Limnology and Oceanography, June 2005, Santiago de Compostela, Spain. Presented: 6/1/2005

Meilander, T. and R. T. Heath. 2005. LDOC influences phosphate uptake in Lake Erie bacterioplankton. Oral presentation. Annual Meeting of the American Society of Limnology and Oceanography, June 2005, Santiago de Compostela, Spain. Presented: 6/1/2005

Meilander, T. and R. T. Heath. 2005. Seasonal activity in bacterial activity in the Lake Erie "Dead Zone." Oral Presentation. Annual Meeting of International Association of Great Lakes Research. Ann Arbor, MI, June 2005. Presented: 6/1/2005

R/ER-66-PD: (Start: 7/1/2003 - Completion: 9/30/2005)

Krieger, K. A., Bur, M. T., Thomas, M. A., and N. J. Johnson. 2005. Distribution of burrowing mayflies (*Ephemeroidea: Hexagenia* spp.) in the central basin of Lake Erie, 1997-2004: potential relationship to hypoxia. 48th Conference of the International Association for Great Lakes Research, Ann Arbor, Michigan. (poster). Presented: 5/1/2005

Krieger, K. A., M. A. Thomas, N. J. Johnson, and M. T. Bur. 2005. Underwater Video as a

Method for Detecting and Quantifying Rare Individuals, Applied to Zebra/Quagga Mussels (*Dreissena* spp.) and Burrowing Mayflies (*Hexagenia* spp.) in Lake Erie. Sea Grant review panel at Old Woman Creek National Estuarine Research Reserve, Huron, Ohio. 23 August. Presented: 8/23/2005

R/LR-5: (Start: 3/1/2001 - Completion: 2/28/2004)

Stepien, Carol A. and Rex M. Strange. 2005. Population Genetic Structure and Geographic Patterns of Smallmouth Bass in the Great Lakes. Oral research presentation by Carol Stepien at International Association for Great Lakes Research (IAGLR) annual meeting, May 2005, held in Ann Arbor, Michigan. Presented: 5/1/2005

Stepien, Carol A. and Rex M. Strange. 2005. Population Genetic Structure and Geographic Patterns of Smallmouth Bass in the Great Lakes. Oral research presentation by Carol Stepien at American Society of Ichthyologists and Herpetologists (ASIH) annual meeting July 2005, held in Tampa, FL. Presented: 7/1/2005

R/LR-7: (Start: 3/1/2004 - Completion: 2/28/2007)

Stepien, Carol A, Ford, Alex M., and Villet, Jhonatan Osvaldo Sepulveda. 2005. Population Genetic Structure of Yellow Perch In The Great Lakes: A Comparison With Eastern North American Populations. Poster presentation at International Association for Great Lakes Research (IAGLR) annual meeting, May 2005, Ann Arbor, Michigan. Presented: 5/1/2005

Carol A. Stepien and Rex Meade Strange. 2005. DNA identification of yellow perch fillets from a fish fry: Is the fish on your menu local? Poster research presentation at the American Society of Ichthyologists and Herpetologists annual meeting, July 2005, Tampa, Florida. Presented: 7/1/2005

Rex Meade Strange. 2005. Histological adaptations and positive directional selection of rhodopsin genes played a role in the evolution of percid visual systems. Poster research presentation at the American Society of Ichthyologists and Herpetologists annual meeting, July 2005, Tampa, Florida. Presented: 7/1/2005

Rex Meade Strange and Carol A. Stepien. 2005. Historical biogeography of walleye (*Sander vitreus*) as inferred from mitochondrial and microsatellite loci. Oral research presentation at the American Society of Ichthyologists and Herpetologists annual meeting, July 2005, Tampa, Florida. Presented: 7/1/2005

Osvaldo Jhonatan Sepulveda-Villet, Alex M. Ford, and Carol A. Stepien. 2005. Population genetic structure of yellow perch in the Great Lakes: A comparison with eastern North American populations. Oral research presentation at the American Society of Ichthyologists and Herpetologists annual meeting, July 2005, Tampa, Florida. Presented: 7/1/2005

R/MB-2: (Start: 9/1/2002 - Completion: 8/31/2004)

Abdulhadi A. Al-Juhni, Bi-min Zhang Newby 2006. Bulk Entrapment of Less Toxic Antifouling Compounds into Silicone Coatings to Evaluate Their Release: Experimental Studies and Mathematical Modeling. Smart Coating 2006 Symposium.

R/PS-26: (Start: 3/1/2000 - Completion: 2/28/2003)

Z. He, L. K. Weavers, S. J. Traina. 2005. Sonolytic release of mercury from Al₂O₃ and sonochemical reaction of humic acid. EMSI/North Central NOM Workshop. Columbus, OH, June 15-17. Presented: 6/15/2005

Z. He, L. K. Weavers, S. J. Traina. 2005. Sonolytic release of mercury from mercury sulfide (cinnabar). Pacificchem 2005 Congress. Honolulu, HI, December 15 - 20. Presented: 12/15/2005

R/PS-30: (Start: 3/1/2003 - Completion: 2/28/2005)

Z. He, L. K. Weavers, R. Sayre, and S. Traina 2006. Remediation of mercury contaminated sediment by ultrasound combined with transgenic *Chlamydomonas reinhardtii*. Gordon Research Conferences on Environmental Sciences: Water. Poster presentation. Plymouth NH, June 25-30, 2006

Z. He, L. K. Weavers, S. Siripornadulsil, and R. Sayre 2006. Removal of mercury from sediment by ultrasound combined with biomass (transgenic *Chlamydomonas reinhardtii*). 231st ACS National Meeting, Poster presentation. Atlanta GA, March 26-30, 2006

M. Pee, Z. He, L. K. Weavers 2005. Sonochemical desorption and destruction of contaminant mixtures (Metals & PAHs) from freshwater sediments. Battelle Forum II. Poster presentation. Columbus, OH, November 28, 2005

R/PS-31: (Start: 3/1/2003 - Completion: 12/31/2006)

Lee, J.-J. and H.W. Walker 2005. Removal of Microcystin-LR by Powdered Activated Carbon Coupled to Ultrafiltration. presentation at the OSU Environmental Molecular Science Institute Annual Workshop. Presented: 6/15/2005

Total presentations: 70

IV.e.ii. Ohio Sea Grant Publication Totals: 1 March 2005-31 March 2006

Category	# of Pubs
Peer-reviewed journal articles/book chapters	14
Technical reports	10
Theses/Dissertations	21
Videos/CDs/DVDs	8
Handbooks/manuals/guides	19
Press releases	33
Newsletters/Periodicals	5
Other	
Books	1
Fact sheets	16
Web sites	9
Promotional materials	36
Posters/Displays	24
Presentations	70
Total	266

IV.f. Students supported

Category	# of new students	# of continuing students	# of Degrees Awarded
Knauss Fellowship	2		
Industry Fellowship	--	--	
NMFS/SG Fellowship	--	--	
State Fellowship	--	--	
Sea Grant Supported MS/MA Graduate Students	19	19	
Sea Grant Supported PhD Graduate Students	8	8	
Sea Grant Supported Undergraduate Students	59	--	
Other	--	--	
Total	88	27	0

IV.g. Program awards and honors

Promotion in rank from Extension Educator II to Extension Educator III. Ohio State University Extension, The Ohio State University (Joe Lucente, 2005)

Ohio Extension Agents Association Community Development Innovative Team Teaching Award (Joe Lucente, Dr. Jerry Thomas, Dr. Cindy Torrpa and Dr. Tom Archer, 2005, “Act Fast! How Community Development Extension Professionals Can Rapidly Utilize Applied Research to Assist Organizational Development”)

First Place People’s Choice Award in Individual Communications Product for 2004 Stone Lab Campaign at 2005 Sea Grant Week Conference (Greg Aylsworth, 2005)

Gold Award from Association for Communication Excellence in Agriculture (ACE) in publishing direct mailer for Stone Lab Campaign 2004 Promotional flyer and postcards (Greg Aylsworth, 2005)

First Place People’s Choice Award in Individual Communications Product for 2004 Stone Lab Campaign at 2005 Sea Grant Week Conference (Jill Jentes Banicki, 2005)

Gold ACE Award from Association for Communication Excellence in Agriculture (ACE) in publishing direct mailer for Stone Lab Campaign 2004 Promotional flyer and postcards (Jill Jentes Banicki, 2005)

Bronze Award from ACE for best web site (Jill Jentes Banicki, 2005)

APEX Award for Stone Lab web site in web design (George Oommen, 2005)

Blue Ribbon People’s Choice Award in Individual Communications Product for 2004 Stone Lab Campaign at 2005 Sea Grant Week Conference (George Oommen, 2005)

Bronze Award from ACE for best web site (George Oommen, 2005)

International Association for Great Lakes Research awards the Paul W. Rodgers Scholarship (Erica Cunningham & David J. Berg, 2005, R/ER-51-PD)
