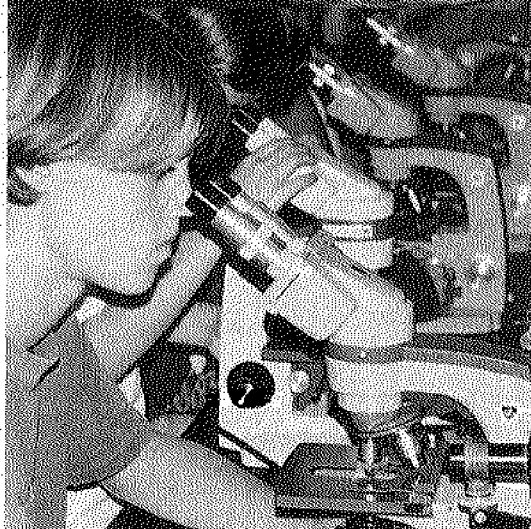
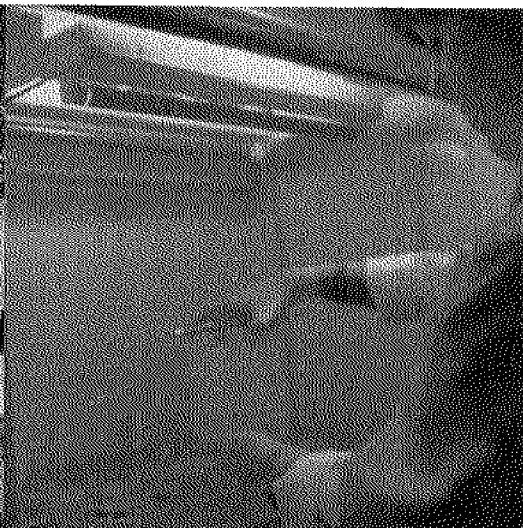
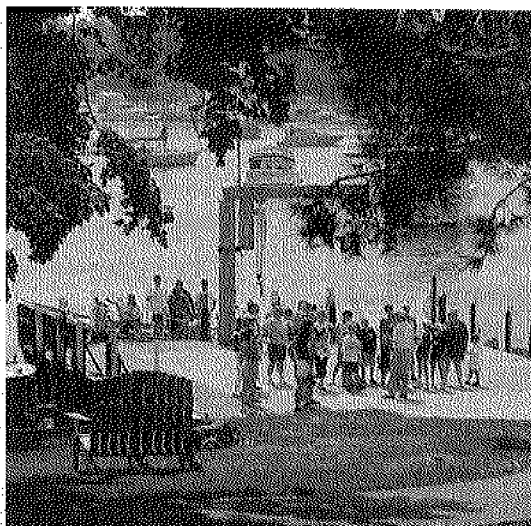


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E D U C A T I O N

**OHIO SEA GRANT
COLLEGE PROGRAM
PROGRESS REPORT
1999-2000**

Jeffrey M. Reutter, Ph.D
Director

Grant Number NA86RG0053
OHSU-TB-052

December 2000



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**OHIO SEA GRANT COLLEGE PROGRAM
PROGRESS REPORT 1999-2000
November 2000**

PROGRAM HIGHLIGHTS FROM 2000

Strategic Plan. One of our most important accomplishments this year was the completion of our Strategic Plan for 2000-2005 and our Implementation Plan for 2000-2002. This plan covers the entire program including our research, education, and outreach efforts on the environment, the economy, and education, and will require even more collaboration between academia, the private sector, and government to be successful. We have laid out a series of goals and objectives that will certainly stretch our capabilities, but should result in huge gains for Ohio and Lake Erie.

Program Review. Six experts from around the country came to Ohio for a week at the end of September to review our entire program as part of a review required by the National Sea Grant College Program and The Ohio State University. We received the highest possible rating. Our relationships with our users and our collaborative and cooperative programs involving academia, the private sector, and government were recognized as truly outstanding and a model for the country.

Enrollment at Stone Laboratory. During the summer of 2000, a total of 201 students from 29 colleges and universities and 64 high schools took college courses at Stone Laboratory. During the 1990s students from 71 colleges and universities and 260 high schools took college courses at Stone Laboratory. Average annual enrollment exceeded 200 compared to 55-60 during the 70s and 80s.

Cooke Castle. With support from the State Legislature championed by Senator Robert Latta we were able to complete the exterior phase of the renovation of Cooke Castle on Gibraltar Island by completing the re-pointing of the masonry and the reconstruction of the north and south porches. We are currently attempting to raise the final \$1.5 million dollars to complete the renovation. When completed the Castle will serve as a science education and conference center for Stone Laboratory and Ohio Sea Grant.

Gibraltar III. We completed the purchase (with non-federal funds) and transfer of the *Explorer* from the Ohio Department of Natural Resources, Division of Wildlife, and renamed the boat the *Gibraltar III*. This 42-ft research vessel became part of our fleet in September and will greatly increase our research, education and outreach capabilities on Lake Erie. We have operated with only one research vessel, the 50+ year-old *BioLab*, since the *Gibraltar II* was decommissioned 3 years ago.

Workshops, Field Trips, Conferences and Tours at Stone Laboratory. The final tally for our spring and fall workshop/field trip/conference/tour program for 2000 is not yet complete, but it appears that we will surpass the record of 173 groups and 5,560 people that was set during 1999. Participants ranged in age from grade 4 to adults and included the Council of Great Lakes

Research Managers of the International Joint Commission, the Board of Directors of the Great Lakes Protection Fund, the Great Lakes Aquatic Ecosystem Research Consortium, and the Old Woman Creek NERR Advisory Committee.

Communication Technology. With the help of the Ohio State University UNITS program, the Office of Research, the Office of Physical Facilities, and the Office of Housing and Food Services, a T1 line was installed at Stone Laboratory with 14 new computers. Every dormitory room, classroom and office now has a telephone and sonnet connection for email and high speed Internet access. All calls between Columbus and Put-in-Bay are local calls. The number for the main office in Bayview is now 614-247-6500. A new laptop computer and LCD projector provided by the Office of Research allow students and scientists to make live web site and power point presentations in classroom lectures and research seminars.

Lake Erie Award. The Ohio Sea Grant College Program was very honored to receive the 2000 Organizational Lake Erie Award from the Ohio Lake Erie Commission.

Ohio Sea Grant's 12th State Legislature/Congressional Day on Lake Erie. This nationally recognized educational program for elected officials was held on 21 July and over 30 offices (both federal and state) were represented.

New Office in 2001. For those of you who have complained about the quality of our offices in Columbus, help is on the way. In November 2000, construction started on a project to renovate office space for Sea Grant, Stone Laboratory, CLEAR, and GLAERC. Our new offices should be completed in March 2001.

Web Site and Electronic Reports. Our web site (www.sg.ohio-state.edu) was significantly improved in 2000 to make it more useful to students, teachers, scientists, elected officials, and the general public. The site contains copies of *Twine Line*, many of our publications, information on courses and programs at Stone Laboratory, and summaries of all of our research projects. Progress and completion reporting for all Sea Grant projects is now done electronically. These reports are available at our web site. Use of the site has been doubling during each of the past two years and should reach 500,000 visitors in 2000.

SELECTED 1999 HIGHLIGHTS

Endowments. In 1999, Jack Waldock, a member of the Director's Advisory Council and former chair of our Northwest Ohio Sea Grant Advisory Committee, donated \$10,000 to match a similar donation from the Sandusky-Erie County Community Foundation to create two small endowments—one to support Ohio Sea Grant efforts to better inform elected officials and one to enhance opportunities for Erie County students at Stone Laboratory. In 1999 the total value of our Stone Laboratory endowments surpassed \$500,000. In 2000 the value surpassed \$600,000.

Twine Line. The format and layout of *Twine Line* was changed to improve its appearance and our ability to reproduce high quality photographs. The changes have been very well received and the newsletter was selected at the best in the country at Sea Grant Week in June 1999.

Scholarships. In 1999, Stone Laboratory, with the assistance of the Friends of Stone Laboratory, set records for the number of scholarships awarded (49) and the total value of the scholarships (\$14,860) awarded to students taking courses at the Laboratory. In 2000, a new record was set as 57 scholarships were awarded.

EPA Collaboration. In 1999, collaboration between Stone Laboratory, Ohio Sea Grant, US EPA, and the EPA Great Lakes National Program Office resulted in the offering of a new 1-week course for teachers aboard EPA's 180-ft research vessel, the *Lake Guardian*.

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.

- In February 1999 we modified the 30th Anniversary Brochure for the National Sea Grant College Program, converted the brochure into a new National Brochure, and developed new posters and awards for the 20th Anniversary of the Knauss/Sea Grant Fellows Program. The National Brochure later received a special award as the outstanding brochure produced by the Sea Grant Network.
- In August 1999, we hosted the Second Annual Stone Laboratory Open House with the Friends of Stone Laboratory, the National Park Service, and the Ohio Department of Natural Resources Divisions of Wildlife and Geological Survey. Over 700 people attended the all-day event. The program was repeated in August 2000 with over 850 in attendance.
- In February 1999 we hosted the first "Sea Grant/Stone Laboratory Winter Lecture Series" in Columbus. The lectures covered results from two Ohio Sea Grant research projects and an historical talk on Jay Cooke's Castle. The second "Sea Grant/Stone Laboratory Winter Lecture Series" was held in February 2000 with keynote presentations on our marine biotechnology research and Lake Erie water levels.
- In July 1999 we hosted The Ohio State University Board of Trustees at Stone Laboratory for the first time in 17 years. The meeting included the President of the University and all of the Vice Presidents.
- In July 1999, we hosted our 11th Ohio Sea Grant State Legislature/Congressional Day on Lake Erie. This all-day event commemorated the 30-year anniversary of the burning of the Cuyahoga River and the many improvements that have occurred on Lake Erie. Over 160 people attended including Dr. Ronald Baird, Director of the National Sea Grant College Program, and Dr. Frank Kudrna, Chair of the National Sea Grant Review Panel. As a result of our strategic planning efforts, this every-other-year event was repeated in July 2000 to move it to a schedule of even numbered years.
- In 2000 we were pleased to host meetings of the following groups at Stone Laboratory: Board of Directors of the Great Lakes Aquatic Ecosystem Research Consortium, Council of

Great Lakes Research Managers of the International Joint Commission, Old Woman Creek NERR Advisory Council, and the Great Lakes Aquatic Ecosystem Research Consortium.

Fellowships

On 1 February 2000, Jennifer Skidmore, a Master's candidate from Case Western Reserve University, and Samantha Romanello, a Ph.D. candidate from Ohio State, began a year in Washington, D.C. as John Knauss/National Sea Grant Fellows. In October we learned that Sapna Batish and Melissa Haltuch, both Ph.D. candidates in the Environmental Sciences Program at Ohio State, were selected as fellowship winners for 2001. In 1999, we also received funding for the third year of a very successful Industrial Fellowship with Procter and Gamble and GLERL.

Appointments--State, Regional, National and International 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. In 1999 Dr. Reutter completed a 3-year term as the US Co-Chair of the IJC Council of Great Lakes Research Managers, where he has been a member since 1989 and will remain a member. He was re-appointed by the Governor to a two-year term as one of Ohio's two representatives on the Board of Directors of the Great Lakes Protection Fund. He served as Co-Chair of the 30th Anniversary Committee of the National Sea Grant Association, in addition to numerous other appointments with the Lake Erie Commission, the Great Lakes Commission, Sigma Xi (President 1998-99), the Ohio EPA, and the Water Resources Center, among others.

In 2000, he chaired of the Great Lakes Sea Grant Network, became the education representative on the Program Mission Committee of the Sea Grant Association, entered his third year on the Board of Oceans and Atmospheres for NASULGC, served on three theme teams for the Sea Grant Association, participated on the advisory committee for Sea Grant's AFS fellow, participated on the selection panel for Knauss Fellows, etc. Karen Ricker, our Assistant Director and Communications Coordinator, and Rosanne Fortner, the Associate Director of Stone Laboratory and our Education Coordinator, hold similar leadership positions within the state and region.

The State of the Program

From the brief section on "Program Improvements" above, it should be clear that the four programs, Ohio Sea Grant, Stone Laboratory, CLEAR and GLAERC, are in very good shape and continue to grow. Federal support and state support from the Ohio Board of Regents remains very strong. Support for the National Sea Grant College Program within Congress remains strong, and federal budgets look good. Donations have been strong and records are being set for the value of our endowments.

PROGRAM PLANS

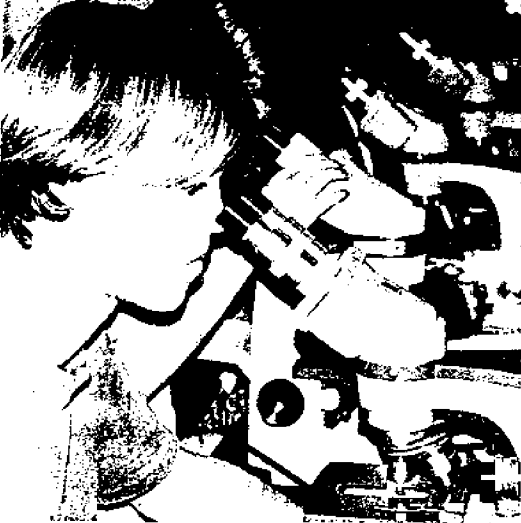
New Courses in 2001 at Stone Laboratory. Six new courses will be offered during the summer of 2001:

“Natural History of Ohio” and “Watershed, Estuarine and Coastal Ecology”—both undergraduate/graduate, 5-week courses; “Outdoor Recreation Behavior,” “Waterfowl Ecology,” and “Stream Ecology for Teachers”—undergraduate/graduate, 1-week courses; and “Ichthyoplankton Identification Workshop”—a 1-day workshop/course.

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

- 1) Renovate the Research Building at Stone Laboratory.
- 2) Obtain the funds to complete the renovation of Cooke's Castle and implement a new and improved outreach program for decision-makers using the facility.
- 3) Modify our current State Legislature/Congressional Day to be held in the off years for newly elected officials (term limits are causing a very rapid turn over in these offices).
- 4) Increase the size of our state line item significantly.
- 5) Enter into a cooperative plan with the Ohio Division of Wildlife regarding Lake Erie fisheries research and management.
- 6) Move into our new offices within the Research Center on main campus.
- 7) Hire a new agent in the Toledo area.
- 8) Double the size of our workshop/field trip program at Stone Laboratory.
- 9) Surpass \$1 million in total value of our endowments.
- 10) Implement a monitoring program at Stone Laboratory.

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E D U C A T I O N

APPENDICES

Appendix A

Program Funding

Appendix B

Institutions Involved

Appendix C

Projects Supported

Appendix D

Publications, Media Coverage,
and Web Site

Appendix E

Extension Case Studies,
Accomplishments, and Activities



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E D U C A T I O N

APPENDIX A Program Funding



APPENDIX A

PROGRAM FUNDING (ALL SOURCES)—1999 & 2000

Federal Sea Grant Funding—Grant No. NA86RG0053

952,000	Omnibus 1 March 1999
99,604	Marine Biotechnology Competition
99,467	NOAA Partnership Competition
29,301	Industrial Fellows
20,825	Web Sites for Teachers
14,655	ANS
20,000	NOAA Partnership from National Geodetic Survey
950,400	Omnibus 1 March 2000
99,747	Sea Grant Technology Competition
76,000	Knauss Fellows—Romanello and Skidmore
43,000	Addition from National Sea Grant for Regional Dev. and Administration
33,720	ANS
24,996	NOAA Partnership from National Geodetic Survey
\$2,463,715	Total Federal 1999-2000

Matching Support from Universities

\$661,606	1999
631,471	2000
\$1,293,077	Total University Match 1999-2000

State Line Item (1 July 1999 to 30 June 2001)

FY 00	\$299,940
FY 01	299,940
Total	\$599,880

Ohio State University Support (Operating Budgets)

	<u>FY00</u>	<u>FY01</u>	<u>2 Year Total</u>
Sea Grant/CLEAR	\$108,442	\$120,233	\$228,675
Stone Laboratory	231,861	238,468	470,329
Total	\$340,303	\$358,701	\$699,004

Private Sector Contributions

\$31,400	Proctor and Gamble, Industrial Fellows
\$22,000	Approximate total for our 12 th State Legislature Day, 21 July 2000
<u>\$10,000</u>	Approximate value of booth space at boat shows and sport shows
\$63,400	Total

Endowments

Our educational and research endowments created by the Friends of Stone Laboratory (FOSL) have done extremely well in 1999 and 2000. The principal in the FOSL 6 original endowments (2 for scholarships, equipment, visiting professors, research, and the wetlands course) surpassed \$600K reaching \$617,616 on 30 June 2000. The total for deferred gifts now exceeds \$2.5 million.

New Funds. In 1999, Jack Waldock, past-chair of our Northwest Ohio Advisory Committee and a current member of the Director's Advisory Council, created two new endowments for us in the Sandusky/Erie County Community Foundation. Jack's gifts of \$5,000 for each endowment were matched by the Foundation and the Great Lakes Protection Fund to give us two \$10,000 endowments (\$20,000 total). Income from the first endowment, "**The Legislators Lake Erie Environmental Education Fund,**" will be used to help with educational efforts for elected officials and decision-makers, e.g. Ohio Sea Grant's State Legislature/Congressional Days on Lake Erie. Income from the second endowment, "**The Stone Laboratory Educational and Research Fund,**" will be used to enhance our educational and research programs at the Laboratory—specifically those that benefit Erie County students.

Jay Cooke's Castle on Gibraltar Island is a National Historic Landmark. We are in the process of renovating the building to serve as an education/conference center to enhance our outreach program. The **Cooke Castle Renovation Fund** was established in 1999 to support this effort.

Capital Improvements and Equipment

\$500,000	Ohio State University renovation of Cooke Castle—1998
500,000	State Legislature renovation of Cooke Castle—1999
585,000	Renovation of space for main office in Columbus—1999
50,000	Equipment funds from Office of Research, Ohio State University—1999
<u>30,000</u>	New telephone system for Stone Laboratory (T1 line)—2000
\$1,665,000	Total

Scholarships at Stone Laboratory

\$14,860	49 scholarships in 1999
<u>14,389</u>	57 scholarships in 2000
\$29,249	1999-2000 Total

These figures do not include contributions to the FOSL general operating account, the Director's Discretionary Fund, or any of the 3 earnings account used by the program for publications, Stone Laboratory workshops, and CLEAR/Sea Grant.

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E D U C A T I O N

APPENDIX B Institutions Involved



APPENDIX B

TABLE B-1

INSTITUTIONS INVOLVED—1999-2000

Institutions are involved with the Ohio Sea Grant College Program in many different ways including:

1. Receiving funding from the program
2. Participating in our Great Lakes Aquatic Ecosystem Research Consortium
3. Conducting research at Ohio Sea Grant's Lake Erie Laboratory, Stone Laboratory
4. Teaching at Stone Laboratory
5. Sending students to Stone Laboratory for courses (Tables B-2 and B-3)

Institutions Receiving Funding from Ohio Sea Grant

Bowling Green State University
Case Western Research University
Cleveland State University
Kent State University
Miami University
Ohio State University
Ohio Division of Geological Survey
Penn State University
University of Akron
University of Toronto
University of Windsor
Wright State University

Participants in the Great Lakes Aquatic Ecosystem Research Consortium

Bowling Green State University
Case Western Reserve University
Cleveland State University
Heidelberg College
John Carroll University
Kent State University
Miami University
Mount Union College
Ohio State University
Ohio University
University of Toledo
Wright State University

Teaching at Stone Laboratory

American Museum of Natural History, NY
Heidelberg College
Kent State University
Miami University
Mount Union College
Ohio Geological Survey
Ohio State University
Otterbein College
Penn State University
SUNY at Buffalo
University of Michigan
US Geological Survey
Utica College of Syracuse University
Wittenberg University

Conducting Research at our Lake Erie Laboratory, Stone Laboratory

Bowling Green State University
Ecosphere
GLERL, NOAA
Heidelberg College
Kent State University
Miami University
ODNR, Division of Geological Survey
ODNR, Division of Wildlife
Ohio EPA
Ohio State University
Penn State University
SUNY at Buffalo
Utica College of Syracuse University
Wright State University

TABLE B-2: Home Institutions of College-Level Students 1986-2000

YEAR	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00
Percentage of Non-OSU students	23.3	29.2	19.7	7.9	19.6	22.5	33.1	19.2	28.7	20.5	12.7	14.3	19.3	16.7	27.0
INSTATE															
Ashland Univ					1				2	1	1			1	1
Baldwin-Wallace College		2			1		1		1		1	1			
Bluffton College					1		1								
*Bowling Green State Univ		2	1		2	1	2	3	2	2	4	1	3	6	4
Capital Univ							1								
Case Western Reserve Univ				1			1		1						
Cedarville College							1								
*Cincinnati State Tech&Comm Coll							1								
*Cleveland State Univ		2	1	1			2	2	2	1		1	1	2	1
College of Mount St. Joseph															
College of Wooster	1			1										1	
Columbus Coll Art & Design							1								
*Columbus State Comm Coll							1								2
*Cuyahoga Community Coll				1	2	3	1	1	3		1				
Defiance College							1								
Hesselberg College		2					1								1
*Hocking Tech College	1								1						
John Carroll Univ		1				1	2	1	1	1				1	
*Kent State Univ		2		2	3	3		1	1	1		1	4	1	2
Lake Erie College								1							
*Lakeland Community College								1							
*Miami University	3	2	7	1	4	7	6	6	3	10	3	2		1	4
Mt. Vernon Nazarene College	1														
*North Central Tech College						1	1								
Oberlin College						1									
Ohio Northern Univ									1						2
*Ohio State University	33	51	49	58	74	77	89	122	107	101	*110	*114	113	125	89
Ohio University		1	1	1	1	1	4	2	2	3			1	1	2
Ohio Wesleyan Univ				1	1					1			1		
Otterbein College		1					1				1	1	1	1	
*Univ of Akron									1		1	1	1	1	
*Univ of Cincinnati	1		1				1	1	1	1		1		1	1
*Univ of Findlay							1						2		3
*Univ of Toledo		2				1	5		2	1				2	2
Urbana Univ							1								
Ursuline College								1							
Wilmington College									1					1	
Wittenberg Univ	1				1			1	1	1		1	1	2	1
*Wright State Univ						1			4	3	1	1	3	2	3
Xavier University															1
*Youngstown State Univ	2		1		1	2	2	2	1						

* includes 1 workshop participant
 * state-assisted institution of Ohio

TABLE B-2: Home Institutions of College-Level Students 1986-2000

Continued

YEAR	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00
OUT OF STATE															
Allegheny College, PA											1	1			1
Ambassador College		1													
Amherst Coll., MA									1						
Asbury Coll., KY												1			
Ball State Univ., IN				1											
Beloit College, WI													1		
Berry College, GA									1						
Cardinal Stritch Univ., WI														1	
Carnegie Mellon, PA									1						
Culver Academics, IN															
Cumberland College, KY									2						
Illinois College		1													
Indiana Univ., IN							1	2	1						
Jacksonville Univ., FL		1							1						
Loyola Univ of Chicago, IL															
Marshall University, WV													1		
Mary Washington College, VA														1	
Morhead State Univ., KY													1		
Rollins College, FL								1							
San Francisco State Univ., CA															1
Southern Ill Univ., IL					1										
State Univ of New York, NY									1						
St. Bonaventure Univ., NY						1									
St. Lawrence Univ., NY								1							
St. Mary's College, IN															
U. S. Coast Guard Academy, CT										1					
Univ of Florida		1													
Univ of Kentucky, KY									1						
Univ of Maine, ME															
Univ of Michigan, MI															
Univ of Minnesota- Duluth, MN										1					
Univ of Notre Dame, IN													1		
U of SC Coastal Carolina Coll., SC							1		2			1			1
Washington Univ., MO															
West Virginia Univ., WV															
Tot # of different out-of-state coll/yr	0	4	0	0	0	4	3	6	9	2	3	3	6	4	4
Tot # of different in-state coll/yr	8	11	7	6	14	12	22	14	21	11	9	16	13	14	15
TOTAL # ALL coll/yr	8	15	7	6	14	16	25	20	30	14	12	19	19	18	19
Cumulative # ALL Colleges	8	21	21	23	27	34	41	49	57	60	61	65	70	74	76

TABLE B-3: Home Institutions of Concurrent Enrollment (High School) Students 1990-2000

YEAR	90	91	92	93	94	95	96	97	98	99	00
•Ambridge Area HS, Baden PA	-	-	-	1	-	-	-	-	-	-	-
Anderson HS, Cincinnati	-	-	-	-	-	-	-	-	1	-	-
Anna HS, Anna	-	-	-	1	-	-	-	-	-	-	-
Anthony Wayne HS, Whitehouse	-	1	-	-	-	-	-	-	1	-	-
Arlington HS, Arlington	-	-	-	-	2	-	-	-	-	-	-
Ashland HS, Ashland	-	-	-	-	-	-	2	-	1	3	6
Avon HS, Avon	-	-	-	-	-	-	-	-	2	-	-
Avon Lake HS, Avon Lake	-	1	1	1	-	2	-	-	-	-	1
Badger HS, Kinsman	-	-	-	1	-	-	-	-	-	-	-
Barnesville HS, Barnesville	-	-	-	-	-	-	-	1	-	-	-
•Bartlett HS, Anchorage AK	-	-	-	-	1	-	-	-	-	-	-
Bath HS, Lima	-	-	1	-	-	-	-	-	-	-	-
Bay HS, Bay Village	-	1	-	-	-	-	-	-	-	-	-
Beaumont School High, Cleveland Hts	-	1	2	1	-	1	-	-	1	-	1
Beavercreek HS, Beavercreek	-	-	-	1	-	-	-	-	-	-	-
Beechcroft HS, Columbus	-	1	1	1	2	-	-	-	-	-	1
Bellefontaine HS, Bellefontaine	-	-	-	-	-	1	-	-	-	-	-
Bellevue HS, Bellevue	-	-	-	-	-	-	-	-	1	-	-
Benjamin Logan HS, Bellefontaine	-	-	-	-	-	1	-	-	-	-	-
Berea HS, Berea	-	1	-	-	-	-	-	-	-	1	1
Bethel HS, Tipp City	-	-	-	-	1	-	-	-	-	-	-
Bexley HS, Bexley	-	-	1	-	2	-	-	2	-	1	1
Big Walnut HS, Sunbury	-	-	-	1	1	-	1	1	2	2	-
Bishop Ready HS, Columbus	-	-	-	1	2	1	-	1	1	1	-
Bishop Rosecrans HS, Zanesville	1	-	-	1	1	-	-	-	-	-	-
Bishop Watterson HS, Columbus	-	-	-	-	-	-	-	-	1	-	1
Bloom-Carroll HS, Carroll	1	1	-	-	-	-	-	-	-	-	-
Brecksville-Broadview Heights HS, Broadview Hts	-	1	-	-	-	-	-	-	-	-	-
Briggs HS, Columbus	-	-	-	-	-	-	-	1	1	-	3
Brookhaven HS, Columbus	-	-	-	-	-	-	1	-	-	-	-
Brookside HS, Sheffield	1	-	-	-	-	-	-	2	-	-	-
Buckeye HS, Medina	-	-	-	2	1	-	-	-	-	-	-
Buckeye Valley HS, Delaware	-	-	-	-	-	-	2	-	-	2	1
Bucyrus HS, Bucyrus	-	1	-	-	-	-	-	-	-	2	-
Cahs 2000 High (Cols Acad HS2000), Cols	-	-	-	-	-	-	-	-	3	2	-
Celina HS, Celina	-	-	-	-	-	-	-	-	1	-	-
Centennial HS, Columbus	-	-	-	1	-	1	-	-	-	-	1
Centerville HS, Centerville	-	-	-	-	-	-	1	-	1	-	-
Central Catholic HS, Toledo	-	-	-	-	-	-	-	1	1	-	-
Chagrin Falls HS, Chagrin Falls	2	-	-	-	-	-	-	-	-	-	-
Chaminade-Julienne HS, Dayton	-	1	-	-	-	-	-	-	-	-	-
Chardon HS, Chardon	-	-	-	-	-	-	-	-	1	-	-
Cincinnati Hills Christian Aca, Cinc.	-	-	-	-	-	-	-	-	2	-	-
Circleville HS, Circleville	-	-	-	1	-	-	-	-	-	-	-
Clear Fork HS, Bellville	-	-	-	-	-	-	-	-	-	1	-
Cleveland Heights HS, Cleveland Hts	-	-	-	-	-	-	-	-	1	-	-
Col Crawford HS, North Robinson	-	-	-	-	1	-	-	-	-	-	-
Columbian HS, Tiffin	-	-	-	1	1	-	-	-	-	-	-
Columbiana HS, Columbiana	-	-	-	1	-	-	-	-	-	-	-
Columbus Academy, Gahanna	-	-	-	-	-	-	-	1	-	-	1
Columbus Alternative HS, Columbus	-	-	1	2	-	1	9	2	1	-	1
Columbus Grove HS, Columbus Grove	-	-	-	-	-	-	-	1	-	-	-
Columbus School for Girls, Columbus	-	1	-	-	-	-	1	-	-	-	-
Copley HS, Copley	-	-	-	1	-	-	-	-	-	-	-
Coshocton HS, Coshocton	-	-	-	-	-	-	-	-	-	1	-
Crestview HS, Columbiana	-	-	-	-	-	-	-	-	2	1	-
Crestwood HS, Mantua	-	-	1	-	1	1	-	-	-	-	-
Crooksville HS, Crooksville	-	-	-	-	-	1	1	-	-	-	-
Defiance HS, Defiance	-	-	-	-	-	-	-	1	-	-	-
Dublin Coffman HS, Dublin	-	-	1	-	1	-	-	-	-	-	1

TABLE B-3: Home Institutions of Concurrent Enrollment (High School) Students 1990-2000

<u>YEAR</u>	<u>90</u>	<u>91</u>	<u>92</u>	<u>93</u>	<u>94</u>	<u>95</u>	<u>96</u>	<u>97</u>	<u>98</u>	<u>99</u>	<u>00</u>
Dublin Scioto HS, Dublin	-	-	-	-	-	-	-	-	-	-	1
East HS, Columbus	-	-	-	-	3	1	3	1	1	-	-
East Liverpool HS, East Liverpool	-	1	-	-	-	-	-	-	-	-	-
East Technical HS, Cleveland	-	-	-	-	-	-	-	-	-	1	1
Eastmoor HS, Columbus	-	-	-	-	-	-	-	-	2	-	2
Eaton HS, Eaton	-	-	-	1	-	-	-	-	-	-	-
Elgin HS, Marion	-	-	-	-	1	-	-	-	-	-	1
Elida HS, Elida	-	1	-	-	-	-	-	-	-	-	-
Elyria HS, Elyria	-	-	-	1	1	1	4	1	2	1	2
Elyria Catholic HS, Elyria	-	-	-	-	-	-	-	-	-	-	1
Elyria West HS, Elyria	-	1	-	-	-	-	-	-	-	-	-
Euclid HS, Euclid	-	-	1	-	-	-	1	-	-	1	-
Fairbanks HS, Milford Center	-	-	-	-	1	-	-	-	-	-	-
Fairfield Union HS, Lancaster	-	-	1	-	-	-	-	-	-	-	-
Fairland HS, Proctorville	-	-	-	-	-	1	1	-	-	-	-
Fairview HS, Fairview Park	-	1	-	2	-	1	-	2	1	-	-
Fayetteville HS, Fayetteville	-	-	-	-	-	-	-	-	-	-	1
Federal Hocking HS, Stewart	-	-	1	-	1	-	-	-	1	-	-
Findlay HS, Findlay	-	-	-	-	-	-	-	1	-	-	-
Finneytown HS, Cincinnati	-	-	-	-	-	-	-	-	-	-	1
Firelands HS, Oberlin	-	2	1	-	-	1	-	-	-	-	-
Firestone HS, Akron	-	-	1	-	-	-	-	-	1	-	1
Fitch HS, Youngstown	-	1	1	-	-	-	-	-	-	-	-
Fort Hayes Metro Educ Center HS, Cols	-	1	2	5	2	1	1	5	1	-	1
Fort Jennings HS, Fort Jennings	-	-	-	-	-	-	1	-	-	-	-
Franklin Heights HS, Columbus	-	-	-	1	1	-	-	-	-	2	-
Fremont Ross HS, Fremont	-	1	-	-	-	1	-	-	-	-	-
Galion HS, Galion	-	-	-	-	-	1	-	1	-	-	-
Gallia Academy HS, Gallipolis	-	-	-	-	-	-	1	-	-	-	-
Geneva Area HS, Geneva	1	3	-	-	-	-	-	-	1	2	2
Genoa Area HS, Genoa	-	-	2	1	-	-	-	-	-	-	-
Georgetown HS,	-	-	1	-	-	-	-	-	-	-	-
Gibsonburg HS, Gibsonburg	-	-	-	-	-	-	-	-	1	-	-
Gilmour Academy HS, Gates Mills	-	-	1	-	-	-	-	-	-	-	-
GlenOak HS, Canton	-	-	1	1	-	-	-	-	-	-	-
Grandview Heights HS, Columbus	-	-	-	2	2	-	1	3	2	1	2
Granville HS, Granville	-	-	-	-	-	-	1	1	1	2	1
Green HS, Greensburg	-	7	4	-	-	-	-	-	-	-	-
Greenhills HS, Cincinnati	-	1	-	-	-	-	-	-	-	-	-
Greenville HS, Greenville	-	1	-	-	-	-	-	-	-	-	-
Grove City HS, Grove City	-	-	-	-	-	-	1	1	-	-	-
Hamilton HS, Hamilton	-	-	-	-	-	-	-	-	-	1	-
Hawken HS, Gates Mills	-	1	-	-	-	-	1	-	-	-	-
Highland HS, Medina	-	-	-	-	-	-	-	-	-	1	-
Hilliard Darby HS, Hilliard	-	-	-	-	-	-	-	-	-	1	4
Hilliard Davidson HS beg '97 (Hilliard HS prior)	-	-	-	-	-	1	-	-	-	1	2
Hillsboro HS, Hillsboro	-	1	-	-	-	-	-	-	-	-	-
Holy Name HS, Parma Heights	-	-	-	-	-	-	-	1	-	-	-
Hudson HS, Hudson	-	-	-	-	-	-	1	-	-	-	-
Hughes Center HS, Cincinnati	-	-	-	-	-	-	-	1	-	-	-
Huron HS, Huron	-	-	1	1	-	2	-	-	-	-	-
Indian Hill HS, Cincinnati	1	-	2	-	-	-	-	-	-	-	-
Indian Valley HS, Gnadenhutten	-	1	-	-	-	-	-	-	-	-	-
Ironton HS, Ironton	-	-	1	-	-	-	-	-	-	-	-
J A Garfield HS, Garrettsville	-	-	1	-	-	-	-	-	-	-	-
James Ford Rhodes HS, Cleveland	-	-	-	-	-	-	-	-	1	-	-
Jewett-Scio Jr-Sr HS, Scio	-	-	-	-	-	-	-	-	1	-	-
John Glenn HS, New Concord	-	-	-	-	-	-	-	1	-	-	-
John Marshall HS, Cleveland	-	-	-	-	-	-	-	2	-	2	1
Kenton HS, Kenton	-	1	-	1	-	-	-	-	-	-	-
Kettering Fairmont HS, Kettering	-	-	-	-	1	-	-	-	-	-	-
•Lake Braddock Secondary Sch, Burke VA	-	-	-	-	-	-	1	-	-	-	-

TABLE B-3: Home Institutions of Concurrent Enrollment (High School) Students 1990-2000

<u>YEAR</u>	<u>90</u>	<u>91</u>	<u>92</u>	<u>93</u>	<u>94</u>	<u>95</u>	<u>96</u>	<u>97</u>	<u>98</u>	<u>99</u>	<u>00</u>
Ursuline Academy High, Cincinnati	-	-	-	-	-	-	-	-	1	-	1
Valley Forge HS, Parma Heights	-	-	1	1	2	-	-	-	-	-	-
Valley View HS, Germantown	-	-	-	-	-	-	-	-	-	-	1
•Vanguard HS, Ocala FL	-	-	-	-	-	-	-	-	-	1	-
Vermilion HS, Vermilion	-	1	-	-	-	-	-	-	-	-	-
Walnut Ridge HS, Columbus	-	-	-	-	1	-	-	1	-	1	-
Wapakoneta HS, Wapakoneta	-	-	-	-	1	-	-	-	-	-	-
Watkins Memorial HS, Pataskala	-	-	-	-	-	-	-	1	1	-	-
Wauseon HS, Wauseon	-	-	1	-	-	-	-	-	-	-	-
Waverly HS, Waverly	-	-	1	-	-	-	-	-	-	-	-
Wellington HS, Columbus	-	1	-	-	-	-	-	-	-	-	-
West Branch HS, Beloit	-	-	-	1	-	-	-	-	1	-	-
West Carrollton HS, West Carrollton	-	-	-	-	-	-	-	-	1	-	-
West Geauga HS, Chesterland	-	-	-	-	-	1	1	-	-	1	-
West HS, Columbus	-	-	2	-	7	-	1	-	-	2	-
West Holmes HS, Millersburg	-	2	-	-	-	-	-	-	-	-	-
West Liberty-Salem Jr/Sr HS, West Liberty	-	-	-	-	-	-	-	1	-	-	-
Westerville-North HS, Westerville	1	1	1	1	2	2	-	-	-	-	1
Westerville-South HS, Westerville	-	-	-	-	1	1	-	2	-	-	2
Westlake HS, Westlake	-	-	-	2	-	-	-	1	-	1	-
Westland HS, Galloway	-	1	-	-	-	-	-	-	-	-	-
Whetstone HS, Columbus	-	-	-	1	-	-	1	6	3	1	1
Wm Fisher Catholic HS, Lancaster	-	-	2	-	-	-	-	-	-	-	-
Wm Henry Harrison HS, Harrison	1	1	1	1	1	1	-	-	-	2	-
Wm Mason HS, Mason	-	-	-	-	-	-	-	1	-	-	-
Winton Woods HS, Cincinnati	-	-	-	-	-	1	-	-	-	-	-
Woodmore HS, Elmore	-	-	-	-	-	-	-	-	-	-	1
Wooster HS, Wooster	-	1	-	-	-	-	-	-	-	-	-
Worthington Kilbourne HS, Columbus	-	-	1	1	-	-	-	-	1	-	-
	==	==	==	==	==	==	==	==	==	==	==
TOTAL # of High Schools/year	19	48	57	60	50	44	42	53	60	52	60
Cumulative # of High Schools	19	62	102	141	163	179	198	225	251	265	280
Cumulative # of Out-of-State Schools			1	2	4		6			7	7

• = Out-of-State

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E D U C A T I O N

APPENDIX C Projects Supported



APPENDIX C

TABLE C-1

**OHIO SEA GRANT COLLEGE PROGRAM
RESEARCH PROJECTS 2000 – 2002
(Beginning 1 March 2000 unless otherwise noted)
(Random Order)**

1. **R/NIS-3. Benthic-Pelagic Coupling: Community Responses to Round Goby Predation on Zebra Mussels** (to be completed with Development Fund dollars from the current award, i.e. 99-00)

- Jeffrey Miner, Bowling Green State University

Year 3: \$ = 22,900; M = 33,862

2. **R/LR-4. Genetic Characterization of Walleye Stocks Based on Mitochondrial and Nuclear DNA**

- Carol Stepien, Case Western Reserve University

Year 3: \$ = 45,628; M = 23,553

3. **R/OE-15. Development of a Robust Underwater Welding Process Using the “Smart Shroud” System for Permanent Offshore Structure Repairs**

- Chon L. Tsai, The Ohio State University

Year 1: \$ = 49,995; M = 28,460

Year 2: \$ = 49,998; M = 28,784

4. **R/LR-5. Genetic Structure of Smallmouth Bass Populations from Nuclear and Mitochondrial DNA Sequences** (to begin 1 March 2001)

- Carol A. Stepien, Case Western Reserve University

Year 1: \$ = 48,409; M = 24,472

Year 2: \$ = 49,245; M = 25,452

Year 3: \$ = 49,349; M = 26,469

5. R/NIS-7. Effects of Round Goby on Yellow Perch-Amphipod Interactions Within Zebra Mussel Colonies and Macrophyte Beds

- Maria J. Gonzalez, Wright State University

Year 1: \$ = 43,391; M = 22,132

Year 2: \$ = 47,579; M = 27,220

Year 3: \$ = 25,873; M = 16,666

6. R/BT-6. Heavy Metal Bioremediation Using Genetically Altered Biomass

- Richard Sayre, The Ohio State University

Year 1: \$ = 49,427; M = 38,851

Year 2: \$ = 48,958; M = 39,927

Year 3: \$ = 50,058; M = 41,013

7. R/PS-25. Advancing Tissue Residue-Based Risk Assessment: Field and Laboratory Tests of the Critical Body Residue Hypothesis

- Susan W. Fisher, The Ohio State University

Year 1: \$ = 47,821; M = 42,425

Year 2: \$ = 49,154; M = 33,974

8. R/ME-24. A Comparison of Recreation and Amenity Values in the Lake Erie Basin (to begin 1 March 2001 unless additional funding is received earlier)

- Brent Sohngen, The Ohio State University

Year 1: \$ = 39,694; M = 22,728

Year 2: \$ = 43,299; M = 24,559

9. R/ER-55. Modeling Smallmouth Bass Consumption of Round Goby in Lake Erie: Implications for Predator Growth and Contaminant Transfer

- Roy A. Stein, The Ohio State University

Year 1: \$ = 47,918; M = 28,485

Year 2: \$ = 47,976; M = 28,791

Year 3: \$ = 48,446; M = 27,677

10. R/CE-5. Monitoring Lake Level Changes Using Satellite Altimetry and GPS-Buoys

- C.K. Shum, The Ohio State University

Year 1: \$ = 49,987; M = 24,993

Year 2: \$ = 51,985; M = 25,993

Year 3: \$ = 54,064; M = 27,033

11. R/PS-26. Sonochemical Desorption of Mercury Laden Sediments

- Linda K. Weavers, The Ohio State University

Year 1: \$ = 49,745; M = 25,374

Year 2: \$ = 49,087; M = 25,078

Year 3: \$ = 49,539; M = 26,082

12. R/ME-25. Understanding the Links Between Policy and Patterns of Land Use Change in Urbanizing Watersheds: A Spatial Economic Model of Land Use Conversion

- Elena Irwin, The Ohio State University

Year 1: \$ = 35,446; M = 18,108

Year 2: \$ = 28,758; M = 14,959

13. R/CE-6. A Computational Fluid Dynamics Model for Wave Transformation and Breaking in the Surf Zone

- Thomas Lippmann, The Ohio State University

18 months: \$ = 99,747; M = 56,368

APPENDIX C

Table C-2

Development Fund Projects: 3/1/99 to 11/1/00

Project Number	Project Title	Initiation Date	Principal Investigator
R/PS-24-PD	Investigating Individual PCB Congener Concentrations in Turtle Blood Samples: A Non-Lethal Measure for Monitoring Environmental Contamination	4/1/1999	Susan Fisher
R/MRC-4-PD	Ohio Sea Grant Program: Cleveland Stadium Artificial Reef Assessment	5/1/1999	David Kelch
A/AS-9-PD	Lake Erie Geographic Information System Products	5/1/1999	Paul Berkman
R/ER-53-PD	Vertical transport of oxygen, nutrient, and algae in Lake Erie	6/1/1999	David Culver
E/CD-3-PD	Development of Stone Lab Master's Degree for Teachers	7/1/1999	Rosanne Fortner
R/ER-52-PD	The NWRI Lake Erie Central Basin Mooring: A Unique Opportunity to Study Phytoplankton Fe Nutrition	7/1/1999	Michael McKay
R/ME-23-PD	Ohio Lake Erie Heritage Tour	7/15/1999	Virginia Benson
R/ER-54-PD	<i>Phragmites australis</i> : Response to Wave Exposure Gradients, Substrate Characteristics, and Its Effect on the Diversity of Shoreline Vegetation in a Lake Erie Coastal Marsh	8/1/1999	Craig Davis
A/AS-10-PD	Student Enrichment Opportunity and Technology Dissemination Workshop on Underwater Welding at The Ohio State University's Franz Theodore Stone Laboratory.	8/1/1999	Chon Tsai
R/BT-5-PD	Identification of Small Molecular Weight Factors that Bind Heavy Metals in Algae	9/10/1999	Richard Sayre
M/P-8-PD	Ohio Sea Grant Communications: Recognition & Publications	10/1/1999	Karen Ricker
R/CE-7-PD	Modern Vertical Datums and Lake Level	11/3/1999	Chris Jekeli
R/GIS-2-PD	Spatial Modeling of the Mentor Marsh and Its Watershed: Equipment Grant	3/1/2000	Craig Davis
R/ER-56-PD	Effects of Salt Contamination and Exotic Species Invasions on a Large, Freshwater Marsh in the Lake Erie Basin	3/1/2000	Lisa Park
E/OCF-1-PD	Ohio Sea Grant Summer Student Internship	5/1/2000	Timothy Lloyd
R/A-15-PD	Methods of intraspecies embryonic cell transfer in fish	5/1/2000	Konrad Dabrowski
E/OCF-1-PD	Ohio Sea Grant Summer Student Internship	5/1/2000	Frank Lichtkoppler
R/ER-59-PD	Preliminary tests of seiches on plant litter decomposition and macroinvertebrates in Great Lake coastal wetlands	5/24/2000	Ferenc Szalay

APPENDIX C

Table C-3

Ohio Sea Grant's Regional Development Fund Projects 1 March 1998 to 1 November 2000

Project Number	Project Title	Initiation Date	Principal Investigator
R/ER-48-PD	Population Dynamics of Coral Reef Fish: Consequences of the Pelagic to Demersal Phase Transition on Juvenile Recruitment Success	4/1/1998	Elizabeth Marshall
R/ER-49-PD	Identifying Factors that Constrain Phytoplankton Growth and Standing Crop in the Laurentian Great Lakes: Trace Metals Revisited	6/1/1998	Michael McKay
R/NIS-6-PD	Genetic Variability and Relationships of Dreissenid Mussels in North American and Eurasian Populations, Based on Nuclear DNA Markers	3/1/1999	Carol Stepien
R/NIS-110-PD	Vocalizations of Round Gobies (<i>Neogobius melanostomus</i>) and Mottled Sculpins	4/1/1999	Jerry Downhower
R/CE-4-PD	Mapping of the Lorain and Lakewood Artificial Reefs in the Central Basin of Lake Erie	6/1/1999	Scudder Mackey
R/CE-3-PD	Mapping of the Stadium Artificial Reefs in the Central Basin of Lake Erie	6/1/1999	Scudder Mackey
R/ZM-30-PD	Metabolic Costs of Spawning in Zebra and Quagga Mussels	6/1/1999	Ann Stoeckmann
R/ER-57-PD	Radiocarbon Age Constraints on Lake Erie Record of Climate and Lake Level Change	2/1/2000	Beverly Saylor
R/ER-58-PD	Cyanotoxins in the Great Lakes: Is Microcystis toxin production linked to iron deficiency?	9/1/2000	Michael McKay

R/PS-27-PD

6/1/2000

Robert Rindlay

Digestive physiology as it relates to food preference as a mechanism explaining differential bioaccumulation of lipophilic pollutants among benthic invertebrates

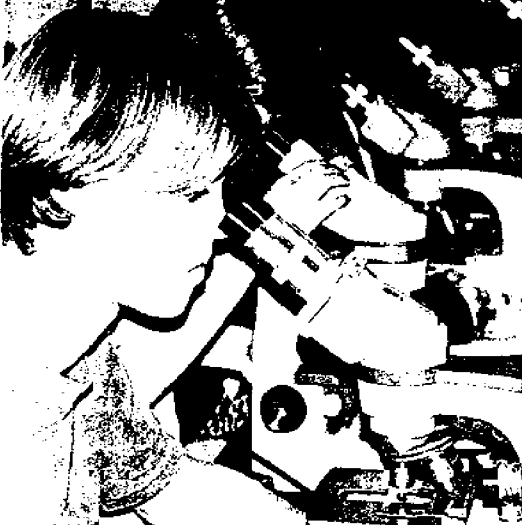
R/EM-21-PD

8/1/2000

Gerald Matisoff

A Model for Internal Chemical Loading in Lake Erie

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E D U C A T I O N

APPENDIX D
Publications,
Media Coverage,
and Web Site



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, resource users, all levels of government, associations, industries, Sea Grant, and the general public. Publication policies are established by the Director, Communications Coordinator, and the Extension Program Coordinators

Before adding items to a series (described below), each one is analyzed as to the audience, the message, 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.

- **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 Sea Grant Depository.

The following table lists the number of publications in each series produced by Ohio Sea Grant from January 1999 through October 2000. A complete list of all titles is also provided.

Publications Produced by Ohio Sea Grant: January 1999 – October 2000

The following table lists the number of publications in each series produced by Ohio Sea Grant for January 1999 – October 2000. A complete list of all titles is provided after the table.

Table 1. Publications Produced by Ohio Sea Grant¹

	B	EP	FS(new)	FS(revised)	GS	N	PR	RS	TB	TS	TD	Total per Year
1999	6	2	3	1	1	6	4	12	5	3	6	49
2000 (Jan.-Oct. only)	3	-	17	-	-	5	2	12	10	1	2	52
Total:	9	2	20	1	1	11	6	24	15	4	8	101

¹ Key: B=Brochures; EP=Education Publications; FS=Fact Sheets; GS=Guide Series; N=Newsletter; PR=Public Relation Materials; RS=Reprint Series; TB=Technical Bulletins; TS=Technical Series; TD=Theses/Dissertations.

Publications List (titles are listed in order by number)

Brochures

- B-051 Stone Laboratory Summer 1999 Course Brochure packet
- B-051a Stone Laboratory Summer 2000 Course Brochure packet
- B-052 Sea Grant Great Lakes Directory.
- B-053 National Sea Grant Brochure “Science Serving the 21st Century”
- B-054 Aquatic Science Workshops and Field Trips at Stone Laboratory
- B-055 Lake Erie Programs brochure. (revised with new text and format).
- B-056 Ohio Sea Grant Publications brochure (revised with new text and format)
- B-057 Ohio Sea Grant College Program Education and Research Projects Initiated between 1994 – 1999.
- B-058 The Ottawa River, Toledo, Ohio: How Important is it to our Community?

Education Publications

- EP-088 LAKERS Observe Coastweeks.
- EP-089a/089b Great Lakes for Kids: Ages 3 and up; and Ages 8 and up

Fact Sheets (new)

- FS-077 Education in Ohio Sea Grant.
- FS-078 The Value of Lake Erie Beaches.
- FS-079 South Bass Island Lighthouse
- FS-082 The Economics of Lake Erie Beaches: 1998 Lake Erie Beach User Survey Results.
- FS-082a Camp Perry Beach: The Economics of Lake Erie Beaches
- FS-082b Conneaut Township Park: The Economics of Lake Erie Beaches
- FS-082c Crane Creek State Park: The Economics of Lake Erie Beaches
- FS-082d East Harbor State Park: The Economics of Lake Erie Beaches
- FS-082e Edgewater Beach: The Economics of Lake Erie Beaches
- FS-082f Euclid Beach: The Economics of Lake Erie Beaches
- FS-082g Fairport Harbor Beach: The Economics of Lake Erie Beaches

FS-082h Geneva State Park: The Economics of Lake Erie Beaches
FS-082i Headlands State Park (Mentor): The Economics of Lake Erie Beaches
FS-082j Huntington Beach: The Economics of Lake Erie Beaches
FS-082k Lakeshore Beach (Ashtabula): The Economics of Lake Erie Beaches
FS-082l Lakeview Park (Lorain): The Economics of Lake Erie Beaches
FS-082m Lakeview Park (Port Clinton): The Economics of Lake Erie Beaches
FS-082n Main Street Beach (Vermilion): The Economics of Lake Erie Beaches
FS-082o Walnut Beach: The Economics of Lake Erie Beaches
FS-083 Aquatic Nuisance Species Alert: *Cercopagis pengoi* - The Fishhook Waterflea
(Note: FS-080 and FS-081 are under development)

Fact Sheets (revised)

FS-005 Is it a White Bass or a White Perch?

Guide Series

GS-019 Western Lake Erie waterfront guide to public waterfront access, charter fishing, marinas, and boating excursions. (revised in 1998 and 1999)

Newsletter

Twine Line, the educational newsletter of Ohio Sea Grant, covering issues, events, and research related to Lake Erie and the Great Lakes. Published bi-monthly: Jan/Feb; Mar/Apr; May/June; July/Aug; Sept/Oct; and Nov/Dec. (Note: For the time period reported here, 11 issues were produced).

Public Relations

PR-003 Lake Erie Programs at The Ohio State University: Media Coverage 1998.
PR-004 NewsWaves: A Sea Grant Extension Newsletter for Economic Development and Environmental Enhancement. (Spring 1999 and Spring 2000)
PR-005 Pen and Ink Prints: Scenes at Stone Laboratory.
PR-006a Lake Erie Programs at The Ohio State University: Media Coverage January - June 1999.
PR-006b Media Coverage 1999: Ohio Sea Grant College Program at The Ohio State University including F.T. Stone Laboratory, GLAERC, and CLEAR.

Reprint Series

RS-232 Population Genetic Structure, Phylogeography and Spawning Philopatry in Walleye (*Stizostedion vitreum*) from Mitochondrial DNA Control Region Sequences.
RS-233 Body Pool and Synthesis of Ascorbic Acid in Adult Sea Lamprey (*Petromyzonmarinus*): An Agnathan Fish with Gulonolactone Oxidase Activity.
RS-234 Tandemly Repeated Sequences in the Mitochondrial DNA Control Region and Phylogeography of the Pike-Perches *Stizostedion*
RS-235 Artificial Reefs in Lake Erie: Biological Impacts of Habitat Alteration.
RS-236 The Economic Value of the Lorain County, Ohio, Artificial Reef.
RS-237 Genetic structure of *Quadrula*: Little variation across large distances.
RS-238 Effects of recent ecosystem changes on the recruitment of young-of-the-year fish

In western Lake Erie.

- RS-239 Diagnostic Genetic Markers and Evolutionary Relationships among Invasive Dreissenoid and Corbiculoid Bivalves in North America: Phylogenetic Signal from Mitochondrial 16S rDNA.
- RS-240 Lethal and Sublethal Body Residues for PCB Intoxication in the Oligochaete, *Lumbriculus variegatus*.
- RS-241 Lethal Body Residues for Pentachlorophenol in Zebra Mussels (*Dreissena polymorpha*) under Varying Conditions of Temperature and pH.
- RS-242 Environmental Awareness and Attitudes of Ashtabula County Voters Concerning the Ashtabula River Area of Concern: 1996-1997.
- RS-243 Abundance of Planktonic Virus-Like Particles in Lake Erie Subsurface Waters.
- RS-244 Absorption of Hydrophobic Contaminants from Ingested *Chlamydomonas reinhardtii* and *Chlorella vulgaris* by Zebra Mussels, *Dreissena polymorpha*.
- RS-245 Phenotypic Effects of Leptin in an Ectotherm: A New Tool to Study the Evolution of Life Histories and Endothermy?
- RS-246 Evidence for Leptin in Fishes.
- RS-247 Modeling the Effects of Nutrient Concentrations on Ecosystem Stability: Framework for a Great Lakes model.
- RS-248 Potential of High Resolution Satellite Imagery for National Mapping Products.
- RS-249 Habitat Shift in Invading Species: Zebra and Quagga Mussel Population Characteristics on Shallow Soft Substrates.
- RS-250 In Vitro Effect of Gossypol Acetate on Yellow Perch (*Perca flavescens*) Spermatozoa.
- RS-251 Accuracy Evaluation of Ground Points from IKONOS High-Resolution Satellite Imagery.
- RS-252 The Effect of Vitamins C and E in (n-3) Highly Unsaturated Fatty Acids-Enriched *Artemia nauplii* on Growth, Survival, and Stress Resistance of Fresh Water Walleye.
- RS-253 Fertilization in Landlocked Sea Lamprey: Storage of Gametes, Optimal Sperm, Egg Ratio, and Methods of Assessing Fertilization Success.
- RS-254 Effects of Gossypol on Sperm Viability and Plasma Sex Steroid Hormones in Male Sea Lamprey, *Petromyzon marinus*.
- RS-255 The Aquatic Macrophyte Community at Put-in-Bay, Ohio.
- RS-256 Association of Organotin Compounds with Aquatic and Terrestrial Humic Substances

Technical Bulletins

- TB-036 A Cost Effective Trap to Remove Carp and Bullhead from Diked Wetlands.
- TB-037 Coastline Mapping and Change Detection using One-Meter Resolution Satellite Imagery.
- TB-038 F.T. Stone Laboratory 1998 Program Review.
- TB-039 The Value of Day Trips to Lake Erie Beaches.
- TB-040 Recreational Boating in Ohio: An Economic Impact Study.
- TB-041 Catalogue of the Vascular Plants in Old Woman Creek Estuary and Watershed.
- TB-042 Valuing the Ottawa River: The Economic Values and Impacts of Recreational Boating.
- TB-043 Development of a Microprocessor-based Joint Tracking and Operation Guidance System for Underwater Welding.

- TB-044 F.T. Stone Laboratory: 1999 Program Review.
- TB-045 Ohio Sea Grant College Program Strategic Plan 2000-05 & Implementation Plan 2000-02.
- TB-047 Ohio Sea Grant College Program Progress Report 1998-1999.
- TB-048 Catalogue of the Vertebrate Fauna of Old Woman Creek Estuary, Watershed, and Environs.
- TB-049 Catalogue of the Invertebrate Fauna of Old Woman Creek Estuary, Watershed, and Adjacent Waters of Lake Erie
- TB-050 Bibliography of Research Publications for Old Woman Creek Estuary, Watershed, and Adjacent Waters of Lake Erie
- TB-051 Catalogue of the Algal Flora of Old Woman Creek Estuary, Watershed, and Adjacent Waters of Lake Erie
- (Note: TB-046 is in production)

Technical Summaries

- TS-026 Assessment of the Relative Economic Impacts of the Sport and Commercial Fisheries on Ohio's Lake Erie.
- TS-027 Outdoor Recreation at Lake Erie.
- TS-028 Zebra Mussel Control Costs in Surface Water Using Facilities.
- TS-029 CD-ROM Guide to Lake Erie GIS: Bathymetry, Substrates, and Mussels.

Theses and Dissertations

- TD-073 The Influence of Nutrient Recycling on the Stability of Planktonic Ecosystems.
- TD-074 Developing Geographic Information System Applications in Analysis of Responses to Lake Erie Shoreline Changes.
- TD-075 Modeling Expansion of Exotic Mussels on Lake Erie Sediment using Geographic Information System (GIS).
- TD-076 Horizontal Accuracy Assessment of the New Generation of High Resolution Satellite Imagery for Mapping Purposes.
- TD-077 Evaluation and Analysis of Underwater "wet" Welding Processes.
- TD-078 The Effects of Zebra and Quagga Mussels (*Dreissena* spp.) on Survival, Growth, and Condition of Burrowing Mayflies (*Hexagenia* spp.) in Western Lake Erie.
- TD-079 Phylogeny of the Family Dreissenidae based on Molecular Markers.
- TD-080 The Impact of Zebra Mussels (*Dreissena polymorpha*) of Pelagic Food Webs.

PUBLICATION DISTRIBUTION

Ohio Sea Grant publications are distributed according to the guidelines provided by the National Sea Grant College Program. In addition, publications for a general audience are distributed to each of Ohio's 88 counties through Ohio State University Extension, and through selected businesses, organizations, and events such as the Lake Erie Marine Trades Association, Lake Erie Nature and Science Center Education, and the Ohio Sea Grant & Stone Laboratory Winter Lecture and Open House programs. Materials are also distributed through the Eisenhower National Clearinghouse; the Educational Resource Instruction Center (ERIC) Clearinghouse for Science, Mathematics, and Environmental Education; 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), Com-Net (the Communicators Network within the Great Lakes Region), the Sea Grant Communicators Network, and our own e-mail distribution list that contains addresses for hundreds of individuals: scientists, researchers, educators, and agency personnel.

Table 2 below shows the publication distribution for January 1998 – June 2000. Table 3 shows the different groups that requested materials for 2000.

Table 2. Materials Distributed:	1998	1999	Jan.-June 2000
Fact Sheets ¹	49,979	21,511	55,322
Technical Publications ²	1,358	597	111
Education Publications	1,513	3,752 ³	6,743 ⁴
Guides	325	540	226
Brochures		3,000	4,303
Stone Laboratory Materials:			
Fliers	20,450	20,000	20,919
Course Brochure	2,108	2,345	3,037
Welcome Brochure	395	425	401
Posters	22,000	27,600	20,034
Total:	98,128	79,770	111,096

¹ In 1998, we were still distributing a major portion of aquatic nuisance species (ANS) fact sheets that were printed in previous years by Mercury Marine. In the mid-1990s, Ohio Sea Grant was the primary supplier of printed fact sheets on ANS and therefore, a major distribution center. By the end of 1998, we depleted much of the bulk quantities of our ANS fact sheets. Also, now every Great Lakes Sea Grant Program, most of the other Sea Grant programs, and other agencies have their own ANS materials. In 2000, the number of publications distributed in large quantities through other organizations, special events, and workshops increased (see Table 2).

² Includes journal reprints, technical bulletins, and technical summaries.

³ Five hundred education packets containing education publications and related fact sheets were distributed at the Science Education Council of Ohio Conference and to teachers attending workshops and fieldtrips at Stone Laboratory.

⁴ This figure includes approximately 3,000 copies of "Great Lakes for Kids" an activity hand-out that was distributed at the Lake Erie Nature and Science Center, and other events and workshops.

Table 3: Audiences Requesting Materials: January – June 2000

<u>Audiences</u>	<u>Number of Requests</u>
General public	103
Environmental organization/zoo/park/museum	30
K-12 student	26
K-12 Educator	22
University teacher	22
Government	17
Researcher	10
University student	5
Industry	5
<u>Stone Laboratory Materials</u>	
High school students	233
K-12 teachers	173
College students	213
College teachers	17
Others	48
<u>Special Events and/or Sponsoring Agency</u>	
American Association for the Advancement of Science Convention	
Ashtabula Soil and Water Conservation District	
Cleveland Boat and Sport Shows	
Dayton Power Squadron for Dayton Sport Show	
Environmental Education Council of Ohio Conference	
Exotic Species Day Camps for Great Lakes Sea Grant Network	
Illinois-Indiana Sea Grant	
Lake Erie Nature and Science Center	
Mentor Lagoons Ship Festival	
New York Sea Grant Teacher Workshop	
Ohio Outdoor Writers Conference	
Ohio Sea Grant & Stone Laboratory Winter Lecture	
Old Woman Creek National Estuarine Research Reserve Teacher Workshop	
River Heritage Festival (Ashtabula County)	
Vermilion Harbor Association	
Week of the Young Child Event at Ohio State University Child Care Center	

WEB SITE

Ohio Sea Grant Communications designs and oversees the program web site: www.sg.ohio-state.edu. The Communications Graphic Designer is the hands-on staff member that develops the design for all aspects of the web site: Ohio Sea Grant, Stone Laboratory, GLAERC, and CLEAR. The Communications Coordinator in conjunction with the Director and Extension Program Coordinators, creates the content for the web pages and oversees the site. In January 1999, the Ohio Sea Grant web site was honored as "Website of the Month" by the Great Lakes Information Network (GLIN).

The program web site is organized under the heading "Lake Erie Programs" which includes Ohio Sea Grant, Stone Laboratory, the Great Lakes Aquatic Ecosystem Research Consortium (GLAERC), and the Center for Lake Erie Area Research (CLEAR). Over the past few years, the web site has grown immensely and now contains over 1000 pages of information including fact sheets, *Twine Line* issues, research projects, education and curriculum information, plus Stone Lab course and workshop information, and course syllabi. Many of our fact sheets and newsletters are also available as PDF documents. PDF documents look exactly like the original and allow a person to read (or print) an on-line version that has the same format as the original material. Web users have the option of accessing and printing materials on-line instead of ordering them from our office.

A 13 topic subject directory cross-references all program areas to enable users to find materials by the following topics:

Aquaculture	Global Change/Environmental Studies
Aquatic Nuisance Species	Natural History
Aquatic Ecology/Fisheries	Pollution
Biotechnology	Tourism
Coastal/Ocean Engineering	Wetlands
Economic Development	Zebra Mussels
Fishing	

Web Site Statistics

Since 1999, Communications has been using WebTrends, a commercial program that performs web site analysis. Web Site use was tracked and analyzed for 1999 and the first six months of 2000. During this timeframe, there was a total of 258,165 "hits" to our entire site in 1999, and 274,368 "hits" for the first half of 2000. Staff members' usage is excluded from the statistics. Table 4 shows information related to the number of hits and visitors to the site during this period.

Table 4: Number of Hits and Visitors to the Ohio Sea Grant Website: 1999 and Jan. – June 2000

<u>Hits and Users</u>	<u>1999</u>	<u>Jan – June 2000</u>
Number of Successful Hits for Entire Site	258,165	274,368
Average Number of Hits Per Day	709	1,507
Number of Unique Users	19,051	13,791
Number of Users Who Visited Once	16,261	11,350
Number of Users Who Visited More Than Once	2,790	2,441

During this 18-month period, the most frequently visited pages within our site (besides our homepage to the main pages for each program area: Sea Grant, Stone Lab, GLAERC, CLEAR) included various fact sheets, information on zebra mussels and other aquatic nuisance species, the Stone Laboratory Summer 2000 course schedule, and other materials. Table 5 shows the most frequently requested pages and materials for January 1999 – June 2000.

Table 5: Most Frequently Requested Pages and Materials: January 1999 – June 2000

Fact Sheets

- FS-032 Fish Smoked at Home.
- FS-045 Zebra Mussels in North America: The Invasion and its Implications
- FS-046 Lake Erie Water Quality: Past, Present and Future
- FS-049 The Spiny Water Flea, *Bythotrephes cederstroemi*: Another Unwelcome Newcomer to the Great Lakes.
- FS-054 Boaters: Take Action against Zebra Mussels
- FS-065 Round Gobies invade North America.
- FS-058 Zebra Mussel Migration to Inland Lakes and Reservoirs: A Guide for Lake Managers.

Subject Directory

- Aquatic Nuisance Species subject directory
- Zebra Mussel subject directory

Other Pages

- Current Events
 - Job Opportunities
 - Publications page
 - Related Links
 - Stone Lab Summer 2000 courses
 - Twine Line January 1999: Map showing range of the zebra mussel
-

(continued)

During 1999 and the first six months of 2000, the site was visited most frequently by people in North America, Europe, Asia, and Australia. Table 6 shows the top 10 locations of visitors to the web site by country per year.

Table 6: Top 10 Locations of Website Visitors by Country: 1999 and January – June 2000

<u>1999</u>	<u>January – June 2000</u>
United States	United States
Canada	Canada
New Zealand	UK
UK	Australia
Australia	Japan
Germany	Singapore
Japan	Malaysia
France	France
Singapore	Italy
Italy	Germany

In the upcoming year, Communications plans to monitor the web site analysis and use the results to better market specific sections of the web site to the public and specialized audiences, such as researchers, and K-12 teachers.

TWINE LINE

Twine Line, a bimonthly eight-page newsletter geared towards the public, agencies, media, and elected officials, provides coverage about Lake Erie and Great Lakes issues and research. This year (2000) marks *Twine Line*'s 22nd year. Approximately 6,000 newsletters are distributed per issue through paid and free subscriptions, and at special events and conferences. For special events, such as boat and sport shows, additional copies are printed for distribution. Subscribers include the general public, elected officials, libraries, Sea Grant and Extension personnel, outdoor writers, teachers (K-12 and university), and reporters at newspapers, magazines, television and radio stations. Over the course of a year, approximately 65 percent of the articles are written by the Communications Coordinator and the Associate Editor. Other articles are written by other staff members including the Director, Extension staff, and Friends of Stone Lab members (35 percent).

Since the February 1993 issue, the Ohio Lake Erie Commission has funded Ohio Sea Grant Communications to include the four-page *North Coast Newsletter* in each issue of the eight-page *Twine Line*. The Ohio Lake Erie Commission represents the six state agencies with jurisdiction over Lake Erie. The audiences and purposes of both newsletters are similar, so this has been a beneficial relationship for all parties, especially the recipients.

In addition to the *North Coast Newsletter* insert, in November 1997 the Friends of Stone Lab newsletter (a volunteer group that supports Stone Laboratory) was incorporated into *Twine Line*. Since Stone Lab is part of Ohio Sea Grant's education program, and especially since the Lab is the shared research facility for Ohio Sea Grant researchers and other members of GLAERC, it makes sense to include information about Stone Laboratory within the pages of *Twine Line*. Two pages in each issue are devoted to this section.

Newsletter Improvements and Award

Beginning with the July/August 1998 issue, the "look" of *Twine Line* was updated by switching to 2-color publication printed on a plain white, dull-gloss paper. The change was initiated to enhance the clarity of photographs, graphics, and text that appears in each issue; and to allow the newsletter to stand out visually from other publications. These changes were incorporated without incurring a large increase in printing costs by switching to a more competitive printer. In addition, a new feature was added called "Research Review." This full-page feature focuses on current Ohio Sea Grant funded research projects, discusses the unique nature of the research, and, most importantly, fosters the communication of research results to the public.

On the basis of these improvements, *Twine Line* received the Blue Ribbon Award during the May 1999 Sea Grant Week in the "newsletter" category. Only one award is given per category.

Survey

In the spring and summer 2000, an evaluation survey was developed and sent to a sample of 500 newsletter recipients. The survey was conducted in order to evaluate our program and one our of main outreach tools, the *Twine Line* newsletter. A full survey report is included in the pages that follow, along with the newsletter issues from the past year.

OHIO SEA GRANT COLLEGE PROGRAM EVALUATION

Survey Results Summary

The Ohio Sea Grant College Program conducted a survey to evaluate our program and the *Twine Line* newsletter, one our of main outreach tools. The survey was developed in February-March 2000 and then field-tested and pilot-tested. Revisions were made based on the pre-tests and the final survey was mailed in July to a random sample of 500 people selected from our newsletter mailing list. After an initial group of surveys were returned, non-respondents were sent a follow-up post-card reminder. A second survey mailing and postcard reminder were also sent to people that never returned their surveys. A total of 157 usable surveys were returned; seven surveys were returned due to mailing address errors for an adjusted return rate of 32 percent.¹

The average age of respondents was 39, ranging from 17 to 92 years. Most (85%) were Ohio residents, and 52% were female. Fifty-two percent were employed full-time and 35% had graduate degrees. Because approximately one-third of the respondents identified themselves as "students" under the demographic information, we tested for respondent biases by comparing early, late, and student-only responses. Results showed that responses were not significantly different among the three groups.

"The [Ohio Sea Grant] program and the F.T. Stone Lab program are jewels in Ohio's crown."

"The Program has increased its visibility and effectiveness year by year. A program like this is necessary for Lake Erie's renewal and preservation."

One of the major findings from the survey was that most people's main contact with our programs (communications and extension, education, research, Stone Laboratory) within the *past year* was through our newsletter. In addition, when asked to indicate all the types of contact "you have ever had with the Ohio Sea Grant College Program" over one-third of the respondents had: taken a course at Stone Laboratory (71%), heard about Ohio Sea Grant through the media (49%), interacted with Columbus or Put-in-Bay staff members (47%), visited our web site (40%), interacted with an Ohio Sea Grant Extension person (37%), and participated in an Ohio Sea Grant sponsored conference or program (37%).²

The average response about the overall quality of interactions with Ohio Sea Grant staff members was between "good" and "excellent" (3.53 out of 4.00). In particular, respondents felt that staff members were able to provide technical assistance (3.77) and were knowledgeable about Lake Erie issues (3.74). Respondents felt that Ohio Sea Grant is effective in Lake Erie research (3.68), addressing issues such as aquatic nuisance species (3.60) and water quality (3.47), and effective with various educational programs and materials such as college courses at Stone Lab (3.87), teacher education workshops (3.75), and displays (3.25). Some items did score between "fair" and "good" including Ohio Sea Grant's effectiveness on charter fishing development (2.95), boating

¹ Since compiling the survey data, an additional 15 surveys have been returned. The information will be included in a revised final report.

² See question 3 responses for more details.

safety and sales (2.92), and brownfield redevelopment (2.69). However, many respondents were not familiar with these issues and indicated that they did not have enough contact/interaction to comment for many of the items listed in these questions (see questions 3 and 4).

“[Twine Line] covers Lake Erie issues. Who else does that?”

[It provides] regular, local Great Lakes information that is objective, understandable, and concise.”

On average, respondents have been receiving *Twine Line* for 3.6 years, ranging from less than one year to over 20 years. Each issue is read by 2.6 people, and most (75%) of respondents keep each issue for reference. Respondents were very positive about the writing (4.47 out of 5.00), overall content (4.46), combined newsletter format (4.20), and design (4.13). When asked to rank order each section of the newsletter from most to least favorite, the top two sections were the “Feature Stories” and “Research Review.” The “Research Review” is a new section that began about two years ago.

When asked what topics they would like to see covered in the newsletter, the average response for many items was greater than 4.0 (out of 5.0) including aquatic nuisance species (4.48), pollution (4.41), wetlands (4.39), natural history (4.31), and contaminants in fish (4.27) (see question 11). Topics that scored around 3.5 (moderate interest) included coastal engineering (3.56), economic development (3.45), swimming (3.45), waterfront development (3.43), and people profiles (3.38).

Less than half the respondents (41%) knew that *Twine Line* was available through the Ohio Sea Grant web site. Of these people, 23% read the newsletter on-line. When asked about how they wished to receive *Twine Line* in the future, 93% (146) respondents stated that their first preference would be as a hard copy through the mail vs. electronically.

As a result of reading *Twine Line*, respondents stated that they learned more about Lake Erie (83%), made better informed decisions on Lake Erie (43%), used the information in an educational setting (40%), and used the information in their work (40%)³. In addition, one respondent wrote that as a result of reading *Twine Line* “[my] parents donated preservation of wetlands on Middle Bass Island-East Point.”

The survey results document the status of the Ohio Sea Grant College Program among the respondents and the results will be used in planning future programs, determining newsletter articles, and improving service to our constituents.

³ Respondents were instructed to check all options that applied (see question 18).

MEDIA RELATIONS AND COVERAGE

Reporters frequently request information or contacts from Ohio Sea Grant. The Communications Coordinator has provided background information, interviews, and direction to other information sources. Reporters receive *Twine Line*, releases distributed by other University offices, and information from the Extension staff.

Communications staff distribute releases to the media through the Great Lakes Information Network (GLIN); The Ohio State University's Communications Office; the university's Section of Communications and Technology (which is part of the university Extension), and through a "key" contact list at all major media outlets in Ohio.

Twine Line is one of Ohio Sea Grant Communications' primary tools for disseminating information to the media. 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 a single one of their issues. Since implementing the "Research Review" column, reporters find it easier to locate current information about Ohio Sea Grant research projects. For example, an article entitled "A New Means for Heavy Metal Removal in the Great Lakes" was featured in an Associated Press article and then various articles about this research appeared in 24 different papers and on the Environmental News Network, an on-line electronic news service that is syndicated to major media nationally.

The tracking of articles that originally appeared in *Twine Line* and other articles about Ohio Sea Grant programs is done by staff reviewing newspapers and through use of Lexus-Nexus and other on-line search engines and databases. With the availability of on-line search engines, the Communications staff has found it more efficient to conduct searches in-house, instead of using 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* (both are nationally syndicated programs) and on local television newscasts. In 1997, we located 78 articles; in 1998 we found 151 articles; in 1999 we found 294 articles from 118 sources; and from January 1 – June 30, 2000 156 articles from 59 sources have been located. These articles are compiled annually into a media coverage report. The following pages list the articles and where they appeared for 1999 and 2000.

Ohio Sea Grant and Stone Laboratory in the media 1999

January

Winter 1999. "Ohio Sea Grant Publications " *NSG COMMUNICATOR*.
Winter 1999. "Learning on the lake." *NSG COMMUNICATOR*.
Winter 1999. "Communicating Science." *NSG COMMUNICATOR*.
Winter 1999. "Zebra mussels and PCBs." *NSG COMMUNICATOR*.
Winter 1999. "Artificial reef update." *NSG COMMUNICATOR*.
Winter 1999. "OH SG 11th Legislature Day on Lake Erie." *NSG COMMUNICATOR*.
January 1999. "Friends of Stone Lab endowment fund." *PUT-IN-BAY GAZETTE*.
January 14, 1999. "Jeffrey Reutter." *OSU ONCAMPUS*.
January 16, 1999. "Warmer weather no flooding." *FREMONT NEWS MESSENGER*.
January 17, 1999. "Zebra mussels thwart Chicago water plan." *BUFFALO NEWS*.
January 19, 1999. "Boaters lobby state." *NEWS HERALD*.
January/February 1999. "Stadium reefs marked." *OHIO SPORTSMAN*.
January/February 1999. "What's a beach worth?" *FISHWRAPPER*.

February

February 1999. "Water Levels forecast problems." *NSG TIP SHEET*.
February 1999. "SL first annual winter program." *NSG TIP SHEET*.
February 1999. "Zebra mussels colonize sand and mud." *GREAT LAKES BASIN REPORT*.
February 10, 1999. "Friends of Stone Lab." *UPPER ARLINGTON NEWS*.
February 11, 1999. "Winter program and reception." *OSU ONCAMPUS*.
February 16, 1999. "OSU's Stone Lab expands." *SANDUSKY REGISTER*.
February 19, 1999. "Lake level dips." *PORT CLINTON NEWS HERALD*.
February 20, 1999. "Shallower waterways predicted." *CLEVELAND PLAIN DEALER*.
February 20, 1999. "Lower water levels forecast." *NSG GRANT TIP SHEET*.
February 21, 1999. "GLs shallower than normal." *HERALD TIMES BLOOMINGTON IN.*
February 21, 1999. "Great Lakes boaters warned." *LAKE COUNTY NEWS HERALD*.
February 21, 1999. "Great Lakes to be shallower than normal." *ASSOCIATED PRESS*.
February 21, 1999. "OSU's Stone Lab." *COLUMBUS DISPATCH*.
February 23, 1999. "Plants get to root of problem." *COLUMBUS DISPATCH*.
February 25, 1999. "Floods threaten Lake Erie." *TOLEDO BLADE*.
February 25, 1999. "Stone Lab history program subject." *OSU ONCAMPUS*.
February 26, 1999. "Reef to draw fish, sportsmen." *DAILY SOUTHTOWN CHICAGO*.
February 26, 1999. "Event looks at Stone Lab history." *OSU NEWS SERVICE*.
February 28, 1999. "Signs abound that spring is here." *CHICAGO STAR*.
February 28, 1999. "Donated stone likely to attract fish." *CHICAGO STAR*.
February 28, 1999. "Steelhead seminar." *COLUMBUS DISPATCH*.

March

March 01, 1999. "Look out below." *NEWS MESSENGER*.
March 04, 1999. "Zebra mussels a threat to Inland Lakes." *OSU COMM AND TECH*.
March 04, 1999. "Erie's low water mark close to normal." *COLUMBUS DISPATCH*.
March 04, 1999. "Fish may be harmed by phosphorous." *DAILY KENT STATER*.
March 11, 1999. "Latta honored for efforts to restore." *BEACON*.
March 15, 1999. "Beach more than grain of sand." *PRESS*.
March 18, 1999. "Board studies water sales loopholes." *CLEVELAND PLAIN DEALER*.
March 19, 1999 "Talk of the nation" *NPR*.

March 21, 1999. "Legend of blue pike revived." *TOLEDO BLADE*.

March 22, 1999. "Zebra Mussels a threat to Inland Lakes." *FIRELANDS FARMER*.

March 29, 1999. "Weekly Report." *OFFICE OF OCEANIC & ATMOSPHERIC RESEARCH*.

April

Spring 1999. "A wake up call for Lake Erie and Great Lakes." *LAKE ERIE WALLEYE*.

Spring 1999. "Booking a Lake Erie charter fishing trip." *LAKE ERIE WALLEYE*.

Spring 1999. "Lake Erie worth millions." *OFFICE OF THE GREAT LAKES REPORT*.

Spring 1999. "Ohio" *NSG COMMUNICATOR*.

Spring 1999. "ASGEPL update, new findings..." *NSG COMMUNICATOR*.

Spring 1999. "New findings about zebra mussel colonization" *NSG COMMUNICATOR*.

Spring 1999. "The Bridge: a useful on-line tool" *NSG COMMUNICATOR*.

Spring 1999. "Ohio's exotic species day camp" *NSG COMMUNICATOR*.

April 1999. "Single cell algae, heavy metal remover." *NSG GRANT TIP SHEET*.

April 1999. "April fishing report." *MICHIGAN/NORTH COAST SCUTTLEBUTT*.

April 1999. "Erie's salmon trout need special care." *FISHWRAPPER*.

April 1999. "Reducing red worm parasites." *FAIRPORT HARBOR ROD AND REEL*.

April 1999. "Lower Lake Erie water levels." *MID-AMERICA BOATING*.

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CONSERVATION BEAT
COUNCIL OF GREAT LAKES RESEARCH MANAGERS

D

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JACKSON CITIZEN PATRIOT

K

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NORTHCOAST VACATION GUIDE
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OHIO MAGAZINE
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POST-CRESCENT
PRESS (THE)
PUT-IN-BAY GAZETTE

Q

R

RAP 2
REGISTER NEWS
RFD NEWS
ROANOKE TIMES
RURAL-URBAN RECORD

S

SAGINAW NEWS
SAINT CROIX AVIS
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SANDUSKY REGISTER
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SCIENCE DAILY NEWS
SHOSHONE NEWS-PRESS
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TODAY AAA ALLIANCE AUTO CLUB
TOLEDO BLADE
TRIBUNE-CHRONICLE
TWINE LINE (REPRINT FROM)

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UNITED PRESS INTERNATIONAL
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URBANA DAILY CITIZEN

V

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WBEZ FM RADIO
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D

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EARTHWATCH RADIO WISCONSIN SEA GRANT
ENVIRONMENTAL NEWS NETWORK WWW.ENN.COM

F

FISHWRAPPER
FREMONT (OH) NEWS-MESSENGER
FUR-FISH-GAME

G

GLIN ANNOUNCE
GLMEQ
GONGER NEWS SERVICE
GREAT LAKES BASIN NEWS
GREAT LAKES SPORT FISHING COUNCIL

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HILLSBORO TIMES GAZETTE

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LAKE ERIE CONFERENCE 2000
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LAKELAND BOATING
LAKESIDER (LAKESIDE OH)

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MAYFLY NEWSLETTER
MID AMERICA BOATING

MIRROR
MORNING JOURNAL

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NATURE MAGAZINE
NATIONAL OCEANIC AND ATMOSPHERIC ASSOCIATION COASTAL SERVICES

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OHIO COASTAL MANAGEMENT PROGRAM
OHIO DEPARTMENT OF NATURAL RESOURCES SOIL & WATER CONSERVATION
OHIO DEPARTMENT OF NATURAL RESOURCES WILD OHIO
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OHIO OUTDOOR TIMES
OTTAWA COUNTY VISITORS BUREAU

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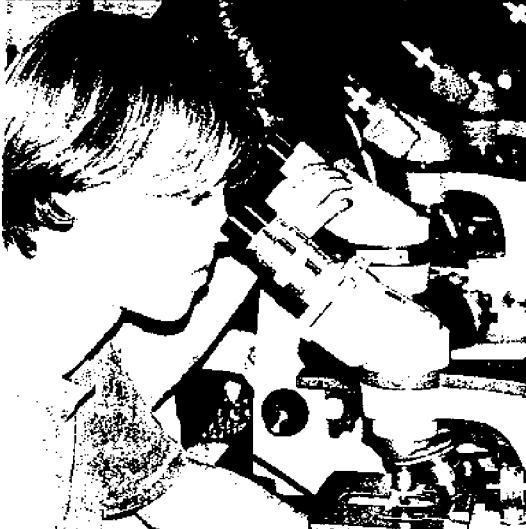
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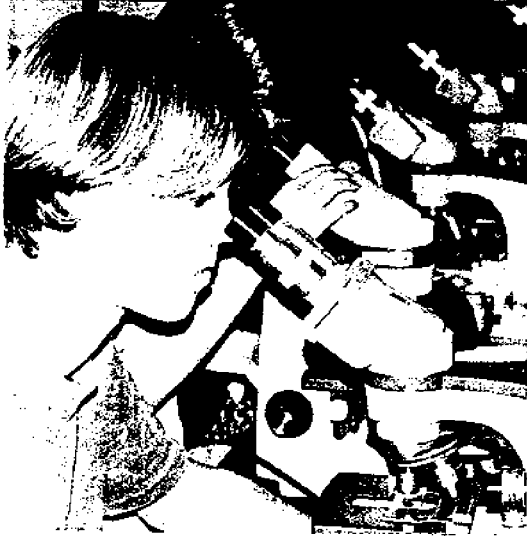


E D U C A T I O N

APPENDIX E
Extension
Case Studies,
Accomplishments,
and Activities



O U T R E A C H • R E S E A R C H



E D U C A T I O N

Case Studies



OHIO SEA GRANT EXTENSION

Ohio Sea Grant Extension connects the program with the general public, government agencies and the research community. Extension agents located in Toledo, Port Clinton, Put-in-Bay, Elyria, Cleveland and Painesville stay abreast of Lake Erie issues and problems through continuous public interaction and advisory committees. They convey public concerns and research needs to the program and deliver Sea Grant's research and advisory information back to users. To the general public, Sea Grant Extension is their personal contact with the program.

Sea Grant Extension agents conduct applied research on local problems and issues that have immediate concern to clientele and to the lake's resources. They assist clientele and provide leadership in developing projects that maximize economic benefits and public safety while protecting the integrity of Lake Erie's resources. Some of their noteworthy accomplishments are highlighted in a series of case studies that accompanies this document. The titles include:

- **ASTABULA RIVER CLEANUP, 1988-2000**
- **BRIDGE PROJECT AND LAKE LEVELS INFORMATION HELP SOLVE MARINA PROBLEMS**
- **COMPOSTING PROJECT ALLOWS SANITARY DISPOSAL OF MAYFLIES**
- **COOPERATIVE BOAT AND SPORT SHOW VENTURES BRING LAKE ERIE INFORMATION TO THOUSANDS**
- **F.T. STONE LABORATORY PROVIDES EDUCATION AND OUTREACH ON LAKE ERIE**
- **INLAND STATES GET THE WORD ON ZEBRA MUSSELS**
- **LAKE ERIE ARTIFICIAL REEF PROGRAM PROVES SUCCESSFUL FOR ANGLERS, DIVERS, AND ECONOMY**
- **LAKE ERIE NATURE AND SCIENCE CENTER EXPANDS SEA GRANT OUTREACH**
- **MENTOR LAGOONS – HELPING COMMUNITIES MAKE LAND USE DECISIONS**
- **OHIO CHARTER CAPTAINS CONFERENCE**
- **SAVING COASTAL BUSINESSES FROM BECOMING BROWNFIELDS**
- **REVITALIZING URBAN AREAS—THE TOLEDO STORY**

CASE STUDY: ASHTABULA RIVER CLEAN UP, 1988-2000

In 1985, the Ashtabula River was designated an Area of Concern by the International Joint Commission (IJC). Contaminated sediments migrating into the lower Ashtabula River had contributed to a ban on navigational dredging, a local fish consumption advisory and other water quality problems. The IJC called for the development of a Remedial Action Plan (RAP) to clean up the Lake Erie tributary.



Fig. 1. Fish consumption advisory for the Ashtabula River

Ohio Sea Grant joined the Ohio EPA in forming the Ashtabula River RAP Advisory Council in 1988. The RAP represents interested stakeholders from government, businesses, industry, special interest groups, Ohio Sea Grant and citizens. Sea Grant provided organizational skills, ideas and technical information to the RAP.

The RAP's problem definition stage determined that six of 14 beneficial uses of the Ashtabula River were impaired. A review of the impairments showed that all could be successfully addressed by dredging contaminated sediments. Contaminated spoils could be placed in a monitored, managed environment, i.e., an upland confined disposal facility. Progress toward a cleanup was stymied by a lack of resources.

A new model for remedial action was proposed by Region V of the US EPA and approved by the Ashtabula RAP Council in January 1994. Thus the Ashtabula River Partnership (ARP) was established. The ARP was a more comprehensive, structured attempt to get the river dredged with more than 50 official partners, including Ohio Sea Grant, U.S. EPA, the U.S. Army Corps of Engineers and Ohio EPA as well as many local affiliates.

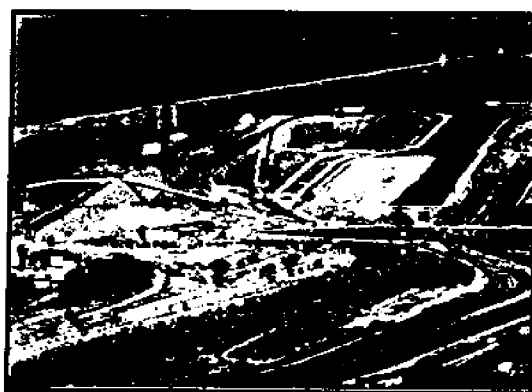


Fig. 2. Ashtabula Harbor.

A local ARP office was set up and a coordinator was hired. The nonprofit Ashtabula River Foundation was created to serve as the financial arm of the ARP. While the ARP focused on dredging the river, the RAP Council continued to look at other issues such as habitat enhancement and restoration.

The ARP asked Ohio Sea Grant to conduct voter awareness surveys in 1996 and 1997 that helped the organization focus educational messages to local citizens. Additionally, the Sea Grant survey demonstrated a local "willingness to pay" for the

cleanup of the Ashtabula River. Some of this information was incorporated into ARP's draft Comprehensive Management Plan and Environmental Impact Statement.

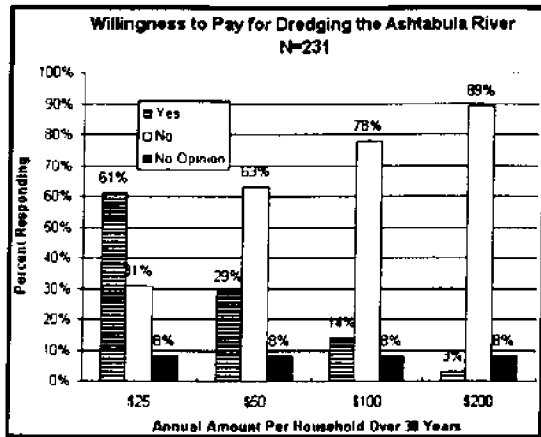


Fig. 3. The average household's annual willingness to pay for dredging the river is in the \$25 to \$50 range with a lower bound mean of \$32.50. Ohio Sea Grant survey results show that a substantial portion of the registered voters of Ashtabula County are concerned enough about the environmental quality of the Ashtabula River and Harbor to vote in favor of an annual tax to finance dredging to remove contaminated sediments.

For most involved in the ARP, this is the first time a partnership approach has been used to develop a community-based solution to a complex pollution problem. Local, state and federal agencies are coordinating their actions and are working on a common goal. Local citizens and industry have a voice in the development of cleanup plans and procedures.

The ARP released the draft Comprehensive Management Plan and Environmental Impact Statement for public comment in 1999 and is developing responses to the comments. When completed and approved this document will specify in detail the remedial cleanup measures to be implemented, the funding of those actions and the legal justifications.

The ARP Coordinating Committee updated the USEPA in 1999 on its progress and the need to press on in the development of the Comprehensive Management Plan and Environmental Impact Statement. The partnership is continuing the process to get the project into consideration for the federal fiscal year 2002 budget. If successful, the cleanup could begin in 2002 with a planned completion in 2005.

Frank Lichtkoppler, District Specialist, Sea Grant

CASE STUDY: BRIDGE PROJECT AND LAKE LEVELS INFORMATION HELP SOLVE MARINA PROBLEMS

Lake Erie's central basin provides limited access for recreational boaters because of high bluffs lining much of the shoreline. Many of the existing access sites are in tributary rivers, requiring navigation under bridges.

In Lorain County, recreational marinas exist along only the Black River and Beaver Creek. Large freighter traffic necessitates a deep navigation channel and high bridges along the Black River, making navigation trouble-free for recreational vessels. But access to three of Beaver Creek's four marinas was limited to low-profile vessels less than 20 feet in length due to low clearance beneath the U.S. Route 6 bridge.

These marinas provided dockage and related services for over 1,200 recreational vessels, and comprised over 68 percent of the dockage within Lorain County. Additionally, 60 percent of boat owners were from outside the county, representing a large inflow of tourism revenue. The overall economic impact of these marinas was assessed by Sea Grant research at over \$2.5 million annually.



Fig. 3. A higher bridge and deeper channel allows boaters to navigate Beaver Creek.

From the early 1970s through the late 1980s, Lake Erie experienced over a decade of high water levels. Although higher than average lake levels are welcomed by shipping concerns and recreational anglers, they can be devastating for shoreline property homeowners and waterfront businesses.



Fig. 1. High water levels during 1985-87 halted Beaver Creek navigation.

During 1985-1987 the highest lake levels on record further diminished bridge clearance, resulting in critical reductions in recreational boat traffic during autumn, with navigation virtually halted during the spring and summer months. As boaters were forced to seek dockage elsewhere, these marinas were faced with potential bankruptcy, not to mention a great economic loss to the area.

In 1987 Ohio Sea Grant Extension proposed a plan to raise the Route 6 bridge. When first submitted, this idea was viewed as being economically and politically

infeasible. Working with marina owners, local government officials and the local state representative, Sea Grant Extension provided economic and tourism data that justified the proposal.

From 1987 through 1991, planning meetings were organized and facilitated by Sea Grant with marina owners, local and state officials, and the Ohio Department of Transportation. A cost-sharing plan was agreed upon requiring each marina owner, the city, and the county to each invest \$50,000, and the State of Ohio to contribute over \$1 million. Construction began during 1992 and was completed in 1993. As a result, these marinas remain in operation today, with two marinas expanding their facilities to accommodate larger vessels and increase their numbers of dock slips.

The next dilemma faced by these marinas, including another large marina north of the Route 6 bridge, was low water levels experienced from 1998 through the present. Water depths in the channel frequently were insufficient for large boats. Without sufficient commercial traffic to warrant Army Corps of Engineers assistance, these marinas faced the possible need for deep dredging at their own expense.



Fig. 2. Low lake levels since 1998 have required extensive dredging in Beaver Creek to restore navigation.

Throughout this low water period, Sea Grant Extension provided continuing updates on lake level forecasts to these marinas, with predictions suggesting critically low lake levels for the year 2000 and beyond. Using Sea Grant information, these marinas pooled their resources and dredged the Beaver Creek navigation channel during the winter of 1999-2000, resulting in uninterrupted navigation during the 2000 boating season.

David O. Kelch, District Specialist, Sea Grant

CASE STUDY: COMPOSTING PROJECT ALLOWS SANITARY DISPOSAL OF MAYFLIES

During the 1940s, Lake Erie shoreline communities like Port Clinton, Sandusky and Cleveland were overwhelmed by hordes of mayflies that accumulated several feet deep at night below streetlights and windows. The insects emerge from lake-bottom burrows as nymphs, molt to adults at the surface and fly toward shore where they will molt again before reproducing. Mayflies are attracted to lights but they live just a single day as adults. Most end up lying in piles the next day on streets, sidewalks and parking lots. Lake Erie mayflies were nearly eliminated in the 1950s by anoxia stemming from pollution, and remained just a memory for the next three decades.



Fig.1. Burrowing mayfly, *Hexagenia limbata*.

Phosphorus reduction programs and filtering by zebra mussels increased Lake Erie's water clarity in the 1990s and higher oxygen levels in the benthic zone resulted. Mayfly numbers rebounded, sending a positive ecological signal, but a new generation of residents encountered mayfly problems that only their grandparents remembered.

In June 1996, clouds of mayflies emerging from Western Lake Erie descended on Port Clinton, falling into piles on streets, driveways and sidewalks. The city responded with leaf sweepers and dump trucks, carting away 38 large truckloads for burial. A somewhat equal amount of dead mayflies remained in parking lots, driveways and yards. These decomposed rapidly, causing serious problems with flies, odor and noxious seepage. Regulatory agencies also informed the city that burial was not an acceptable option. Ohio Sea Grant offered a solution that solved the city's problem.

Sea Grant Extension had worked previously with fish waste composting and saw applications for this technology to solve nuisance mayfly problems. A proposal was made to the Port Clinton mayor and safety services director to consider composting as a way to turn a health and aesthetic problem into a horticultural resource.

A Lake Erie Protection Fund grant proposal was co-authored by Sea Grant and the mayor's office, resulting in a \$25,000 grant to acquire needed equipment and composting materials. A non-private composting site must be licensed under Ohio law, and after lengthy negotiations with the Ohio EPA, the country's only licensed mayfly composting site began operation.

Today, Port Clinton residents are advised to deposit accumulated mayflies into street gutters during heavy emergencies to facilitate pickup by city crews. Dead mayflies are trucked to the city composting facility, mixed with sawdust, and formed into windrows

covered by blankets of wood chips. Decomposition is completed within six to eight weeks with no odor or seepage.

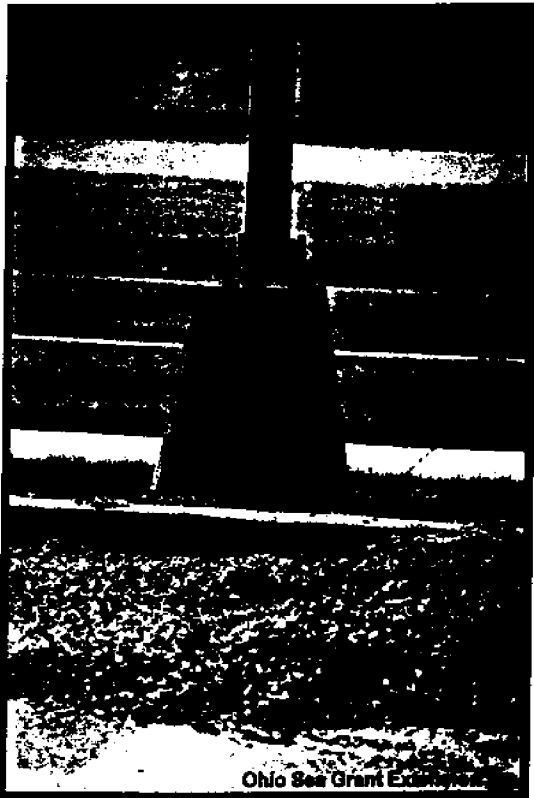


Fig.2. Mayflies piled beneath streetlight.

The composting project is popular with city residents, thanks to reduced odor, flies, and unsightly piles of dead insects. Much of the finished compost is recycled into new piles, but a considerable portion is used in landscaping projects.

As awareness spread of the successful Port Clinton program, other communities expressed interest. Ohio Sea Grant currently is providing project information to the city of Leamington, Ontario, which experienced its first modern-day heavy mayfly accumulation this year.

This Sea Grant-city partnership helped Port Clinton improve its air quality at the peak of the tourist season, reduce health risks, and it conserves critical landfill space. As improving Lake Erie water quality brings larger mayfly populations to the vicinities of other lakeshore communities, a new solution to disposal problems is available.

CASE STUDY: COOPERATIVE BOAT AND SPORT SHOW VENTURES BRING LAKE ERIE INFORMATION TO THOUSANDS

Thousands of people get first-hand Lake Erie information from Ohio Sea Grant agents each year, thanks to a cooperative venture between Sea Grant and The Mid-American Boat Show (Boat Show) and the American/Canadian Sport, Outdoor and Travel Show (Sport Show) in Cleveland. The shows attract hundreds of thousands of visitors annually, and Sea Grant has participated for almost two decades.

Sea Grant objectives in participating in the shows are to: 1) respond to citizens' questions on Lake Erie resource topics; 2) distribute Sea Grant publications to Lake Erie resource users; and 3) add to an ongoing database of values and priorities held by Lake Erie resource users concerning boating, angling and environmental issues.

Patrons of the Boat Show and the Sport Show have been surveyed by Sea Grant Extension for their opinions and priorities on Lake Erie environmental issues since 1992. Each year, items of specific interest to the show management are included in the surveys.

Recreational show managers need information on patron attitudes and demographics to help understand

market needs, to be informed on emerging issues, and to aid in planning future shows. Trends in data may show significant attitude changes in a key resource user group that Ohio Sea Grant is trying to assist. Researchers can be guided in developing applied research efforts to address critical questions posed by resource users.

Each year approximately 1,000 patrons viewing the Sea Grant exhibit are randomly asked to respond to the survey. Response rates have varied from an estimated 45 to 75 percent of the patrons asked to complete the questionnaire.

Boat Show survey data provided to the Lake Erie Marine Trades Association was instrumental in their successful 1999 campaign to have more of the state boating fuel tax allocated to access development. The effort boosted funding for public access by roughly \$3 million. The opinions and values revealed in the data help establish Ohio Sea Grant education and research priorities. Show managers also have used the data to improve their events.

This polling effort provides significant feedback to the Ohio Sea Grant College Program from approximately 1,000 citizens each year and assists in focusing the program's priorities to address public concerns.



Fig. 1. Show patron completing a survey



Fig.2. Agents and volunteers work at the exhibit.

In addition to the opinion surveys, thousands of people find direct answers to their questions about Lake Erie from agents and volunteers. A total of over 7,500 fact sheets are distributed at the ten-day long Boat Show and nine day Sport Show each year. The shows enable Ohio Sea Grant communications, Extension and research to jointly provide Lake Erie education and information and to obtain valuable public input on Lake Erie environmental issues.

Managers of both the Boat Show and Sport Show donate 200 square feet of exhibit space in favorable locations to the Ohio Sea Grant College Program each year. This space is valued at approximately \$2,500 annually.

Frank Lichtkoppler, District Specialist, Sea Grant

CASE STUDY: F.T. STONE LABORATORY PROVIDES EDUCATION AND OUTREACH ON LAKE ERIE

Thousands of people – ranging from students to professionals to even mildly interested citizens – get to ‘touch’ Lake Erie every year by way of The Ohio State University’s northernmost campus – the F.T. Stone Laboratory. Through formal classes, workshops and public programs and events, Stone Lab helps Lake Erie make positive impacts upon people’s lives.

EDUCATION AND RESEARCH -

Stone Laboratory, founded in 1895 and located on 6.5 acre Gibraltar Island in the harbor at Put-in-Bay, Ohio, is Ohio's Lake Erie laboratory, the oldest freshwater biological field station in the country, the north coast campus of The Ohio State University, and an important part of the Ohio Sea Grant College Program. The lab offers undergraduate and graduate courses in aquatic sciences.



Fig. 1. F.T. Stone Laboratory on Gibraltar Island offers study and research in an island setting.



Fig. 2. Stone Lab brings experience in field research to aquatic education.

Enrollment in summer college courses prior to 1990 averaged 57 students annually. Stone Lab administrators designed a way to make college courses available to more people – intensive one-week courses intended for educators, advanced high school students and early undergraduates. The combination of standard five-week courses and the new one-week courses boosted enrollment to over 200 students per year. During the summer of 2000, 202 students from 29 colleges and universities and 64 high schools enrolled.

Through the F.T. Stone Laboratory Cooperative Agreement, students from any state-assisted college in Ohio can enroll and pay tuition at their home institution. That school keeps the tuition while Ohio State receives the state subsidy. During the 1990s students from 40 Ohio colleges and universities, 31 out-of-state colleges, and 260 high schools took courses for college credit at Stone Laboratory.

With the assistance of the Friends of Stone Laboratory (FOSL) and the Sea Grant Advisory Committees, eight endowments with a total value exceeding \$500,000 have been created to support scholarships, visiting faculty, equipment purchases and research. An

additional \$3 million in deferred gifts also has been raised. These endowments provide support for more than 50 scholarships and research fellowships each year.

Aquatic science workshops are offered in the spring and fall to visiting school groups ranging from 5th grade through college. This program has grown from less than 1,200 in the late 1980s to over 5,500 participants.

Stone Laboratory is the shared research facility of Sea Grant's Great Lakes Aquatic Ecosystem Research Consortium (GLAERC). Research projects based at the laboratory increased tenfold in the 1990s, partly because of escalating concern over aquatic nuisance species. The research agenda increased from two projects involving six researchers in 1990 to an average of 25 projects involving 70 researchers from 19 institutions between 1997-1999.

OUTREACH EDUCATION – Stone Lab staff, faculty and students bring education and assistance to the public through programs and projects such as the Put-in-Bay Harbor Underwater Cleanup.

The Ohio Lake Erie Office became a participant in the National Coastweeks Celebration in 1992. When many communities began planning beach cleanups as Coastweeks events, Stone Laboratory/Sea Grant proposed that an underwater cleanup be attempted at Put-in-Bay, a popular destination for boaters each summer.

This cleanup, an all-volunteer effort coordinated by Stone Lab, the Ohio Lake Erie Office, Ohio EPA and New Wave Dive Shop, has been supported by the Put-in-Bay police, fire, E.M.S., and street departments and the Ottawa County dive recovery team.



Fig. 4. Cleanups have removed seven tons of litter from Put-in-Bay Harbor.

An average of 158 divers and land volunteers have teamed up each year to remove a total of 14,140 pounds of trash from the municipal marina area since 1992.

Laboratory personnel have organized tours, lessons and demonstrations at the laboratory for each of the Ottawa County Lake Erie Wing Watches and Put-in-Bay Bird-a-Thons held in 1999 and 2000, educating hundreds of people in the importance of Lake Erie to bird migrations.

CASE STUDY: INLAND STATES GET THE WORD ON ZEBRA MUSSELS

As invading zebra mussels blanketed Lake Erie in 1989 and 1990, lakeshore industries felt an immediate impact. Power generating and drinking water treatment plants found their intake pipes clogged with attached mussels; the mollusks actually caused shutdowns at plants on the lake's Michigan shore. Marine service facilities were deluged with mussel-encrusted boat hulls and engines with clogged cooling systems. The entire marine recreation industry seemed threatened.



Fig. 1. Zebra mussel, *Dreissena polymorpha*

Sea Grant researchers joined the private sector in developing technology to combat these damaging infestations, a success story in itself. But zebra mussels spread rapidly, and soon large rivers in the Mississippi Basin were heavily infested.



Fig. 2. Zebra mussel-encrusted dock post.

Industrial water users on these river systems quickly had to face their own zebra mussel problems, but control technology and expertise was centered in the Great Lakes region. Ohio Sea Grant recognized that inland states could save time, money and resources if Great Lakes-based control technology could be shared in a timely manner.

Ohio Sea Grant Extension proposed and received funding for a series of three zebra mussel control conferences for inland water users. The purpose was to educate facility managers and agency personnel on the availability of Great Lakes research information, speed up control measures, and avoid duplication of effort.

The first conference, held in Cincinnati, drew 109 facility and agency managers representing power generation, drinking water, commercial diving and regulatory interests. Sea Grant researchers updated attendees on zebra mussel biology and ecology and Great Lakes-based utility experts shared current control technology. Regulatory agencies informed attendees of permits and restrictions that impact control programs.

Case Studies Series – Ohio Sea Grant Extension

Similar training programs were held in conjunction with Illinois-Indiana Sea Grant in St. Louis, Missouri and in conjunction with TVA, the Corps of Engineers, and other Sea Grant programs in Chattanooga, Tennessee.

The outreach program resulted in a double benefit. Inland utility plants and other water users were able to implement zebra mussel control measures quickly. This avoided the type of plant shutdowns caused by zebra mussels at Monroe, Michigan in 1989. And an information network evolved linking industry, agency and Sea Grant personnel throughout the cooperating states.

Zebra mussel control measures are now rather uniform throughout the region, with the best technology available to all. And to many utility operators in states far removed from the Great Lakes or oceans, “Sea Grant” has become a common name.

Fred L. Snyder, District Specialist, Sea Grant

CASE STUDY: LAKE ERIE ARTIFICIAL REEF PROGRAM PROVES SUCCESSFUL FOR ANGLERS, DIVERS, AND ECONOMY

Sport fishing, scuba diving, and the businesses they support have improved in parts of central Lake Erie through a habitat development program initiated by Sea Grant Extension and its North Central Advisory Committee.

Artificial reefs in marine settings have been shown to attract fish by providing food, shelter, protection and, in some cases, spawning habitat. Sea Grant felt that artificial reefs in the central basin could provide valuable habitat in an area with an otherwise featureless bottom. If successful in attracting fish, these reefs could boost local economic benefits through increased angling and diving tourism.

The first artificial reef demonstration sites were selected offshore of Lorain and Lakewood, Ohio in central Lake Erie. The locations were chosen for proximity to public access sites to increase fishing opportunities and improve catch rates for small boat anglers.

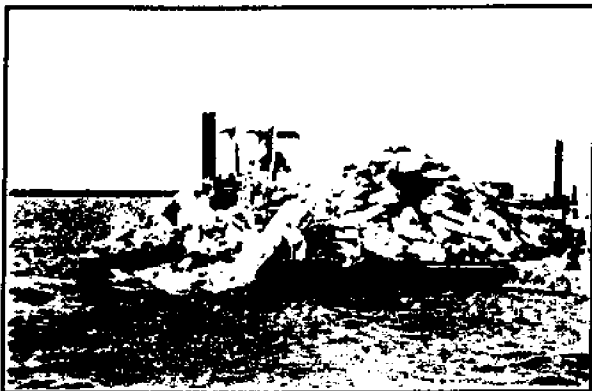


Fig.1. Concrete rubble being placed at the Lorain artificial reef site.

A few short weeks after construction, anglers began reporting catches from the artificial reef locations. Fishing effort around the reefs increased over the next few years, and continuing reports of excellent catches of smallmouth bass, walleye and yellow perch were received from anglers. With improved water clarity, stemming from phosphorous reduction efforts and the zebra mussel, the artificial reefs also have become popular with scuba divers.

Local officials and organizations supported the program with funding and the private sector contributed construction materials. The Lorain and Lakewood reefs now consist of over 12,000 tons of clean rock, concrete and brick rubble. From 1986 through 1989, over 3,000 feet of artificial reef were constructed at what became the Great Lakes' first artificial reef sites.



Fig. 2. Lake Erie's artificial reefs are destinations for smallmouth bass anglers.



Fig. 3. Underwater video assessment of artificial reefs.

Good water clarity allowed underwater VHS video assessment of fish populations on the Lorain and Lakewood artificial reefs during 1992-95. Results showed the artificial reefs concentrated as many as 60 times more fish than non-reef control sites. Sport fish - primarily smallmouth bass - accounted for over 90 percent of the fish observed on the reefs. This fish density has provided an attraction for scuba divers and anglers alike.

A 1992 economic evaluation of the Lorain artificial reef revealed the structure paid for itself 2.75 times per year, with the value increasing annually through growing awareness and use by anglers and divers. These results suggested that artificial reefs could have further beneficial applications throughout the Great Lakes.

Ohio Sea Grant recommended to Cleveland's city administrators in 1996 that concrete rubble from the demolished Cleveland Browns Stadium be used to create artificial reefs. Working with the city, an artificial reef plan was developed using over one-half of the old stadium's 20,000 cubic yards of uncontaminated concrete. During 1997 three artificial reefs were constructed from the old stadium rubble offshore of Cleveland, resulting in national media attention.

The success of this project has inspired other coastal communities and management agencies to plan for the placement of artificial reefs within their Great Lakes waters. In 1998 the Illinois Department of Natural Resources followed Ohio Sea Grant's recommendations in developing their first artificial reef offshore of Chicago in Lake Michigan. Illinois constructed an 800-foot artificial reef in November 1999.

Ohio Sea Grant's Lake Erie Artificial Reef Program was the first project of its kind to be properly planned, constructed and evaluated within the Great Lakes. Ohio Sea Grant is continuing artificial reef assessment through smallmouth bass tagging, underwater video monitoring and high-resolution sonar mapping.

CASE STUDY: LAKE ERIE NATURE AND SCIENCE CENTER EXPANDS SEA GRANT OUTREACH

Aquatic education is reaching new audiences and bringing Lake Erie to more people, thanks to a cooperative venture between Sea Grant Extension and a unique nature center in northern Ohio.

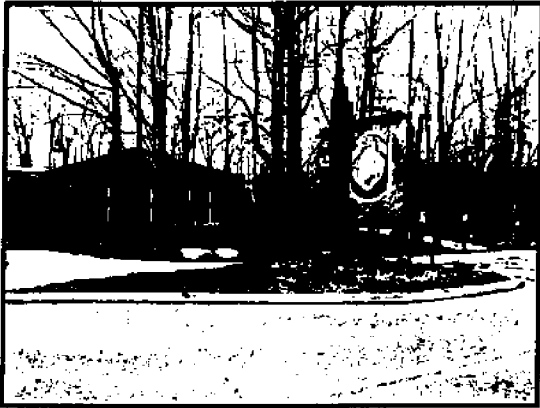


Fig. 1. Lake Erie Nature and Science Center.

The Lake Erie Nature and Science Center (LENSC), located in Bay Village, is a nonprofit educational center supported by private donations, grants and memberships. Founded in 1945 and incorporated in 1950, the 22,270 square-foot center is located within the Cleveland Metro Parks' Huntington Reservation. The stated purpose of the LENS is to "... foster a living connection between people, science, and wildlife through educational programs and exhibits, in order to create a better

commitment to the welfare of the natural world."

In 1998, Sea Grant developed and provided educational and display recommendations as LENS completed an extensive \$2.3 million renovation and construction project. The center began featuring living aquatic exhibits showcasing Lake Erie, stream and pond life. Sea Grant also provides assistance, recommendations and printed materials to LENS for Lake Erie-related displays, exhibits and educational programming.

A permanent Ohio Sea Grant display now is housed within the center's newly renovated portion. The exhibit showcases a continuing series of Lake Erie themes which change periodically, highlighting Sea Grant research and outreach involvement and is supported with Sea Grant fact sheets and bulletins. Past exhibits have included artificial reefs, exotic species and the Lake Erie ecosystem and food web. The center also dedicated a permanent publication distribution area for Sea Grant's printed educational materials.

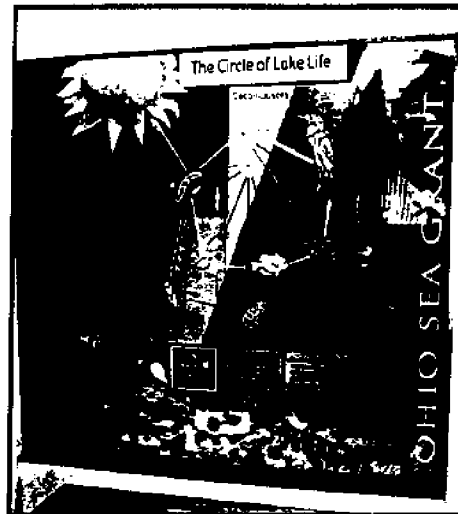


Fig. 2. Ohio Sea Grant aquatic display.

LENSC features both inside and outside live aquaria, reptile, amphibian, bird and mammal educational exhibits, a planetarium, four classrooms and a dedicated pre-school classroom, a large lecture hall, a research library, research facilities for educational

institutions, publicly accessible computers, and a teacher resources center. Twenty-seven full and part time employees, including seven full time teachers, staff the center with over 200 volunteers assisting with educational programs.



Fig. 3. Sea Grant seminar at LENS.

The Ohio Sea Grant College Program began cooperative educational efforts with the center during the mid-1980s. Many K-12 Sea Grant Education Program teacher workshops and conferences have been conducted at the center. Since 1985 LENS has co-sponsored a wide range of annual Sea Grant public education seminars. These presentations include angler education programs (walleye, smallmouth bass, steelhead trout and ice fishing), the status of Lake Erie, exotic species, pollution and

fish contaminants, Loran-C and GPS navigation, Lake Erie shipwrecks and diving, and lake levels. Public attendance during these educational forums average 100 individuals, with most seminars providing three hours of information.

During 1999 over 13,500 grades K-12 youth, representing over 1,000 public and private schools participated in educational programs at the center. LENS registered over 158,618 total visitors.

David O. Kelch, District Specialist, Sea Grant

CASE STUDY: MENTOR LAGOONS - HELPING COMMUNITIES MAKE LAND USE DECISIONS

A new nature preserve and municipal marina has boosted public access to the Lake Erie shoreline in northeast Ohio. Mentor Lagoons Inc., a marina and 380 acre parcel of undeveloped coastal property, was placed into receivership in February 1993, and Sea Grant Extension played a key role in acquiring the lagoons property for public use.



Fig. 1. One mile of undeveloped Lake Erie beach at Mentor Lagoons Nature Preserve and Marina.

The City of Mentor pulled city, local and state agency officials, private citizens, boaters and interested stakeholders together into the Mentor Lagoons Task Force (MLTF), to assess potential property acquisition. Sea Grant provided organizational support, technical data and alternative ideas to the MLTF.

Controversy erupted after the MLTF presented its plan for land acquisition to the citizens of Mentor. A local developer had purchased the lagoons property in spite of the city's efforts to obtain the land. Eminent domain proceedings were initiated by the city and a citizen referendum calling for public ownership of the lagoons was placed on the local ballot. The task force came to Sea Grant for help in educating the public on the issues involved.

The issue passed by a solid majority, enabling the city to acquire the lagoons for the public benefit. In July 1997, the city purchased the Mentor Lagoons property for \$8.9 million.

Case Studies Series – Ohio Sea Grant Extension

The city immediately began managing the marina and planning for the future use of the park. City Council set up an eight-member citizens advisory committee for Mentor Lagoons. Sea Grant Extension facilitated the planning committee's efforts, resulting in recommendations that the city acquire further property adjacent to Mentor Lagoons.

In 1998 the Urban Land Institute (ULI), a nonprofit land-use research and education organization, was asked by the city to develop a long-term strategic vision for the lagoons property. A long-term plan was developed but not fully adopted. Changes in city council membership and local city charter restrictions dictated a go-slow approach for developing the property into a modern marina and nature preserve.

The city used eminent domain again in 1998-99 to purchase an additional 100 acres adjacent to the marina and surrounded by the park. The restructured city council reorganized the Lagoons Planning Committee, adding two additional citizen members. The city again asked Sea Grant Extension to help gather community input on the future use and development of Mentor Lagoons. Planning efforts are ongoing, but meanwhile 56 percent of the Mentor residents responding to a recent survey have visited Mentor Lagoons Nature Preserve and Marina. The marina has leased over 400 boat slips for the 2000 boating season.

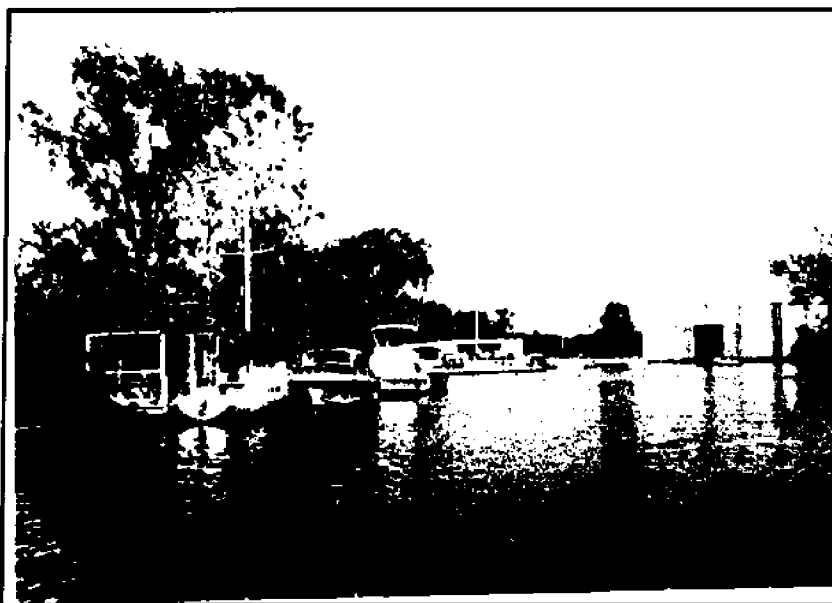


Fig. 2. Docks inside Mentor Lagoons Nature Preserve and Marina.

Sea Grant Extension aided this community in making land use decisions by: 1) raising public awareness of alternative land uses; 2) providing educational information for public debate; and 3) helping to organize and empower diverse interest groups. Mentor Lagoons stands as a model of wisely using Lake Erie's resources for public benefit.

CASE STUDY: OHIO CHARTER CAPTAINS CONFERENCE

Charter fishing is big business along Ohio's Lake Erie coast, and Ohio Sea Grant is working to ensure that this industry stays in the black.

Operating a charter boat demands a wide range of skills. Captains need detailed knowledge of lake conditions, fish populations and fish behavior. They must keep abreast of state and federal regulations and possess a bit of electronics wizardry to maintain and use sonar, GPS, radio and radar systems. They need people skills to entertain and satisfy clients and must market their services aggressively.



Fig. 1. Charter boat departs West Harbor for Lake Erie.

Many of Ohio's most active charter boat captains turn to Sea Grant Extension for current information on these topics, especially by attending the program's annual Ohio Charter Captains Conference. Now entering its 20th consecutive year, the conference is held each spring prior to the beginning of the active fishing season.

Experts from private industry, state and federal agencies, universities and Sea Grant provide updates on environmental issues, regulations, boat and electronics technology, marketing and services, and advanced fishing techniques. Suppliers of fishing gear, boating equipment and captains' services also are featured to keep captains abreast of market trends.

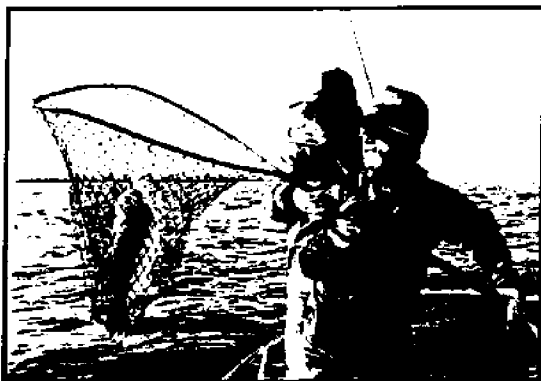


Fig. 2. Ohio's skilled charter fishing industry helped build Lake Erie's reputation as a travel destination.

Attendance at the Ohio Charter Captains Conference has grown in step with expansion of the industry. The first conference in 1981, drew 40 captains. Attendance at more recent programs has ranged as high as 270 licensed captains and averages over 200 attendees per year. Former *Charter Industry Trade News* publisher Paul McElroy described this ongoing program as "The largest one-day gathering of charter captains in the country."

Case Studies Series – Ohio Sea Grant Extension

Captains attending the conference feel the information they get is accurate and useful. Survey results from the year 2000 Charter Captains Conference mirror the views measured at previous conferences. 97 percent of responding captains said they have used conference information to improve their charter operations. 82 percent said they have modified their boating, fishing and business practices using conference information. And a full 60 percent said that Sea Grant's Ohio Charter Captains Conference has increased their overall profitability.

In 1975, only about 35 Ohio charter operators were licensed on Lake Erie. As the boating and walleye fishing boom hit stride, the number swelled to over 1,200 captains. Today an experienced, stable fleet of nearly a thousand charter boats, each representing an independent small business, offers services on Ohio's Lake Erie shoreline. A number of professional awards, given by the charter industry to Sea Grant specialists, acknowledge the value of Ohio Sea Grant's outreach efforts in the development and success of this industry.

Fred L. Snyder, District Specialist, Sea Grant

CASE STUDY: SAVING COASTAL BUSINESSES FROM BECOMING BROWNFIELDS

As the U.S. economy changes from one dependent on manufacturing and heavy industry to one focused on the ever-expanding market for products and services of the information age, many reminders of another era in American history remain. Hulking warehouses, dormant smokestacks and abandoned shells of industrial plants still line some of the nation's waterways and rail yards, standing as monuments to this earlier economy.

The case for recycling old industrial properties in or around urban centers - often termed "brownfields" - can be a compelling one. Revitalizing these properties conserves space, removes pollutants and improves neighborhoods. Sea Grant Extension has taken an active role in this effort.

While much of this industrial infrastructure is obsolete, many of these abandoned properties remain well served by other types of enduring infrastructure, including highways and gas and electric utilities. Many of these sites also enjoy a range of positive attributes resulting from their proximity to major urban centers, including access to large and diverse labor markets, sophisticated sources of financing, and local governments motivated to act as partners rather than regulators.

Many of these old industrial sites are, or have the potential to become, investment-grade properties. Realizing this potential requires constructive local, state, and federal interaction aimed at integrating environmental and economic objectives.

The decline of active businesses into abandoned brownfield sites sometimes can be avoided by proactive efforts on the part of community leaders to retain these businesses through professional assistance and incentives. This effort frequently starts with a business retention and expansion survey.

Historically, the follow-up on a business retention and expansion survey consisted of putting business owners in contact with local resource providers. If the survey identified problems such as training of potential employees, inadequate infrastructure to sustain or support growth, or negative community perceptions toward growth, retention professionals usually put together a focus group to resolve these issues.

A case in point was Cleveland Gear, located along Cleveland's Cuyahoga River. The company presented a development team led by Sea Grant Extension with two alternatives - acquire adjacent property to allow for expansion or Cleveland Gear would



Fig. 1. Brownfields diminish property values and safety in coastal neighborhoods.

slowly phase out investment and move to another site. The team explored several options with Cleveland Gear and performed the following tasks to retain this company:

- The City of Cleveland purchased homes surrounding the site. Locating several absentee homeowners was the most difficult aspect of this task.
- The city was convinced to vacate streets in the section of newly purchased houses to limit access to these areas.
- Analysis on the land was performed to clear the company of any potential liability related to the environment.
- Financing was coordinated with the Cleveland Port Authority to construct a building and lease it back to the company.
- Off-balance sheet financing was provided for equipment.
- In addition, incentives were secured related to job creation and tax abatement.

In spite of all efforts to accommodate Cleveland Gear, the company still was not committed to this project. A particular concern was in obtaining a waiver ensuring that it not be sued for environmental infractions previous owners committed on the property prior to the transfer to Cleveland Gear. Several months of negotiation between the company and the city finally resulted in an agreement suitable to all parties.

Creativity, persistence and a “can do” attitude helped retain this local business in Cleveland.

Walter Williams, Extension Agent, Sea Grant

CASE STUDY: REVITALIZING URBAN AREAS – THE TOLEDO STORY

Lake Erie's water resources and its proximity to major manufacturing and agricultural areas brought extensive urban development to its shores. The cities that grew along the Ohio shoreline have been vital to the state's economy, but they have been sharply influenced by changing demographics and technology that redistribute economic activity. Sea Grant Extension has taken leadership in helping urban areas retain businesses and revitalize decaying neighborhoods. The City of Toledo is a case in point.

Business Retention and Expansion – Sea Grant adapted the Ohio Business Retention and Expansion (BR&E) Program, developed by the OSU Department of Extension and the Department of Agricultural, Environmental and Development Economics, for use in an urban environment. When the program was introduced in Toledo to help improve the local economic climate, it provided retention and expansion assistance to over 100 Toledo industrial and retail businesses.



Fig. 1. Toledo's revitalized waterfront serves as an anchor for economic development.

A BR&E visitation program coordinated by Sea Grant Extension and sponsored by the Greater Toledo Convention and Visitors Bureau resulted in a \$1 million increase in the annual budget of the visitors bureau. The effort launched the start of a lunchtime trolley in the downtown to transport workers and visitors to area restaurants. One year after conducting the program, hotel occupancy in Toledo had increased by 22 percent. The Leadership Task Force, appointed by the Toledo Area Chamber of Commerce, credited this program with establishing tourism as a key component of economic development in Toledo.

Waterfront Redevelopment - Cherry, Bancroft, and Summit Streets are old-neighborhood corridors near the Maumee River. Sea Grant Extension provided technical assistance to the Cherry/Bancroft/Summit Corridor Coalition which contributed to the group's success in bringing \$90 million in new investment and 100 new jobs to these corridors between 1994-1998. This effort was showcased at the 1998 All-America City Competition held in Mobile, Alabama where Toledo was one of ten finalists nationwide receiving the award.

Further Sea Grant technical assistance helped the Cherry/Bancroft/Summit Corridor Coalition coordinate a request for proposals for a redevelopment plan for a one-mile corridor parallel to the Maumee River. As a result, the City of Toledo currently is engaged in redevelopment planning.

Case Studies Series – Sea Grant Extension

Sea Grant Extension has influenced Toledo's business activity through the results of surveys of business owners and their clientele. A survey of Toledo area visitors was designed to identify the expenditures, travel behavior, and demographics of visitors to the area. The survey results were used to modify the Greater Toledo Convention and Visitors Bureau's marketing program. Surveys of boat show patrons at two Toledo Area Marine Dealers Association boat shows revealed that show patronage changed when the show location also changed. Area boat dealers have used the results to choose future boat show locations.

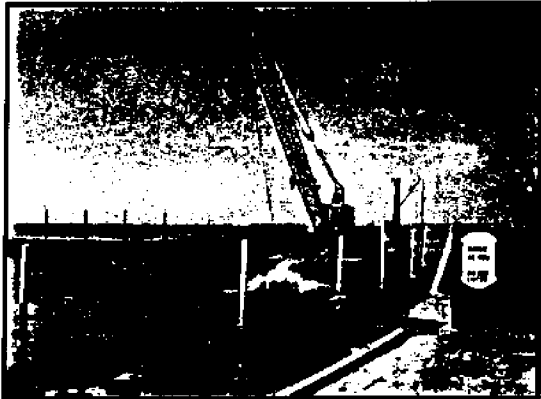


Fig. 2. Ottawa River dredging could boost Toledo's tourism revenues by \$5 million.

Surveys of Ottawa River boaters and businesses determined the local economic impact from current Ottawa River boater activity to be about \$14 million annually. Further investigation showed that if the Ottawa River were dredged, the direct economic impact to local businesses would be nearly \$5 million of additional annual sales. This information currently is being used by the Ottawa River Action Group to secure financial support for dredging the river.

Sea Grant has produced the *Western Lake Erie Waterfront Guide* annually since 1996 with over 10,000 copies distributed annually. The publication promotes the Toledo area waterfront and highlights locations of marinas, restaurants, hotels, boating services and related attractions. The guide has increased the visibility of Toledo's waterfront and has helped stimulate the emergence of new businesses. Each of the 100 businesses listed in the guide reported increased sales from new customers as a result of their participation.

Mary Bielen, Extension Agent, Sea Grant

O U T R E A C H • R E S E A R C H



Agent
Accomplishments

E D U C A T I O N



AGENT ACCOMPLISHMENTS

1999

**Ohio Sea Grant Extension Program
Agent Accomplishments 1999**

I. Economic Leadership

A. Advanced Technology for Commercial Products and Processes

1. Commercial Biotechnology
2. Environmental Technology

Solid waste district managers from eight Ohio counties and three state level administrators learned mayfly composting technology at the Port Clinton mayfly composting facility during a technology tour conducted by Snyder and Mayor Tom Brown in August, 1999. This outreach to other jurisdictions is one goal of a program to combat unsanitary mayfly accumulations during heavy emergences. Ohio Sea Grant identified composting technology as the best way to achieve sanitary disposal and led city administrators in developing a successful proposal and grant application. (Snyder)

B. Seafood Production

1. Commercial Fisheries
2. Sustainable Aquaculture

Crayco Inc., is a crayfish aquaculture farm in Lorain County which was developed through Sea Grant assistance during 1996. During 1999, Kelch assisted owner Bill Ziegan in identifying new markets for his crayfish, including smallmouth bass charter fishing operators on Lake Erie and a large wholesale bait company in Akron, Ohio. As a result, Mr. Ziegan was able to increase his sales by approximately 300 lbs., equating to an additional \$3000 in income for his operation.

Kelch assisted a local farm pond owner in developing a yellow perch home aquaculture project that demonstrated an average one-year growth rate of 100mm. This demonstration is ongoing in 2000.

3. Seafood Technology

C. Coastal Economic Development;

1. Coastal Business Development

Williams obtained \$3,000 from the Port Authority to fund a joint strategic plan for the City of Olmsted and Olmsted Township. In addition each community has committed \$1,000 to the study group. The study group is aiming for the May 2000 election to have the

residents decide whether to form a Joint Economic Development District.

Fifty local realtors learned more about available properties in the Mid-Town area. Several of these properties have received extensive brownfield remediation over the past years. (Williams)

A survey of 105 companies in the Collinwood area prioritized the infrastructure improvements needed for this area. (Williams)

Representing the Ohio Economic Development Council, Williams agreed to partner with the Center for Automotive Research (C.A.R) for SAE 2000. The C.A.R. alliance consists of seven Ohio universities and was established in 1995 to encourage Ohio universities, industries, and government laboratories having a common focus on vehicles to work together in areas of national and industrial need. C.A.R. will share booth space with OEDC at this event. The parties also agreed to partner in other SAE 2000 informational outreach efforts.

The Ohio Economic Development Council (OEDC) asked Williams to organize a Telemarketing event for the State of Ohio. OEDC is the marketing arm for the state of Ohio. This telemarketing event will contact three types of companies: 1) companies that have facilities within the state of Ohio but are headquartered in another state, to ask for their continued support and investment, 2) Consultants who are currently working with a client on an expansion project and 3) Prospects who have expressed interest in expanding to Ohio.

Williams entered into an agreement with the Cuyahoga Community College's, Back Office and Telemarketing Training Center to complete surveys for Agent Retention programs. Students participating in this program will complete retention surveys. Williams will provide training prior to survey implementation. Collinwood Business Retention survey is currently being administered by the college.

Technical assistance provided to the Northwest Ohio Agricultural Business Development Team by Bielen on conducting an agricultural business retention and expansion study resulted in a decision in the Fall of 1999 to move forward with implementing a program.

At the request of the Ohio Economic Development Council (OEDC) W. Williams organized a telemarketing event for the State of Ohio in August 1999. Seventeen members of OEDC participated in this event. The volunteers called 567 companies, and identified 30 projects that needed assistance from the Ohio Department of Development.

Williams organized 24 executive volunteers who in August 1999 contacted 364 companies located outside of Ohio and they identified 34 companies with expansion projects. In November 1999, Williams

recruited and organized 14 executive volunteers who then contacted 70 biotechnology-related companies and 200 companies who expressed an interest in expanding into Northeast Ohio. The volunteers identified 23 companies with expansion projects. Historically these efforts result in new business investment in Northeast Ohio.

Harambee, non-profit adoption agency for minority children, approached Williams for assistance in locating a facility after their work with local realtors was unsuccessful. With his help, Harambee located and occupied a facility in the fall of 1999 to house their 13 employees.

Business attraction efforts resulted in 9 new projects for October 1998-September 1999. (W. Williams)

These projects were:

Company	# of employees	\$ investments
Aerosol Monitoring	5	
Business Lenders	5	\$ 2.5M
Utrech Mfg. Co.	5	\$150,000
Blazar tools & Coating	26	?
Computer Horizon	13 full time, 108 consultant	
DM Bowmam	13 full time	\$1MM
Heavenly Ham	10	
St. Ives		<u>\$10MM</u>
Sherman Acquisition Corp	<u>12</u>	
Total	89	\$13.650MM

D. Kelch was again elected to the position of Vice Chairman, Board of Directors, for the Lorain County Visitors Bureau. He has served as vice chair on the board for the past 14 years. During 1999, Kelch organized and chaired the bureau's visitor tracking sub-committee. Data has been collected randomly from motel and hotel guests throughout the year, and is currently being analyzed to determine future directions for the bureau.

A Pre-Employment Training (PET) Program has been established with the Wire-Net Development Corporation. Williams is chairman of the curriculum committee. OSU Extension will provide life skills, money management and team building training for the participants.

- Fishing

Over 200 attendees at the 18th Annual Ohio Charter Captains Conference gained knowledge of tax planning, marketing, legal issues and Lake Erie fishery stocks. Snyder conducted a survey of the conference's value to captains attending for more than one year. 75 percent said that conference information had increased their profits. 83 percent said they improved their operating

practices by using conference information. 95 percent claim they implement conference information into their charter businesses. A cooperative smallmouth bass research effort with ODNR/DOW has been initiated. D. Kelch will serve as the PI for the Sea Grant funded portion of this study. Volunteer anglers organized by D. Kelch caught, tagged and released 444 smallmouth bass at artificial reef locations in Lake Erie's Central Basin during 1999. This research project will provide critical data to state fisheries management personnel regarding smallmouth movements, life history, mortality and catch/release information. Most specifically, Kelch hopes to determine movements of smallmouth bass from artificial reefs to nearshore adjacent habitats. The Ohio Division of Wildlife is cooperating with this research effort, which will continue during 2000.

- Coastal Recreation

Over 500 patrons of the 1999 Mid America Sail & Power Boat Show (Jan. 12-21) responded to a survey of Lake Erie issues and provided data on issues of concern to show management. F. Lichtkoppler, D. Kelch, F. Snyder, W. Williams and J. Hageman manned the Ohio Sea Grant College Program exhibit (developed with the Ohio Sea Grant Communications Program) and responded to scores of questions from citizens. They distributed over 5,000 Sea Grant fact sheets to interested boaters and anglers.

Over 530 patrons of the 1999 Cleveland Sport, Travel and Outdoor recreation Show (March 13-21) provided data on Lake Erie environmental issues, their willingness to pay for PCB cleanup and their use of the Cleveland artificial reefs. F. Lichtkoppler, D. Kelch, F. Snyder, W. Williams and J. Hageman manned the Ohio Sea Grant College Program exhibit and responded to scores of questions from show visitors. Over 7,500 Sea Grant fact sheets were distributed to interested citizens and anglers.

Dozens of anglers learned more about Lake Erie resources, issues and fisheries and received 1,100 Sea Grant fact sheets at the Eastlake Fishing Symposium, Feb. 13 and 14, 1999. (Lichtkoppler)

Lichtkoppler received a \$1,200 Sea Grant development grant and used it to develop the databases for the 1999 Cleveland Boat and Sport Shows. These two data sets have been analyzed and used in the development of research and education priorities for Ohio Sea Grant.

The East Cleveland Park Commission asked Williams to facilitate the development of a security patrol for the park and area merchants. This initiative is part of a grant received from the Gund Foundation.

W. Williams organized and participated in the Cleveland Zoo's Senior Days. The display explained how much sugar, salt and cholesterol is contained in the food we eat. An estimated 3000 seniors visited our booth and requested educational fact sheets.

The Lake Erie Protection Fund is supporting an effort by W. Williams and Dr. Virginia Benson, Professor Cleveland State University that has identified sites along Ohio's Lake Erie coast line that would provide educational and recreational benefits to citizens of the State as well as visitors from abroad. A comprehensive inventory of sites and an analysis of their significance is in preparation.

Research on the economic impact and recreational value of Ohio Lake Erie beaches has raised awareness of the worth of these natural amenities. Several Ohio Sea Grant publications were published and several local newspapers wrote related stories in the spring of 1999. Bielen and Lichtkoppler assisted Ohio Sea Grant Principal Investigator, Sohngen, with conducting this research and with writing the publications.

Over 8,000 copies of the 1999 Western Lake Erie Waterfront Guide were published and distributed to visitors in June 1999. The publication continues to receive full financial support from community organizations and participating businesses that experience new customer activity from the Guide. The publication won an honorable mention in the 1999 Epsilon Sigma Phi Tools for Teaching Contest.

Cleveland Stadium artificial reef research assessment and monitoring was completed for the year. Preliminary review of underwater video data reveals significant concentrations of fish, especially smallmouth bass, on all three Stadium reef sites. Large numbers of goby have also been observed. Visibility was exceptionally poor during 1999 collection dates. Research efforts to resume again during 2000. (Kelch)

- Marine Trades

Preliminary results of the "Valuing the Ottawa River" study, conducted by Hushak and Bielen in 1999 were used by the City of Toledo for text for a trail sign that will be constructed on a nature trail along the Ottawa River.

J. Hageman assisted F. Snyder with the Annual Ohio Charter Captains Conference, delivering current Lake Erie data and information to 200 conference participants.

Hundreds of show visitors learned more about Lake Erie at the Ohio Sea Grant College Program exhibit at the Toledo Boat and Extreme Sports Show held March 31 to April 3, 1999. (J. Hageman, F. Snyder, and M. Bielen)

The Ottawa River Action Group (ORAG) of the Maumee RAP is currently using the results of the "Valuing the Ottawa River" study conducted in 1998 and 1999 by Hushak and Bielen to build local support for dredging the Ottawa River. Results of the study determined the economic impact of Ottawa River boating and the local willingness to pay to maintain boating access to the river. Over 250 copies of the report were distributed to federal, state and local decision-makers in the fall of 1999.

2. Coastal Community Development

W. Williams organized ten volunteers for a phone survey of 244 minority owned businesses on the impact of the cancellation of Ohio's Minority Set aside program, on January 12, 1999. Thirty seven percent of the surveyed companies generated 50% of their revenues from Ohio's set aside program. Based on this information, the Council of Smaller Enterprises, OSU Extension and the Cleveland Regional Minority Purchasing Council are creating workshops to help firms decrease their dependence on set aside programs.

47 Economic Development Network members learned, "How To Attract Firms to your City" at the Economic Development Network meeting, January 19, 1999. (Williams)

W. Williams, with the assistance of the Cleveland Industrial Retention Initiative, organized a meeting with businesses located in the Collinwood area, on January 26, 1999. This meeting was held to reinvigorate the non-profit organization representing this area and to initiate infrastructure development adjacent to Interstate 90. Local business has prioritized the need for infrastructure improvements for this area. This will be an on-going project for 1999. W. Williams is proposing the use of Tax Increment Financing to pay for infrastructure improvements.

Eighteen business owners from Harrison County learned more about small business planning and controlling taught by Williams at the Small Business Excel program, on February 3, 1999.

28 Executive Volunteers participated in a National TeleBlitz organized by W. Williams, February 18, 1999. These volunteers contacted 344 businesses, and identified 34 expansion projects.

W. Williams presented a model to Enterprise Development Inc. (February 19, 1999) on how to identify minority firms interested in purchasing firms for sale. He informed the participants that the

Chamber has access to firms wishing to sell assets or divest departments. Historically, when these opportunities became available no database of interested minority firms was available. Enterprise Development Inc. pledged to assist W. Williams in developing this database.

W. Williams co-chaired the Society of Automotive Engineering Show in Detroit Michigan, March 1-5, 1999. W. Williams was responsible for scheduling visits with Ohio based companies attending the show.

W. Williams was invited to facilitate a meeting between the City of Olmsted Falls, Olmsted Township and the Olmsted City School District, on March 9, 1999. The meeting determined that the city, township and school district shared common development goals. Ohio State University Extension/Sea Grant organized a study committee to research new ideas. Williams will continue to facilitate this program until the city, township and school district resolve their conflict.

W. Williams organized volunteers for a phone survey of members of the Economic Development Network (EDN), on March 16, 1999. Over 60% (52 of 86) of EDN members responded. EDN members found the forums informative. EDN members requested guest speakers from other municipalities that have a creative approach to economic development.

Forty-three members of the Economic Development Network (EDN) learned about resources available from the County's Department of Development at an EDN meeting organized by Williams on the March 16, 1999.

W. Williams organized volunteers for a phone survey of 80 companies within the WIRE-NET industrial area, on March 18, 1999. The purpose of this event was to arrange a visit by a retention specialist.

Thirty business owners in Lorain County learned about available business sites and resources at the Lorain County Expansion Resource Show, on March 25, 1999. (Williams)

A survey of 260 companies in Lorain County identified 47 companies with expansion plans needing financial assistance. Ten executives assisted Williams in conducting the survey on March 25, 1999.

Twenty-five OSU Extension economic development professionals learned how to use the "Continuous BR&E" computer training software program at a March 1999 workshop planned and taught by M. Bielen, Dave Kraybill, Associate Professor, and Leroy Hushak, Professor Emeritus, Ohio State University.

F. Lichtkoppler lead the Mentor Lagoons Advisory Committee in a discussion of the Urban Land Institute (ULI) Report on the Mentor Lagoons Park and Marina. The Committee voted at their March meeting to accept the report and forward it on to Mentor City Council. The Committee also voted to continue to its input and assistance to the City of Mentor and asked City Council to proceed with a detailed planning effort using the ULI Report as a framework for moving forward.

The "Toledo Brownfields Working Group" organized in May 1999 to identify strategies for prioritizing redevelopment of local brownfield sites. Bielen was invited by the City of Toledo to serve on the committee and has developed and recommended fields of information to include in a GIS database.

Lichtkoppler was asked by the ODNR-Coastal Management Office to assist in the initial organization of the Mentor Marsh Special Area Management Process (SAMP). He worked on the agendas, suggested issues of concern, identified potential SAMP participants and shared information with the ODNR. In September the SAMP formed a Mentor Area Regional Coalition (MARC) and this group with Lichtkoppler's input identified and prioritized 27 issues of concern to work on in the SAMP. The marsh area SAMP is the first effort of it's kind in Ohio and will serve as a model for other Ohio SAMP's.

Twelve Ohio Planning/Development professionals learned about the results of a Toledo Neighborhood Industrial Business Retention and Expansion (R&E) Program at the Ohio Planning Conference in October 1999. Bielen presented the results in cooperation with the University Of Toledo Center for Urban Affairs who sponsored this Business R&E program.

The authors of the book "Common Groundwork: A Practical Guide to Protecting Urban and Rural Land," published by Western Reserve Resource and Development Council in December 1999, referenced publications on brownfields authored by Bielen.

The National Sea Grant College Program's Coastal Communities and Economies Theme Team is currently developing a summary paper for the upcoming Sea Grant Association Meeting in March 2000. Bielen has been invited to participate in developing this paper.

The Ashtabula River Partnership (ARP) is working to design and implement a cleanup of contaminated sediments from the Ashtabula River. Since he helped found the ARP in 1994, Lichtkoppler has worked as a member of the ARP Coordinating and Outreach Committees. He has provided technical information, original research data and innovative ideas to these two committees over the years. A major milestone in that work effort was the passage of the 1999 Water

Resources Development Act (WRDA). WRDA 1999 will require approximately one-third non-federal and two-thirds federal cost sharing, saving the local community approximately \$14 million dollars. This will significantly increase the chances that the Ashtabula River Partnership (ARP) will accomplish its goal of cleaning up the Ashtabula River.

After five years of effort, the Draft Comprehensive Management Plan and Environmental Impact Statement (CMP/EIS) and appendices for the Ashtabula River Partnership (ARP) Remediation Project, Ashtabula, Ohio was filed with the USEPA for public review in September of 1999. Lichtkoppler has worked as a member of the ARP Coordinating and Outreach Committees drafting the CMP/EIS. Original research data on public awareness of the ARP and willingness to pay for cleanup of the Ashtabula River developed by the specialist was included in the CMP/EIS.

Lichtkoppler worked to help organize a public meeting on the Draft Comprehensive Management Plan and Environmental Impact Statement and appendices for the Ashtabula River Partnership Remediation Project for Ashtabula, Ohio in October. Thirty citizens attended the meeting, local media coverage was good and the event was shown on local public access TV. This event fulfilled a required public information session for the Ashtabula River cleanup process.

Thirty-two Ohio economic development professionals learned how to conduct a continuous business retention and expansion program at two workshops held in 1999. Bielen was one of the instructors for the all day workshops.

Cleveland Public Power customers learned more about business retention and development from articles submitted to the *Watts Wise* inserts in monthly mailings. (Williams)

3. Revitalize Marine Infrastructure

In the Fall of 1999, Stone Lab was the site of an international workshop on underwater welding technology that brought 26 underwater welders together to study new Ohio Sea Grant-sponsored research for high quality underwater welding techniques. (Hageman)

During 1999, Kelch worked with marina owners along Beaver Creek in Lorain County in providing assistance and current information regarding lake levels. As a result, marina owners initiated a dredging project during November-December in preparation for lower lake levels during 2000. This effort was critical in providing adequate navigation channel and marina boat slip depth for the 2000 season.

II. Coastal Ecosystem Health and Public Safety

A. Coastal Ecosystem Health

1. Coastal Ecosystems

25 commercial ground maintenance professionals learned about aquatic weed control at the Holden Arboretum on March 2, 1999. The program was well received and helped 3 people meet state aquatic pesticide certification requirements. (Lichtkoppler)

A two-year grant was received in 1999 in the amount of \$29,586 from National Sea Grant to continue the study, "Aquatic nuisance species research and outreach: Sustaining wild harvest and aquaculture of bait fish in ANS infested waters and reducing risk of ANS spread." A key goal is to lead the Ohio bait industry in developing a self-policing procedure to ensure that bait shipments are not carriers of ANS. (Snyder)

The Ohio governor, three cabinet heads, and county SWCD personnel throughout northern Ohio pledged support for the Lake Erie Buffer Team's initiatives at a July 1999 media event showcasing a Seneca County farm using filter strips along its ditches. The event resulted in at least ten newspaper stories, and coverage on three radio stations and one TV station. Ohio Sea Grant is a member agency of the team and Snyder was appointed during 1999 to head electronic media production.

A Sea Grant-funded project to screen live bait shipments for aquatic nuisance and non-target species detected the importation of large numbers of an Ohio endangered species (western banded killifish) during autumn 1999. Using this information, The Ohio Department of Natural Resources alerted 182 licensed bait dealers of the potential penalties associated with distributing endangered or aquatic nuisance species. (Snyder)

2. Coastal and Great Lakes Habitats

Two chapters were written for Fish Habitat: Essential Fish Habitat and Rehabilitation, (ISBN# 1-888569-12-3) edited by L.R. Benaka, and published by the American Fisheries Society, Bethesda, Maryland in April, 1999: 1) Artificial Reefs in Lake Erie: Biological Impacts of Habitat Alteration by Kelch, D.O., F.L. Snyder and J.M. Reutter; and 2) The Economic Value of the Lorain County, Ohio, Artificial Reef by Hushak, L.J., D.O. Kelch and S.J. Glenn.

A proposal from ODNR Geological Survey (KELCH is co-investigator) has been approved by Ohio Sea Grant. This project will involve side scan sonar mapping and associated bottom verification of all artificial reef sites in Lake Erie. Mapping cruises will take place sometime during late spring/early summer of 2000.

Lichtkoppler received the 1999 Lake County Environmental Improvement Award in the Professional/Specialist category from the Lake County Environmental Education Advisory Committee and he was recognized with a resolution of commendation from the Lake County Commissioners at the Borough's Nature Club award dinner April 16, 1999.

Snyder was elected chairman of the Wildlife and Recreation Committee of the Portage River Basin Council in June 1999. Goals were set to determine Scenic River status for the Portage River, a tributary to Lake Erie, and to investigate ways to increase recreational access along the river corridor. Limited recreational access was the number one problem revealed in the Ohio Division of Watercraft's recent priority survey.

Kelch worked with the Illinois Department of Natural Resources during 1998-99 in developing an artificial reef program offshore of Chicago. Artificial reef construction technology and design information, and Ohio Sea Grant artificial reef research data was provided to Illinois DNR by Kelch. Following Ohio Sea Grant's Artificial Reef Program guidelines, the first artificial reef constructed offshore of Chicago was completed in November of 1999, as reported by Gina Fuhrmann, projects manager with Illinois DNR.

3. Sustainable Development

USA and Canadian researchers learned about Ohio Sea Grant Extension applied research results at the 42nd Conference of the International Association for Great Lakes Research, May 24-29, 1999 held at Case Western Reserve University, Cleveland, Ohio. The following papers were presented:

1) Kelch, D.O., F.L. Snyder and J.M. Reutter. Evaluation of Artificial Reefs as Fish Concentration Devices in Lake Erie: Case Studies of the Lorain and Lakewood Artificial Reefs.

2) Kelch, D.O., F.L. Snyder and J.M. Reutter. Application of Scuba Diver Operated Underwater VHS Video as a Fisheries Assessment Tool in Lake Erie.

3) Kelch, D.O., and L.J. Hushak. The Economic Value of a Great Lake Artificial Reef: A Case Study of the Lorain County, Ohio, Artificial Reef.

4) Blaine, T.W., F.R. Lichtkoppler and D.O. Kelch. Measures of Respondents' Willingness to Pay to Improve Lake Erie Water Quality: A Comparison of Two Forms of Contingent Valuation Techniques.

5) Lichtkoppler, F.R. and T.W. Blaine. An Assessment of Residents' Views on Funding the Removal of Contaminated Sediments in the Ashtabula Area of Concern.

The U.S. Army Corps of Engineers received appropriations of \$600,000 (federal), \$100,000 (state) and \$25,000 (Carroll Township) for Toussaint River Dredging during 1999. Snyder assembled and coordinated the original citizens/local government coalition that achieved federal harbor status for the Toussaint. He continued to provide technical information to the cooperative effort leading to this maintenance dredging program.

Fifty people received information on sustainable land use techniques and practices at an information booth organized by Bielen at the Toledo Metropolitan Area Conference on Land Use and Storm Water in August 1999.

As a result of communications and meetings coordinated by Bielen, a cost benefit analysis of the Conservation Reserve Enhancement Program (CREP) in Northwest Ohio was conducted by Sea Grant researcher, Sohngen, in the Fall of 1999. The analysis demonstrated significant additional economic incentives; compared to the existing program (CRP), for landowners to convert farmland to grass or riparian filter strips. This information can help farmers decide whether to enroll in CREP and could be used to help market and sell the program.

Two issues of Newswaves, a newsletter for economic development and environmental enhancement, were developed by Bielen and distributed to 500 economic development professionals and community leaders in northwest Ohio in 1999. The publication won first prize in the 1999 Epsilon Sigma Phi Tools for Teaching Contest in the newsletter category.

The OSU Extension Sustainable Communities Team is developing a local planning program for communities to use to balance economic development and environmental enhancement. Ongoing teamwork has resulted in a program brochure, a team Vita, web page, and the start of a pilot effort in one Ohio community. Bielen currently serves on the team.

An Ohio Sea Grant proposal developed by researcher Irwin, concerning quantifying the impact of development policies on water quality, was successfully funded. Bielen, Lichtkoppler and Williams assisted Irwin in defining the research scope and identifying research resources.

Hageman again co-chaired the (8th) Annual Put-in-Bay Underwater clean up where 195 volunteers removed almost 1 ton of trash from the municipal marina area in 1999.

B. Public Safety

- 1. Coastal Hazards**
- 2. Safety at Sea**

Lichtkoppler increased awareness of the National Ocean Service's proposal to eliminate 13 of 49 Great Lakes water level gages among the members of his advisory committee and the Grand River Association (GRA) on May 17, 1999. Six members of the GRA and a congressional legislative assistant thanked the agent for bringing the issue to their attention. The Congressman's staff followed up on the issue and a moratorium on water level gage decommissioning was instituted.

In the 1999 Ohio Sea Grant Boat Show Survey, almost 77% of the 504 respondents agreed or strongly agreed that: We need more enforcement of current boating laws. This and other data was utilized by the Lake Erie Marine Trades Association to work for increased law enforcement on Ohio's waterways. The Division of Watercraft of the Ohio Department of Natural Resources announced in the Fall of 1999 that it will train and hire 16 new watercraft law enforcement officers for the 2000 boating season. (Lichtkoppler, Kelch, Snyder, Williams & Hageman)

III. Education and Human Resources

A. Provide a Technically Trained Workforce

1. Scientists and Engineers

Lichtkoppler and Snyder were 2 of 6 "outside" reviewers providing formal input into the June 2, 1999 Ohio Sea Grant College Program research pre-proposal selection process. With their input 21 of 32 pre-proposals were selected for the full proposal selection process and 11 proposals were selected for funding.

Approximately 75 individuals, including students, faculty and interested private citizens gained knowledge about Lake Erie's artificial reefs during Kelch's guest lecture at the Ohio State University's F.T. Stone Laboratory on July 15.

Fourteen college and advanced high school students received three OSU credit hours through Snyder's offering of EEOB 125, Introduction to Aquatic Biology at the F.T. Stone Laboratory in August 1999. Snyder has received the highest student evaluations of any faculty member teaching this course at Stone Lab.

Fifteen graduate students and teachers increased their knowledge of coastal geology when Lichtkoppler taught the Lake and Ashtabula County Lake Erie section of the "OSU Geological Setting of Lake Erie" field course taught by Drs. Larry Krisek and Bill Ausich in August 1999.

2. Resource Managers

Forty-two Sandusky County elected officials and business leaders increased their knowledge of coastal wetland values, uses and Sea Grant activities at the 1999 Sandusky County Water Resources Institute. This program provides technical information to key leaders and users who make management and usage decisions about local water resources. Snyder provides aquatic ecology and water quality expertise and is instrumental in planning the institute each year.

On September 23, 1999 the Ashtabula River Partnership Coordinating Committee traveled to the offices of the USEPA Region V in Chicago, Illinois. As an active member of the ARP Coordinating Committee Lichtkoppler helped brief the new Region V USEPA Director Francis X. Lyons and his regional staff on the progress of the Ashtabula River Partnership. The USEPA officials learned first hand of the success that the ARP has had in this community based environmental cleanup. Director Lyons stated his support for the cleanup effort. Director Lyons also learned of the successful Ohio State University/Stone Lab/USEPA Limnology for Teachers class held on board the USEPA R/V Lake Guardian in July of 1999.

Over 50 extension agents, agency officials and citizens learned about the tools and techniques available for economic analysis of watershed programs at the Benefit Cost Analysis for Protecting Ohio Watersheds Workshop held in Columbus, Ohio November 3, 1999. Lichtkoppler assisted in the planning, taught a short section and participated in the workshop.

3. Technical Training

Thirty-five OSU Extension faculty and staff learned tips and tools for the OSU Extension promotion and tenure process at a workshop co-taught by Lichtkoppler and other OSU faculty on March 24, 1999. Direct observation of the class and post class feedback from the faculty participants indicated that the program was very helpful in explaining the OSU P&T process.

Snyder was named as the Northwest Extension District's 1999 Promotion and Tenure Oversight Designee. Five junior faculty members developed vitae under his guidance that were rated as excellent by the state-level committee.

B. Assure an Environmentally and Scientifically Informed Citizenry

1. Pre-college Education

D. Kelch worked with the Sea Camp Planning Committee to plan/develop the 1999 Ohio 4-H Sea Camp.

D. Kelch developed 6 outdoor education teaching outlines and curriculums for the naturalist at the Erie County 4-H Camp at the request of camp director Bob Holmes.

Over 650 students at the 1999 Ottawa County Fifth Grade Conservation Tour and 360 students at the 1999 Sandusky County Fourth Grade Conservation Day learned aquatic science through Sea Grant teaching. (Snyder)

Ninety youth from across Ohio gained marine skills and knowledge about Lake Erie during the 1999 Ohio 4-H Sea Camp. Kelch taught sessions regarding Lake Erie including the topics of Lake Erie biology, fisheries, exotic species, angling techniques, snorkeling and fish cleaning. The specialist also coordinated the snorkeling activity on the wreck of the 'Adventure', and provided educational and historic information for the youth.

Kelch developed a series of activity lesson plans for use by the naturalist at the Kelleys Island 4-H Camp. Lesson plans/outlines included the following topics: Fossil Hunting and Identification, Quarry Fishing, Basic fishing Techniques, Small Boat Fishing on Lake Erie, Small Boat Handling on Lake Erie, Quarry Snorkeling, and Snorkeling the 'Adventure' Wreck in Lake Erie. These lesson plans were used by the naturalist throughout the summer, and were also used during the 1999 4-H Sea Camp.

The Stone Laboratory Aquatic Science Workshop Program concluded its 1999 season with an attendance of 5,566 individuals from 173 groups. Schools attending came from Ohio, Michigan, Pennsylvania and Indiana. Tour groups included visitors from Switzerland, Japan, Germany, England (British Broadcasting Company) and, from the United States, as far away as California.

2. Informal Education

J. Hageman, F. Snyder, D. Kelch, J. Reutter, K. Ricker, J. Jentes and F. Lichtkoppler developed networks and contacts to promote interagency public outreach collaboration and cooperation at the Great Lakes Environmental Research Laboratory/ Great Lakes Sea Grant Network Outreach Meeting February 8-10, 1999 in Ann Arbor, MI.

D. Kelch and Cindy Hayter, from the Ohio Sea Grant Communications Program, developed a new OSG exhibit at the Lake Erie Nature & Science Center in February of 1999.

F. Lichtkoppler lead the NE Ohio Sea Grant Extension Advisory Committee effort to adopt revised committee guidelines that conform to the OSU Extension model for citizen advisory committees. The new guidelines were adopted in March 1999.

D. Kelch was asked by Congressman Sherrod Brown to provide input during a public hearing conducted on 3/17/99 by the International Joint Commission (IJC) in Cleveland, Ohio. The specialist made an oral presentation at the hearing, and also submitted the presentation as a written document. The specialist was interviewed by two radio stations (WTAM 1100 - Cleveland, and WCPN 90.3 FM - Cleveland) and one television station (TV 5 - Cleveland) regarding Lake Erie water levels, and the potential impact of increased water diversions and sales.

A \$1,512 Ohio Sea Grant Development Fund grant obtained by Lichtkoppler funded the IAGLR 99 media effort including a media reception Tuesday May 25, 1999 attended by six of the above media. The six reporters present at the reception indicated that they were well pleased with the news conference. Dr. Charles Groat Director, US Geological Survey and plenary speaker at IAGLR 99, appreciated being involved in the news conference.

Lichtkoppler worked with the Ohio Sea Grant Communications program to design the front and back covers for the International Association for Great Lakes Research 99 program. At least five IAGLR members complemented Lichtkoppler at IAGLR 99 on the high quality of the cover design.

Lichtkoppler completed the IAGLR 99 media effort increasing public awareness of Great Lakes and Lake Erie environmental issues. A total of 32 articles have been generated about the International Association for Great Lakes Research 42nd Conference (IAGLR 99) held at CWRU in Cleveland, Ohio, May 24-28 1999. Newsweek, the Cleveland Plain Dealer, the Toledo Blade, the Great Lakes Radio Consortium, WCPN 90.3 fm in Cleveland, WEWS TV-5 in Cleveland, Associated Press, United Press International, the Toronto Globe and Mail, the News Herald, Mid-America Boating, and the Sandusky Register were known to have done stories on or relating to IAGLR 99 topics. Over 100 Great Lakes media outlets received news releases and story ideas from the Ohio Sea Grant/ Case Western Reserve University media effort.

D. Kelch continued the series of educational seminars at the Lake Erie Nature and Science Center in Bay Village, Ohio. Seminars included GPS Navigation (April 22), What's Up Under Lake Erie (June 3), and Treasures of a Lost Voyage: Science of a Deep Ocean Shipwreck (June 17). Sea Grant advisory committee members Captain Russ MacNeal, Bud Kaczor, and Dr. Ed Herdendorf, experts in their field (diving, GPS navigation and oceanography) were speakers for these seminars, along with the District Sea Grant Specialist. These three seminars provided 225 individuals with knowledge about

Lake Erie, safe navigation, and the science and biology of shipwreck exploration.

Educational presentations were made to the West Cleveland Walleye Association, Westlake Sportsman's Club, North Central Sea Grant Advisory Committee, Lake Erie Bass Anglers Club, and the Lorain County Bass Busters. 155 individuals learned more about changes in Lake Erie, current lake related concerns, fisheries issues, artificial reefs and associated Sea Grant research efforts. Volunteer anglers were recruited from these groups to assist with the smallmouth bass tagging research effort. Interviews and/or presentations were also made by the specialist concerning Lake Erie issues to WEOL FM radio (Elyria, Oh), WCPN public radio (Cleveland, Oh), Cleveland Channel 8 Fox T.V., and the Great Lakes Radio Consortium (110 stations throughout the Great Lakes region).

Over 75 individuals learned more from D. Kelch about exotic species impacts and fish contaminants during an October educational presentation to the prestigious Cleveland Woods and Waters Club. Seminar participants gained new knowledge about consumption of sport caught fish from Lake Erie, Ohio's fish consumption health advisory, risk assessment, and current OSU research regarding the goby and contaminant transfer.

As a result of a meeting with the Painesville City Manager, the Chair of the Mentor Marsh Board and F. Lichtkoppler, the City of Painesville has agreed to participate in the Mentor Marsh SAMP/MARC process. This will help insure that future development in the Mentor Marsh watershed within the City of Painesville will consider environmental impacts on the Marsh.

J. Hageman informed 50 OSU School of Natural Resources students of Stone Lab educational and employment opportunities at the school's Intern Awareness Day.

J. Hageman met with over 130 teachers individually to explain educational opportunities available at Stone Lab for grades 5 through college at the Science Educators Council of Ohio Meeting in Dayton.

Scores of citizens learned more about OSU research activity at an open house sponsored by the Stone Laboratory Alumni Organization, Friends of Stone Lab, and facilitated by J. Hageman. Nationwide press coverage resulted from an Associated Press trip to the Stadium Artificial Reefs during July 1999. Kelch and Sea Grant advisory committee members accompanied an Associated Press writer and photographer to the Stadium reef sites on July 27 where angling, research dives, and interviews took place. The AP news article resulting from this event received nationwide newspaper

coverage, including a large report on the Sports Illustrated CNN web site.

Members of the boating community and the general public learned about the activities of Ohio Sea Grant through a booth manned by Snyder, Kelch and Lichtkoppler at the 1999 Clean Boating Kickoff event in Cleveland. Formal speakers at this event included National Sea Grant Director Baird.

The Ohio Farm Bureau, the Leadership Ohio Committee and the Society for Ecological Journalists learned the latest information about Lake Erie's continuously changing ecosystem from J. Hageman this Fall. He provided information from researchers conducting 17 projects at Stone Laboratory to the Stone Lab visitors. Group leaders planned to update their members using the information they learned from Hageman. Several news articles resulting from his update appeared in the Columbus Dispatch, Dayton Daily News, Toledo Blade, Pittsburgh Post-Gazette and other print media.

Legislators and their representatives from three U.S. Senate offices, six U.S. House offices, five Ohio Senate offices and 12 Ohio House offices attended Ohio Sea Grant's 11th State Legislature/ Congressional Day on Lake Erie in July 1999. This program educates legislators in the accomplishments of Ohio Sea Grant and illustrates the economic value of the Lake Erie region and its research, development, and outreach needs. Educational programming of this nature for elected officials is a top priority identified in a survey of patrons at the Cleveland Sport Show and Cleveland Boat Show. Participants included Sea Grant and other Ohio State University administrators and personnel, the National Sea Grant Director, the National Sea Grant Review Panel Chair, advisory committee members, boat captains and agency guests. The National Sea Grant College Program has identified this effort as the most effective educational program for elected officials in the country.

In 1997 The Ohio State University instituted the Roads Scholars Tour to demonstrate to new faculty and administrators the breadth and success of OSU programs. Over three dozen new OSU faculty members learned about Sea Grant outreach, research and Lake Erie resources from Snyder, Lichtkoppler, Reutter and Williams during the 1999 OSU Roads Scholars Tour September 15, 1999. The University continues to recognize Ohio Sea Grant as one of its success stories.

Thirty OSU Extension agents learned about Lake Erie beach ecology in a 2-hour field trip to Mentor Headlands State Park lead by Lichtkoppler in September 1999. Teaching evaluations were very positive and 9 of 21 (43%) respondents indicated they were planning

on using the information learned on the beach in their local county 4-H programs.

National television coverage resulted from an ESPN and Cleveland TV channel 5 outing to the Stadium artificial reef sites during early September 1999. News reports about the Stadium reefs were aired on the September 9, 10 and 11 evening news. A full report, including interviews with District Specialist Dave Kelch was aired on Monday, September 13 during the pre-game special for Monday night football.

Administrative Efforts:

Lichtkoppler and Snyder developed the revised Ohio Sea Grant Extension grant proposal A/EP-1 for the time period 03/01/00 to 02/28/02 amounting to \$723,491 in federal and \$399,659 in non-federal funds.

At the request of Dr. Moser, Vice President of Agriculture and Dean of the College of Food, Agricultural and Environmental Science (CFAES), Lichtkoppler reviewed 22 dossiers as a member of the CFAES Promotion and Tenure Committee. The nine full professors on the College P&T Committee wrote 22 recommendations for P&T for consideration by the Dean. Lichtkoppler represented the Department of OSU Extension on the CFAES P&T Committee.

AGENT ACCOMPLISHMENTS

1 January – 30 September 2000

Y 2000 All Agents Accomplishments First, Second and Third Quarters

I. Economic Leadership

A. Advanced Technology for Commercial Products and Processes

1. Commercial Biotechnology

2. Environmental Technology

Composting technology for sanitary disposal of mayflies accumulated on city streets was provided by request to a University of Windsor researcher for potential application by the communities of Colchester and Leamington, Ontario. This process was developed by a Lake Erie Protection Fund-sponsored Sea Grant development project and is in current use by the city of Port Clinton. (Snyder)

Snyder, F.L. and T.M. Brown. Composting nuisance mayflies for sanitary disposal. 43rd Conference on Great Lakes and St. Lawrence River Research. May 22-26, 2000. Cornwall, Ontario, Canada.

B. Seafood Production

1. Commercial Fisheries

2. Sustainable Aquaculture

Ohio Sea Grant is co-sponsoring the Environmental Strategies for Aquaculture Symposium to be held in conjunction with the Midwest Fish and Wildlife Conference in Minneapolis, MN December 3-6, 2000 with a \$1,260 Ohio Sea Grant development fund grant. Ohio Sea Grant cooperated with aquaculture specialist Laura Tiu from the Piketon OSU Extension/Research Center and Dr. Ron Kinnunen of Michigan Sea Grant in this effort. (Lichtkoppler)

3. Seafood Technology

C. Coastal Economic Development

1. Coastal Business Development

- Fishing

180 licensed charter boat captains increased their Lake Erie knowledge and charter business skills by participating in Sea Grant's 19th Annual Ohio Charter Captains Conference. Among surveyed captains, 97% said they have used conference information to improve their operations. 82% said they have modified their boating, fishing and business practices using conference information. 60% said the conference has increased their overall profitability. (Snyder)

- Coastal Recreation

441 patrons of the 2000 Mid America Sail & Power Boat Show (Jan. 14-23) responded to a survey concerning Lake Erie issues, their use of artificial reefs in Lake Erie, and provided data on issues of concern to show management and the Ohio Sea Grant College Program. (D. Kelch, F. Lichtkoppler, F. Snyder, W. Williams and J. Hageman)

545 patrons of the 2000 Cleveland Sport, Travel and Outdoor Recreation Show (March 11-19) responded to the Ohio Sea Grant Sport Show survey and provided data on Lake Erie environmental issues, their use of the Cleveland artificial reefs and items of concern to Sport Show management. (F. Lichtkoppler, D. Kelch, F. Snyder, W. Williams and J. Hageman)

The Lorain County Visitors Bureau has compiled the results of a 1999 Ohio Sea Grant initiated visitors survey. Eleven hotels participated in the project, with 435 usable surveys completed. The bureau indicates information gained from this survey will be valuable in both their marketing efforts, and also for the hotels within the county. (Kelch)

In June 2000, with the assistance of Ohio Sea Grant, the Mentor Lagoons Planning Committee designed a survey instrument and surveyed 168 Mentor boaters docking at Mentor Lagoons on their opinions on the development of the City owned and operated marina at Mentor Lagoons. Over 55% of those surveyed responded. (Lichtkoppler)

In June 2000, the Mentor Lagoons Planning Committee (with the assistance of Ohio Sea Grant) designed a survey instrument and surveyed 622 citizens of Mentor by mail on their attitudes and opinions on the development of Mentor Lagoons Preserve and Marina. Over 50% of those surveyed responded. (Lichtkoppler)

Waterfowl hunting at Lorain Harbor provides recreational opportunity and economic impacts through hunter expenditures. Working with the Lorain Port Authority, the City of Lorain and the Lorain Harbor Waterfowlers Association, Ohio Sea Grant provided requested information to the Corps of Army Engineers. As a result, waterfowl hunting opportunities will continue at Lorain Harbor. (Kelch)

Lichtkoppler received a \$1,200 Ohio Sea Grant development grant and used it to develop the databases for the 2000 Cleveland Boat and Sport Shows. These two data sets have been analyzed and are being used in the development of the research and education priorities for Ohio Sea Grant.

- **Marine Trades**

Hushak, L. and Lichtkoppler, F. Linking the Environment and Economics: the Ohio Charter Boat Industry in 1998. 43rd Conference on Great Lakes and St. Lawrence River Research. May 22-26, 2000. Cornwall, Ontario, Canada.

2. Coastal Community Development

Twenty four Executive volunteers, trained by the Sea Grant agent to talk with executives from companies located outside of Ohio regarding their expansion plans, contacted 376 companies on February 9, 2000 and identified 17 potential expansion projects. These projects will ultimately lead to new jobs and investments in Northeast Ohio. (Williams)

Eight Executive volunteers trained by Williams contacted 80 companies, identified 10 projects and made 5 appointments to meet with company's officials at the National

Manufacturer Week Trade show in Chicago, IL in February 2000. (Williams)

Ohio Sea Grant identified individuals from the state and federal EPA, the city, and local county officials to assist Northern Ohio Lumber in remediating the former Master Metal site for company expansion. When the state and federal requirements are met, Northern Ohio Lumber plans to purchase this property. February 16, 2000. (Williams)

Williams chaired the Ohio Economic Development Council's (OEDC) semiannual industry attraction and business retention telemarketing event. Eight OEDC members called on 310 companies and identified 7 companies with expansion projects. April 2000.

Eighteen participants completed the Pre Employment Training (PET) and were immediately hired by local companies. Another program is scheduled to begin in August 2000. Two additional companies have agreed to participate in the program. Also, Ohio State University's teaching hours have been increased from 25 classroom hours to 28. Cuyahoga County Extension will be requesting additional dollars from the commissioners to support the administration of this program. (Williams, 5/00)

Williams chaired the Ohio Economic Development Council's (OEDC) pre show marketing event for the National Plastic Exposition. Five OEDC members called on 170 companies. May 25, 2000.

Eighteen volunteers participated in a national telemarketing event organized by the Ohio Sea Grant agent. Volunteers contacted 376 companies identifying 23 active prospects that want to expand into Northeast Ohio. June 13, 2000. (Williams)

Ohio Sea Grant agent designed and administered an electronic business retention survey for the City of Brook Park. Tomas Coyne, Mayor, sent out the initial request to 131 businesses in Brook Park asking them to participate in this survey. As of June 14, 2000, 35% of the participating companies have responded to this survey request. (Williams)

Ohio Sea Grant agent assisted Ganeden Biotech Inc. of San Diego, a company developing anti-fungal products. The four-employee business will move to Cleveland by April to be close to local medical centers, where it conducts clinical trials and research. (Williams)

New Jobs & Investments attracted to the coastal economy as a result of work by Williams:

Company	Investments	New Jobs
• Yard Metals	\$500,000	10
• Parks Mfg. Co.	1,250,000	60
• A& L Shatto		5
• Cleveland Gear	12,200,000	83
• Ganeden Biotech Inc.		5
• Northstar	900,000	3
• Dean Supply	320,000	5

Williams was part of the initial team to assist Cleveland Gear Co. move ahead in obtaining \$12.2 million in financial assistance to build an 80,000 square foot industrial facility. This company will continue its base of operation in the Bessemer/Kinsman industrial district. Portions of this site were cleaned of hazardous material.

Williams identified a team to assist Dean Supply with its expansion project. Individuals from the City of Cleveland, the Midtown Development Corp. and the City of Cleveland's Empowerment Zone are assisting in the acquisition of the property for Dean Supply's expansion.

3. Revitalize Marine Infrastructure

With information and data provided by Sea Grant the Fairport Harbor Port Authority (FPPA) successfully completed on time a \$300,000 grant application to the ODNR Division of Watercraft for dredging the Grand River in fiscal year 2001. Sea Grant was asked by the ODNR, Division of Watercraft to assist local officials in developing the grant when it appeared that the grant application deadline was about to be missed. Data from the 1998 Ohio Sea Grant Recreational Boating survey was included in the grant application by the FPPA. With information obtained by Ohio Sea Grant the FPPA also applied for a \$100,000 US Army Corps of Engineers feasibility study of the needs for recreational dredging of the Grand River. (Lichtkopler)

Sohngen, B. and Lichtkopler, F. Environmental Economics: Tools for Determining Benefits of Great Lakes Environmental Cleanup. 43rd Conference on Great Lakes and St. Lawrence River Research. May 22-26, 2000. Cornwall, Ontario, Canada.

Organized business owners along the Toussaint River successfully acquired matching funding from private and government sources and dredged one mile of the river to its mouth, improving navigational safety and allowing some marinas to re-open for the first time in two years. This is a continuing effort by a group Snyder organized and led in establishing the Toussaint River as a federal harbor of refuge.

II. Coastal Ecosystem Health and Public Safety

A. Coastal Ecosystem Health

1. Coastal Ecosystems

Snyder, F.L. Lake Erie – Agriculture's role. Ohio Crop Production Conference, January 7, 2000. Columbus, Ohio.

2. Coastal and Great Lakes Habitats

Snyder, F. L. Preliminary findings of non-target fish dispersal via live bait shipments in Ohio. 109th Annual Meeting of the Ohio Academy of Science, April 11, 2000 Ada, Ohio.

A research intern was acquired and trained to develop a data base of live bait handling practices among private anglers to identify pathways for aquatic nuisance species dispersal via this user group. Ninety anglers currently have been surveyed in both the Lake Erie and

Ohio River watersheds. Snyder is a district specialist. This data will be used to inform policy decisions by ODNR.

Studies continue to be conducted among Ohio anglers by the Snyder team. This data will provide a basis for future wildlife regulations and management (Snyder, Hageman)

An investigative committee was organized for the Portage River for State Scenic River status. Recommendations from this committee resulted in a Council decision to redirect efforts into developing the Portage River Basin as an ecotourism destination.

Organized and chaired by Snyder investigated the eligibility of the Portage River for Scenic River status for the Portage River Basin Council. The committee resulted in a Council decision to redirect efforts into developing the Portage River Basin as an ecotourism destination.

During July and August, a mapping project was completed. Side-scan sonar was used to map artificial reefs at Lorain, Lakewood, Edgewater and Euclid. The maps were run at each reef site and finished maps will be available to angler and diver user groups. Researchers and management agencies will benefit from this detailed mapping. A new scuba diver has been contracted to perform a collection on the Stadium Artificial Reefs. This individual has received specific training on data collection and research technique to assure quality information is collected. (Kelch)

Artificial reefs at Lorain, Lakewood, Edgewater and Euclid were mapped using side-scan sonar and differential GPS. 150 and 75 meter transect patterns were run at each reef site in order to compose a final product mosaic-type map. The maps will be available to angler and diver user groups. Researchers and management agencies will benefit from this detailed mapping. A new scuba diver has been contracted to perform a collection on the Stadium Artificial Reefs. This individual has received specific training on data collection and research technique to assure quality information is collected. (Kelch)

Three research efforts are currently underway to help better understand the benefits of artificial reefs. These projects are all in their second year and include the following:

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- Monthly underwater monitoring of the Cleveland Stadium artificial reefs
- Smallmouth bass tagging and recapture efforts at all artificial reef and near shore sites in cooperation with ODNR/Division of Wildlife
- Precision mapping of all artificial reefs using side-scan sonar and differential GPS (cooperation with ODNR/Biological Survey) (Kelch)

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3. Sustainable Development

B. Public Safety

1. Coastal Hazards

2. Safety at Sea

III. Education and Human Resources

A. Provide a Technically Trained Workforce

1. Scientists and Engineers

A \$4,745 Ohio Sea Grant Cooperative Work Experience grant helped us to develop a model for an Ohio Sea Grant Student Internship program. A student successfully completed a three month work experience program assisting Dr. Tim Matson at the Cleveland Museum of Natural History investigate the fish, reptiles and amphibians of the upper Ashtabula River. The model was successfully partnered Ohio Sea Grant with a local scientific organization to increase student training and add to the body of scientific knowledge. (Lichtkoppler)

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Snyder and Lichtkoppler were appointed to Ohio State University Extension's Departmental Promotion and Tenure Committee to evaluate and assist other faculty members in the promotion and tenure process. This committee made promotion and tenure recommendations on nine OSU Extension faculty members to the College of FAES committee. Lichtkoppler also serves on the College of FAES Promotion and Tenure Committee.

At the request of the Ohio Sea Grant College Program, a presentation was made regarding Artificial Reef Development and Research to members of the 2000 National Sea Grant Program Performance Assessment Team. This presentation was made on September 27 at the Lake Erie Nature and Science Center in Bay Village, Ohio. (Kelch)

Lichtkoppler co-organized and co-chaired the session, Environmental Economics and the Great Lakes Basin, at the 43rd Conference on Great Lakes and St. Lawrence River Research on May 24, 2000 in Cornwall, Ontario, Canada. Eleven papers were presented at this session.

Accepted a \$250 donation for student scholarships to OSU's F.T. Stone Lab from the Fairport Harbor Rod and Reel Association. (Lichtkoppler, 5/00)

Stone Laboratory was prepared to receive scores of researchers, hundreds of college students and thousands of workshop attendees for the summer of 2000 research, teaching and outreach workshop season. (Hageman)

2. Resource Managers

At the request of the Ohio Lake Erie Commission, a presentation was made regarding Artificial Reef Development and Research. This lecture was given on July 6th at the Ohio Lake Erie Board of Commissioners Meeting. Artificial reef development is included in the Lake Erie Commission's 2000 Lake Erie Protection and Restoration Plan. (Kelch)

3. Technical Training

Hundreds of citizens and scores of educators learned of 1999 Stone Laboratory research results and the educational opportunities for the summer of 2000 at meetings of the Tri-Moraine Audubon Society, Science Educators Council of Ohio, the 25th Annual Educators Symposium and the Cleveland Boat and Sport Shows. (Hageman)

22 shipwreck archaeology students learned more about artificial reefs, Lake Erie shipwrecks and the impact of zebra mussels through a lecture on July 9th. These students are part of an on-going archaeology course offered through Bowling Green State University and the Great Lakes Historical Society. Dr. C.E. Herdendorf (OSU, Emeriti) teaches the three day course. (Kelch)

The Agent planned and organized the Business Retention & Expansion midyear retreat. All 12 of the board members attended the event. Board members participated in a visioning processes facilitated by the agent. October 00 (Williams)

Williams partnered with the Cleveland International Program, a professional exchange program of Bosnian adults that promotes peace. This program began last year under the terms of the Dayton Peace Accord, which ended the conflict in Bosnia among Muslims and ethnic Croats and Serbs. Nine Bosnian professionals visited Cleveland for a month to learn U.S. Business management techniques. These individuals are now working to rebuild their country. Williams taught a seminar on Cluster Analysis and Business Retention. According to a participant, although the setting of Cleveland and Bosnia are different, we can learn what worked in the city and adapt it to our country. (Alex Standeff, Vice President Community Development). July, 10, 2000

Williams designed a curriculum on Sales Training and provided instruction for 10 managers of U-Store It facilities in Cleveland, Ohio. An evaluation was completed after the seminar. Company official's presented Williams with a certificate of appreciation. July 12, 2000.

Williams designed a message board for the Business Retention Expansion International web site. This message board will allow members to post messages to the organization and have members respond to their inquires. October 00.

Williams provided instruction to the Cleveland Industrial Retention Representative on "Trade Show Preparation and follow-up." Eight representatives participated in this training. October 00.

B. Assure an Environmentally and Scientifically Informed Citizenry

1. Pre-college Education

The 17th Ohio 4-H Sea Camp was conducted from July 10-14 at the Kellys Island 4-H Camp. 90 youth from all over Ohio learned more about Lake Erie during this five day camp, including aquatic biology, weather, boating safety and small boat operation, sailing, angling practices, lure making, fish cleaning, snorkeling on a near-shore wreck, maritime history and island natural history. Since its beginning in 1984, over 1300 youth have learned more about the values of Lake Erie through participating in Ohio Sea Grant/OSU Extension Sea Camp. Ohio Sea Grant district specialists developed Sea Camp, and continue to assist with camp planning, educational program development and on-site teaching. (Kelch)

Over 660 elementary school students gained knowledge of Lake Erie wetlands and aquatic ecosystems through Sea Grant presentations at Sandusky and Ottawa County Conservation tours. (Snyder)

2. Informal Education

Sea Grant Extension agents responded to scores of questions from citizens at the Ohio Sea Grant exhibit (developed with the Ohio Sea Grant Communications Program) during the 2000 Mid America Sail & Power Boat Show (Jan 14-23). They distributed over 5,000 Sea Grant fact sheets to interested boaters and anglers. (D. Kelch, F. Lichtkoppler, F.

Snyder, W. Williams and J. Hageman)

Dozens of anglers learned more about Lake Erie resources, issues and fisheries and received 1,000 Sea Grant fact sheets at the Eastlake Fishing Symposium, Feb. 18 and 19, 2000. (Lichtkoppler)

Ohio Sea Grant Extension agents worked at the Sea Grant exhibit during the 2000 Cleveland Sport, Travel and Outdoor Recreation Show (March 11-19) and responded to scores of questions from show visitors. Over 7,500 Sea Grant fact sheets were distributed to interested citizens and anglers. (D. Kelch, F. Lichtkoppler, F. Snyder, W. Williams and J. Hageman)

Over 400 individuals learned more about current Lake Erie issues, artificial reefs, the impacts of exotic species at four educational seminars conducted during the 2000 Cleveland Sport, Travel and Outdoor Recreation Show (March 11-19). (Kelch)

Sea Grant Extension Advisory Committee members participated in Sea Grant Focus Group meetings in Unionville, Elyria, Sandusky and Toledo in February and March of 2000. Participants provided input for Sea Grant's Five Year Strategic Plan. Members commented on what we have been doing well, areas for improvement, and priority focus areas for the next five years. As a result, new goals and directions have been established and vital program management information was gained. (Kelch, Snyder, Bielen, Reutter and Lichtkoppler)

Thousands learned more about the recent changes in Lake Erie during a live radio interview on WTAM Radio, Cleveland, on March 15. (Kelch)

40 print and broadcast outdoor journalists acquired technical and recreational information about Lake Erie, Sea Grant and Stone Lab, and state natural resources programs at a four-day outdoor writer's conference conducted by Ohio Sea Grant. Media articles stemming from this effort continue to appear in newspapers and magazines. (Snyder and Hageman)

27 pond owners learned pond management techniques taught in conjunction with the Fulton County Extension Office and Fulton Soil and Water conservation District. In addition, 43 pond owners were assisted in problem solving through individual consultation from February through June. (Snyder)

92 coastal business managers and professionals acquired lake levels information for decision-making through a series of four presentations on Lake Erie hydrology. (Snyder)

Over 280 individuals learned more about current Lake Erie issues regarding ecological changes in Lake Erie, exotic species, water levels, Sea Grant research and artificial reefs during five educational presentations. These educational forums included two seminars conducted at the Lake Erie Nature and Science Center, one seminar at the Steamship Mather Historical Society, and presentations to the Aqua Amigos Dive Club and the Lake

Erie Bass Anglers Club. Thousands learned more about water levels and recent ecological changes in Lake Erie during two radio programs on WCPN, 93.3 fm, Cleveland public radio. (Kelch)

District Specialist David Kelch was the keynote speaker for the dedication and grand opening ceremony of the Lake Erie Shipwreck Center. Over 200 individuals learned more about recent changes in Lake Erie, the impact of zebra mussels, and the importance of the lake's underwater shipwreck heritage. The shipwreck center's computer information and education system was made possible from a grant through the Ohio Sea Grant College Program. Kelch serves on the Governor's Submerged Lands Advisory Council, which played an integral role in the development of the new center.

Over 145 individuals gained new knowledge about changes in Lake Erie, the goby and current fishery concerns from educational presentations to clientele groups (Cleveland Chapter, DAR, and West Cleveland Walleye Association). (Kelch)

Over 250 individuals learned more about current Lake Erie issues, ecological changes, exotic species, water levels, artificial reefs and Sea Grant based research through five lectures presented to the Polish Fisherman's Club, Cleveland Fishing Association, Lake Erie Bass Anglers, Central Basin Charter Boat Association and West Cleveland Walleye Association. Thousands learned more about Lake Erie issues, water levels and artificial reefs through radio programs on WWW-E and WCPN (Cleveland) and WOSU (Columbus)(Kelch)

Legislators and their representatives from one U.S. Senate office, nine U.S. House offices, seven Ohio Senate offices and 10 Ohio House offices joined Sea Grant and other Ohio State University administrators and personnel, advisory committee members, boat captains and guests for the 12th Annual Congressional/Legislature Day on Lake Erie. This program highlights the accomplishments of Ohio Sea Grant and illustrates the values and needs of the Lake Erie region to elected officials. It likewise strengthens relationships between elected officials and the University. (Snyder, Lichtkoppler, Kelch, Hageman, Williams)

The Ohio governor along with state elected and agency officials and tourism workers became more familiar with Sea Grant Extension activities and accomplishments at Fish Ohio Day on Lake Erie. (Snyder)

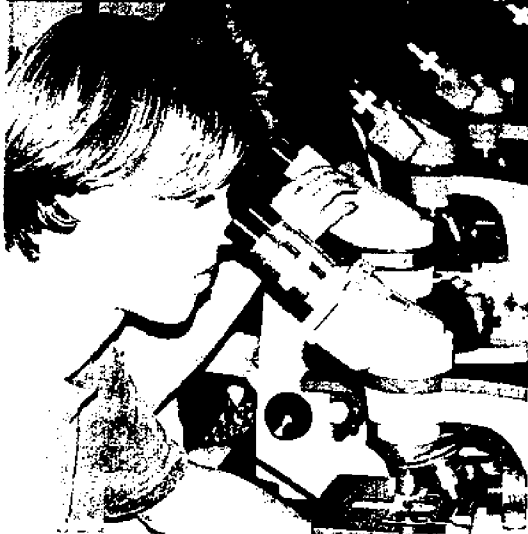
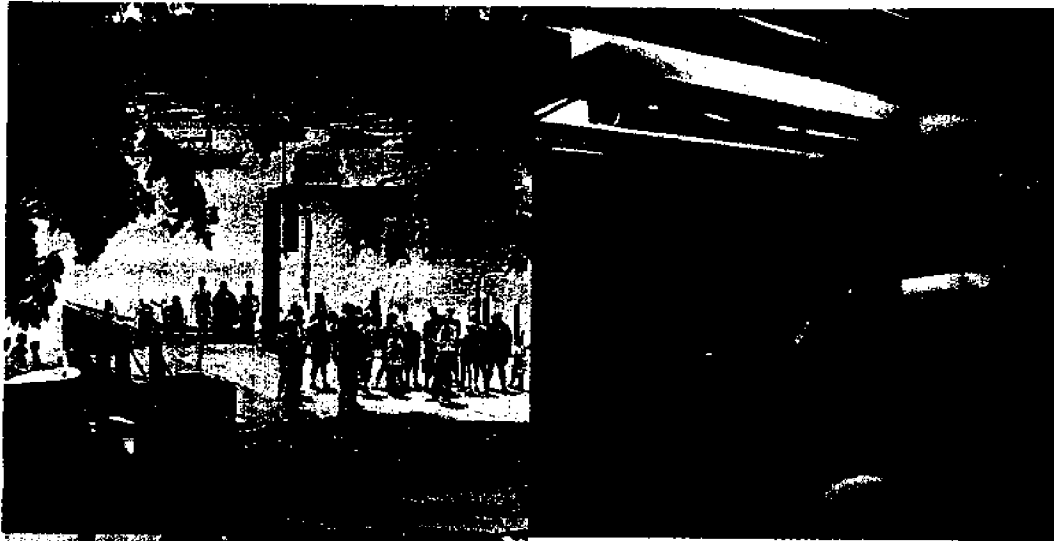
A series of 12 Sea Grant Extension case studies was written by all Sea Grant Extension Agents and was edited by Snyder. These case studies have ongoing utility in educating the public, elected officials and university and agency leaders about the economic and educational impacts of Ohio Sea Grant Extension.

Administration:

The National Sea Grant College Program assessment and review of the Ohio Sea Grant College Program was held in September with the extension agents having a key role in the

program assessment. Sea Grant programs receive a rating in four areas, plus an overall rating. Grades in each area can be 1) "needs improvement", 2) "good" (meeting the expectations of the National Sea Grant College Program), 3) "very good" (exceeding the expectations of the National Program), and 4) "excellent" (substantially exceeding expectations). Ohio Sea Grant received "very good" in "effective long range planning" and "organizing for success" weighted at 30% of the evaluation, and "excellent" in "connecting with users" and "producing significant results" weighted at 70% of the evaluation. As a result, our overall evaluation was "excellent". Sea Grant Extension (Outreach) also received an "excellent" rating, the highest category (Hageman, Kelch, Lichtkoppler, Snyder, and Williams)

O U T R E A C H • R E S E A R C H



Agent Activities

E D U C A T I O N



AGENT ACTIVITIES

1999

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTER/No.	CHAIR/No.	ORGANIZE/No.	PARTICIP/No.	MASS MEDIA
1999	1	2	Snyder	Toussaint River Property Owners	Oak Harbor	Toussaint River Dredging	42		1		
1999	1	5	F. Lichtkoppler	IAGLR 99 Planning Committee	Cleveland	IAGLR 99 Conference Media Effort	8				
1999	1	7	F. Lichtkoppler	Land & Water Committee	Painesville	CLUE Grant Application	10				
1999	1	7	Kelch	Erie Co. 4-H Camp Board Mtg	Sandusky	Attend board meeting, lake ed issues	14				
1999	1	8	F. Lichtkoppler	Sea Grant Conference Call	Painesville	Program Leaders			8	10	
1999	1	8	Snyder	GLSGN ANS Committee	Port Clinton	Program Planning Conference Call	1		1		
1999	1	11	Bielen	Wood County Economic Development N	Bowling Green	Brownfield Redevelopment	3				
1999	1	11	F. Lichtkoppler	Madison Twp. Planner	Painesville	Arcola Creek Grant Proposal	7			5	
1999	1	11	Kelch	OSG boat show display, meetings	Columbus	Display, meet with Karen/Jeff	2				
1999	1	12	F. Lichtkoppler	Ashtabula River Partnership (ARP)	Ashtabula	ARP Outreach Education	7		12		
1999	1	12	Williams	MBE Teleblitz Volunteers	Cleveland	MBE business retention	13				
1999	1	13	F. Lichtkoppler	Grand River Partners	Perry	GRP Planning	12				
1999	1	13	Kelch	Sea Camp planning comm. Mtg	Ashland Co. Ext. Office	Planning meeting for 1999 Sea Camp					
1999	1	14	Williams	Boat Show Attendees	Cleveland	Lake Erie Information					XX
1999	1	14-24	F. Lichtkoppler	Boat Show Attendees	Cleveland	Lake Erie Information					XX
1999	1	15-24	Kelch	Boat Show Attendees	Cleveland	Lake Erie Information					XX
1999	1	15	Bielen	North River Economic Development Con	Toledo	North River Development Projects	8				XX
1999	1	15	Snyder	Fremont News-Messenger	Fremont	Lake Levels Interview					XX
1999	1	15	Snyder	Port Clinton News-Herald	Port Clinton	Lake Levels Interview					XX
1999	1	16	Williams	Boat Show Attendees	Cleveland	Lake Erie Information					XX
1999	1	17	Snyder	Boat Show Attendees	Cleveland	Lake Erie Information					XX
1999	1	17	Williams	Boat Show Attendees	Cleveland	Lake Erie Information					XX
1999	1	18	Hageman	OSU School of Nat. Students	Columbus	Intern Awareness Day	20				XX
1999	1	20	Snyder	Boat Show Attendees	Cleveland	Lake Erie Information					XX
1999	1	20	Williams	Boat Show Attendees	Cleveland	Lake Erie Information					XX
1999	1	21	F. Lichtkoppler	Mentor Marsh Board	Mentor	Marsh Management	15				XX
1999	1	21	Hageman	N.W. District Extension Office Conf	Findlay	Monthly Meeting				9	
1999	1	21	Snyder	Northwest District Extension Staff	Findlay	District Office Conference				12	
1999	1	22-23	Williams	Boat Show Attendees	Cleveland	Lake Erie Information					XX
1999	1	23	Snyder	Boat Show Attendees	Cleveland	Lake Erie Information					XX
1999	1	24	Hageman	Boat Show Attendees	Cleveland	Lake Erie Information					XX
1999	1	26	Bielen	Toledo Community Leaders	Toledo	State of the City Address				550	
1999	1	27	F. Lichtkoppler	ARP Project Committee	Ashtabula	Project Development				14	
1999	1	27	F. Lichtkoppler	ARP Coordinating Committee	Ashtabula	Project Management	16				
1999	1	27	Kelch	LCVB Board of Directors Meeting	Lorain	Chair meeting, discuss tracking survey	19				
1999	1	27	Snyder	Lake Erie Buffer Team	Toledo	Program Planning	1		18		
1999	1	28	Bielen	Cherry/Bancroft/Summit Corridor Coalit	Toledo	Corridor Coalition Projects/Strat Plan.				20	
1999	1	28	Bielen	TMACOG General Assembly	Toledo	TMACOG Projects				250	
1999	1	28	Snyder	Sports Afield Magazine	Michigan	Lake Erie Walleve Interview					XX
1999	1	29	Snyder	Reutter & Hushak	Columbus	Program Review Conference Call			3		
1999	2	1	F. Lichtkoppler	PA Sea Grant Agent	Painesville	New Agent Orientation	2				
1999	2	1	Kelch	Cleve. Daughters of Am. Rev Chapter	Cleveland	Presentation art. Reefs, exotic species	55			4	XX
1999	2	1	Williams	Olmsted Chamber of Commerce	Olmsted Township	Geographic Interest Group Planning	1				
1999	2	2	Bielen	Growth Partnership Personnel	Toledo	Business R&E Techniques	6				XX
1999	2	2	Kelch	LENSC (Lake Erie Nat. & Sci. Center)	Cleveland	set up new OSG display, exotic sp					
1999	2	2	Snyder	Toussaint River Property Owners	Oak Harbor	Toussaint River Dredging	6				
1999	2	2	Williams	Minority Business Network	Cleveland	Planning a minority business forum				3	
1999	2	4	F. Lichtkoppler	Sea Grant Committee Chair	Ashtabula	New Committee Guidelines	2				
1999	2	5	Hageman	Steve Martin	Put-In-Bay	Stone Lab Overview	5				
1999	2	5	Kelch	LCVB Policy Committee Mtg	Lorain	Discuss new policy for visitors bureau	10			1	
1999	2	8	Snyder	Kwiana Club Members	Genoa	Lake Erie Update	48				
1999	2	9	Bielen	Growth Partnership Personnel	Toledo	Business R&E Techniques	1				
1999	2	9	Kelch	Governor's Submerged Lands Ad Cm	Vermilion	Attend meeting, discuss diving issues	16				
1999	2	9	Snyder	Sea Grant Administrators	Columbus	Sea Grant Budget					5
1999	2	9	Williams	Business Retention Expansion Int.	Cleveland	Board Meeting					
1999	2	9-10	F. Lichtkoppler	Sea Grant Staff	Columbus	Sea Grant Program Planning	12				

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTER/NO.	CHAIR/NO.	ORGANIZER/NO.	PARTICIP. NO.	MASS MEDIA
1998	2	10	Kelch	OSG meeting	Columbus	attent OSG meeting, planning, etc					
1998	2	10	Snyder	Sea Grant Staff	Columbus	Staff Meeting				10	
1999	2	10	Williams	Small Business Excerpt Program	Harrison County	Business Planning	16			12	
1999	2	11	F. Lichtkoppler	Mentor Marsh Board	Perry	Marsh Management	13				
1999	2	11	Hageman	Science Educators Council of Ohio	Dayton	Science Lab Opportunities	70				
1999	2	12	Bielen	North River Economic Development Cor	Toledo	North River Development Projects	70			10	
1999	2	12	Hageman	Science Educators Council of Ohio	Dayton	Science Lab Opportunities	70				
1999	2	12	Kelch	OSG/DOV, Roger Knight & staff	Sandusky	Discuss smallmouth tagging research	5				
1999	2	12	Williams	Members of EDI's network-minority	Cleveland	Purchasing opportunities for minority	15				
1999	2	13	Snyder	Rep. Oper & County Leaders	Oak Harbor	Environmental issues and Needs	18				
1998	2	13-14	F. Lichtkoppler	Eastlake Fishing Symposium	Eastlake	Lake Erie Boating & Angling			1		XX
1998	2	14	F. Lichtkoppler	Lake County Staff	Perry	Team Building	14				
1998	2	14	Kelch	Cleveland Boatbuilders Assoc. Mtg	Cleveland	Presentation: Changes in Lake Erie	52				
1998	2	15	Hageman	Phreatants-Forever Board	Oak Harbor	Banquet Planning	15				
1999	2	15	Wilkins	ACT training	Mentor	Learning Act Software					
1999	2	16	Snyder	Ottawa County Leaders & Citizens	Oak Harbor	Extension Priorities			40	8	
1999	2	17	Williams	Volunteers for N. Telefish	Cleveland	Business Attraction	53		24		
1999	2	18	Snyder	Ottawa County SWD Advisors	Oak Harbor	Programming Priorities	65				
1999	2	19	Hageman	Ohio Wildlife Management Assoc	Columbus	Annual Conference				200	
1999	2	19	Hageman	Ohio Wildfire Management Assoc	Columbus	Annual Conference				75	
1999	2	19	Snyder	Port Clinton News-Herald	Port Clinton	Lake Levels Interview					XX
1999	2	19	Kelch	Cleveland Plain Dealer	Cleveland	Lake Levels Interview					XX
1999	2	22	Snyder	ODNR/Geo Survey, Meeley & Staff	Cleveland	Lake Levels Interview	4				
1999	2	23	Bielen	Cherry/Bancroft/Summit Corridor Coalition	Sandusky	Discuss/plan art reef mapping research					
1999	2	23	F. Lichtkoppler	Ashtabula County Commissioners	Toledo	Corridor Coalition Projects/Strat Plan	10			22	
1999	2	23	Snyder	Northwest District Extension Staff	Jefferson	District Office Conference					
1999	2	24	F. Lichtkoppler	OSU Facility and Staff	Findlay	Promotion and Tenure	35				
1999	2	24	Kelch	OSU-Est. Promo & Tenure workshop	Wooster	Attend P & T workshop				30	
1999	2	24	Snyder	D. Martin & M. Bielen	Wooster	Attend P & T workshop					
1999	2	24	Snyder	Toledo Blade	Toledo	Lake Levels Interview			3		XX
1999	2	24	Williams	Local business belonging to ERIE-Net	Collinwood-neighborhood	Geographic Interest Group					
1999	2	25	Hageman	North West Extension Staff	Wood Co	Windows 95				10	
1999	2	25	Snyder	WYAM Radio	Cleveland	Lake Levels Interview					XX
1999	2	25	Snyder	WLEC Radio	Cleveland	Lake Levels Interview					XX
1999	2	26	Snyder	Sen. Latta & Rep. Gardner	Sandusky	Lake Levels Interview	17				
1999	2	27	Hageman	Friends of Stone Laboratory	Bowling Green	Environmental Issues and Needs	200		1		
1999	2	27	Hageman	OSG/Stone Lab Open House, lectures	Columbus	Winter Open House					
1999	3	1	Kelch	OSG Advisory Committee Meeting	Columbus	Presentation art reefs & reef display	15		1		XX
1999	3	1	Snyder	Round Goby Conference Committee	Elyria	OSG update, planning, Roger Knight	6		1		
1999	3	1-5	Williams	SAE Show Co-Chair	Port Clinton	Business Attraction			16		
1999	3	2	F. Lichtkoppler	Professional Groundkeepers	Detroit MI	Aquatic Weed Control	25				
1999	3	2	Snyder	Conservation Tillage Conference	Kirtland	Agriculture Impacts on Water Quality	95				
1999	3	3	Hageman	ODNR Supporters	Ada	Wildlife Diversity Conference	85			200	
1999	3	3	Kelch	LENSC. Steelhead Angling Seminar	Columbus	Teach biology/fishery info fish contain			1		
1999	3	3	Snyder	Columbus Dispatch	Columbus	Lake Levels Interview			1		XX
1999	3	4	Kelch	LCVB Policy Committee Mtg	Columbus	Lake Levels Interview					
1999	3	4	Snyder	ABC & PBS Radio	Lorain	Discuss new policy for visitors bureau	8		1		
1999	3	4	Snyder	Great Lakes Angler Magazine	Washington, DC	Lake Levels Interview					XX
1999	3	6	Snyder	Great Lakes Angler Magazine	Michigan	Exotic Species Interview					XX
1999	3	8	Bielen	Pollution Prevention Meeting	Shelby	Lake Erie Fishery Interview					XX
1999	3	8	Hageman	Phreatants-Forever Board	Toledo	NWCHO Pollution Prevent Initiatives				50	
1999	3	8-10	Kelch	GLSGN & GLERL Staff	Oak Harbor	Banquet Planning	20				
1999	3	8-10	Snyder	GLSGN & GLERL Staff	Ann Arbor, MI	GLERL / Sea Grant Outreach	20			80	
1999	3	8-10	F. Lichtkoppler	GLSGN & GLERL Staff	Ann Arbor, MI	GLERL / Sea Grant Outreach	20			80	
1999	3	8-10	Hageman	GLSGN & GLERL Staff	Ann Arbor, MI	GLERL / Sea Grant Outreach	20			80	
1999	3	9	Williams	Onsted Geographic Interest Group	Onsted Township	Geographic Interest Group Planning	30		30		

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTER/No.	CHAIR/No.	ORGANIZE/No.	PARTICIP./No.	MASS MEDIA
1999	3	10	Williams	Business Resource Panel	Cleveland	Business Retention	14				
1999	3	11	F. Lichtkoppfer	Mentor Marsh Board	Mentor	Marsh Management	15				
1999	3	11	Kelch	WTAM Radio, A.M. 1100	Cleveland	Interview: G. Lakes water sales/diver.					XX
1999	3	11	Williams	Lorain's Teleblitz	Cleveland	Retention of local businesses			9		
1999	3	12	Bielen	North River Economic Development Con	Toledo	North River Development Projects				10	
1999	3	12	F. Lichtkoppfer	Cleveland Sport Show	Cleveland	Lake Erie Boating & Angling					XX
1999	3	12	Williams	Sport Show	Brook Park	Lake Erie Information	450				XX
1999	3	13	Hageman	Pheasant-Forer Membership	Sandusky	Annual Banquet					XX
1999	3	13	Snyder	Sport Show Attendees	Cleveland	Lake Erie Information					XX
1999	3	13	Williams	Sport Show Attendees	Cleveland	Lake Erie Information					XX
1999	3	13-21	Kelch	Sport Show Attendees	Cleveland	Lake Erie Information					XX
1999	3	15	Bielen	OSU/Sea Grant Extension Personnel &	Toledo	Extension/Sea Grant Programs	25		1		
1999	3	15	Snyder	Retired Federal Employees Assn	Port Clinton	Lake Erie Ecological Changes	38				
1999	3	15	Williams	Sport Show Attendees	Cleveland	Lake Erie Information					XX
1999	3	16	Bielen	Economic Development Extension Agen	Columbus	Continuous Business R&E Techniques	25				
1999	3	16	F. Lichtkoppfer	OSU Faculty and Staff	Painesville	Promotion and Tenure	7			75	
1999	3	16	Snyder	Ottawa County Employees & Public	Oak Harbor	County Office Dedication					
1999	3	16	Williams	Economic Development Network	Independence	Business Resources	48				
1999	3	16	Williams	Extension Agents	Columbus	New Techniques in Business Retention	7				
1999	3	17	F. Lichtkoppfer	Ashtabula SWCD	Jefferson	Land Use & Conservation	26				
1999	3	17	Hageman	99 Spring/Summer Applicants	Columbus	Spring/Summer Employee Interviews	25				
1999	3	17	Kelch	UC Public Hearing: G. Lakes water sale	Cleveland	Oral and written presentation to IJC	55				XX
1999	3	17	Kelch	WCN Radio, FM 90.3, Cleveland	Cleveland	Interview: G. Lakes water sales/diver					XX
1999	3	17	Kelch	TV 5, Cleveland interview	Cleveland	Interview: G. Lakes water sales/diver					XX
1999	3	17	Snyder	Sport Show Attendees	Cleveland	Lake Erie Information					XX
1999	3	17	Williams	Sport Show Attendees	Cleveland	Lake Erie Information					XX
1999	3	18	Bielen	Northwest Ohio Development Professor	Toledo	Lake Erie Information					XX
1999	3	18	Hageman	Stone Lab Scholarship Committee	Columbus	Governor Taft's Address	7			550	
1999	3	18	Snyder	Ohio ANS Advisory Committee	Columbus	Summer 1999 Scholarship Awards	19		1		
1999	3	18	Williams	Bellair Puristest Neighborhood Teleblitz	Cleveland	ANS Spread Via Live Fish Shipments					
1999	3	18	Williams	Sport Show Attendees	Cleveland	Retention of local businesses			12		
1999	3	19	Bielen	Extension Northwest District, County Ch	Toledo	Lake Erie Information					XX
1999	3	19	Hageman	Stone Lab - 3 Dept Meeting	Columbus	Sexual Harassment/Computer Training	12			23	
1999	3	19	Williams	Ohio Department of Development	Columbus	Spring/Summer '99 Planning	7				
1999	3	20	Snyder	US Power Squadron NW District	Sandusky	Leads from SAE Show	85				
1999	3	20	Snyder	Sport Show Attendees	Cleveland	Lake Erie Historical Overview (X2)					
1999	3	20	Williams	Sport Show Attendees	Cleveland	Lake Erie Information					XX
1999	3	21	Hageman	Cleveland Sports Show	Cleveland	Lake Erie Information					XX
1999	3	21	Williams	Sport Show E185	Cleveland	Lake Erie Information					XX
1999	3	23	F. Lichtkoppfer	IAGLR 99 Media	Cleveland	Lake Erie Information	2				XX
1999	3	24	F. Lichtkoppfer	Grand River Partners	Perry	IAGLR 99 Media Relations	25				
1999	3	24	Kelch	ARP Coordinating Committee	Ashtabula	Grand River Preservation	16				
1999	3	25	Kelch	LCMB Board of Directors Meeting	Lorain	Chair meeting, update, tracking survey	18	1			
1999	3	25	Snyder	OSU Office of Information	Columbus	Teach bio/fishery into fish contaminant	82	1	1		
1999	3	25	Williams	Lorain Geographic Interest Group	Lorain	Lake Levels Interview					XX
1999	3	25	Williams	Know Show Conference	Cleveland	Business Development			30		
1999	3	26	Williams	Mig with Dr. Benson CSU	Cleveland	Information Technology Conference		2			XX
1999	3	27	Hageman	Ohio Charter Captains Conference	Milan	Research proposal					
1999	3	27	Snyder	Ohio Charter Captains Conference	Milan	99 Lake Erie Information			1		XX
1999	3	29	Williams	Small Business Environment Ct	Cleveland	Board Meeting			210	1	
1999	3	30	F. Lichtkoppfer	NE Ohio Sea Grant Committee	Unionville	Committee Meeting	7			16	
1999	3	31	F. Lichtkoppfer	Sea Grant Staff	Cleveland	Meet w/ Dr. Irwin	6		1		
1999	3	31	F. Lichtkoppfer	Mentor Lagoons Planning Committee	Mentor	Mentor Lagoons Planning	15				
1999	3	31	Hageman	Toledo Boat Show	Toledo	Ohio Sea Grant Booth					
1999	3	31	Williams	Mig with Mary, Frank, Irwin	Cleveland	Using GIS for economic development					7

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1	Lehtokopler Snyder	Coastal Residents Ohio Radio News Network	Concord Twp Columbus	USACE Update Lake Levels Interview				36	
2-3	Bleien	Toledo Boat and Extreme Sports Show	Toledo	Ohio Sea Grant Exhibit-Lake Erie Info					XX
2-3	Hageman	Toledo Boat and Extreme Sports Show	Toledo	Ohio Sea Grant Exhibit-Lake Erie Info					XX
6	Hageman	Toledo Power Squadron	Toledo	Stone Lab Overview & '98 Research					XX
6	Snyder	Natl. Ass'n of Interpretive Naturalists	Sandusky	History & Development of Lake Erie	70				
6	Snyder	WTVN Radio	Columbus	Lake Levels Interview	60				
7	Williams	D. Martin J. Thomas - OSUE Business Excel	Cleveland Findlay	Lake Levels Interview Program Evaluation Cont. Call					XX
8	Lehtokopler	Mentor Marsh Board	Cleveland	Business Excel	18				
8	Snyder	Lake Erie Buffer Team	Mentor	Marsh Management	16				
9	Snyder	Suburban Press	Sandusky	Publicity Development	18				
9	Snyder	News Herald	Milbury	Lake Levels Interview			1		
10	Hageman	Bill Napper & Mike Coley	Port Clinton	Lake Levels Interview					XX
11	Hageman	Lake Erie Wing Watch	Gibraltar Island	Pre-visit Board of Trustees					XX
12	Hageman	Susan and Mike Herrick	South Bass Is. Lighthouse	Lighthouse Tour			4		
12	Snyder	Summit Street Proposal Committee	Gibraltar Island	Stone Laboratory Tour	2		12		
13	Snyder	Water Resources Institute Planners	Fremont	Nature Preserve Development			5		
14	Hageman	Franklin Alternative M.S. - Columbus	Gibraltar Island	Selecting Consultants	7				
14	Snyder	Vacationland Marina Trades Assoc.	Findlay	Program Planning	9		1		
14	Snyder	Business Owners	Port Clinton	Aquatic Science Workshop	22				
15	Bleien	Extension Sustainable Development Car	Cleveland	Office Conference	25		14		
15	Hageman	Kenwood Elementary I. - Bowling Green	Columbus	Lake Levels Issues	21				
15	Williams	Realtors	Columbus	Business Excel	21		1		
16	Bleien	North River Economic Development Con	Gibraltar Island	Sustainable Communities Process	7				
16-18	Lehtokopler Snyder	Boroughs Nature Club Outdoor Writers of Ohio Convention	Oakwood Toledo	Aquatic Science Workshop Economic Development Projects	38 4		1		
19	Bleien	Go Bucks Conference	Willoughby	Awards Dinner	8				125
19	Hageman	Fall-Haley School - Toledo	Columbus	Using the Internet	45		1		
19-20	Williams	Go Bucks Conference	Gibraltar Island	All Extension Conference					800
19-20	Hageman	Go Bucks Conference	Columbus	Aquatic Science Workshop			45		
19-20	Lehtokopler	Go Bucks Conference	Columbus	Spring conference					800
19-20	Lehtokopler	Sea Grant Staff	Columbus	All Extension Conference					800
20	Bleien	Go Bucks Conference	Columbus	Program Development	10				
20	Snyder	OSUE CD Agents	Columbus	All Extension Conference					800
20-21	Hageman	Robinson Jr. High - Toledo	Toledo	Contact Survey Results	15				
21	Hageman	TMACOS Regional Planning Org. Meets	Columbus	Sea Grant Overview	22				
21	Hageman	Kenwood Elementary II. - Bowling Green	Gibraltar Island	Aquatic Science Workshop			28		
21	Lehtokopler	WCPN Public Radio Interview	Cleveland	Regional Land Use Issues					140
21	Snyder	GLSGN Agents	Port Clinton	Aquatic Science Workshop			38		
21	Williams	Business Owners	Cleveland	Lake Erie GPS navigation					XX
21-23	Hageman	Onsted Geographic Interest Group	Onsted	Edby Conference Planning Call	21		6		
22	Lehtokopler	R.O.V. Training	Stone Laboratory Reach Bldg	Research committee			1		
22	Lehtokopler	LENS-GPS Navigation Seminar	Cleveland	R.O.V. Certification	13		1		
22	Snyder	Land & Water Committee	Parisville	Lake Erie GPS navigation	75		1		5
22	Snyder	Wauseon Radio	Wauseon	CLLE Grant Proposal					7
22-23	Hageman	Fulton Co. Pond Owners	Wauseon	Lake Levels Interview					XX
23	Hageman	Arlington Elementary - Toledo	Gibraltar Island	Pond Management	65				
23	Hageman	P.I.B. Underwater Clean Up Committee	Conference Call	Aquatic Science Workshop			52		
23	Snyder	Danbury Elementary Students	Parisville	8th Annual P.I.B. Underwater Clean Up	3		4		
23	Snyder	Omaha Daily News	Danbury	Arcola Creek Grant Proposal	58				
23	Williams	Wm. Derrick-Software company	Cleveland	Zebra Mussels in Lake Erie Private consultation	2		1		XX

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1998	4	23	Williams	Roseanne J. J. Gibral Gibraltar Restaurant	Conference Call	Restaurant development		3			
1999	4	24	Lichtkoppler	CFAES P & T Committee	Columbus	Promotion & Tenure Decisions				11	
1999	4	24-25	Hageman	Friends of Stone Lab Exec. Board	Gibraltar Island	Strategic Planning Meeting				13	
1999	4	25	Lichtkoppler	ARP Outreach Committee	Ashabula	ARP Media Effort				6	
1999	4	25	Lichtkoppler	ARP Project Committee	Ashabula	ARP Dressing Issues				14	
1999	4	25	Lichtkoppler	ARP Coordinating Committee	Ashabula	ARP Management Issues				12	
1999	4	25-28	Hageman	Lake Erie Researchers/Media	Univ. of Windsor, Ontario	Lake Erie at the Millennium			29	150	
1999	4	26	Hageman	Erie-Ottawa Co. Gifted & Talented	Gibraltar Island	Aquatic Science Workshop		8		1	
1999	4	26-29	Williams	Workforce Resource Training for CIRI	Cleveland	Resources available for workforce				400	
1999	4	26-27	Snyder	International ANS Conference	Duluth, MN	ANS Research				21	
1999	4	27	Williams	Jonathan Alders H.S.	Gibraltar Island	Aquatic Science Workshop				5	
1999	4	27-28	Hageman	Clarkmetro TBZ	Cleveland	Survey for retail business in Clark			15		
1999	4	28	Hageman	Worthington Christian H.S.	Gibraltar Island	Aquatic Science Workshop			25		
1999	4	28	Hageman	Woodward H.S. - Toledo	Gibraltar Island	Aquatic Science Workshop				8	
1999	4	28	Kelch	OSG Office: OSU Campus	Columbus	computer w/Mike, Karen, Nancy, Jill					
1999	4	28	Williams	Environmental Educational Forum	Cleveland	Establishing forums for USD		13			
1999	4	28-30	Hageman	Bloom Carroll Fairfield/Liberty Union HS	Gibraltar Island	Aquatic Science Workshop				62	
1999	4	30	Lichtkoppler	Huron Co. 5th Grades	Gibraltar Island	Aquatic Science Workshop				53	
1999	5	1	Hageman	Wayne County Extension Staff	Painesville Township	Ohio Sea Grant / Lake Erie Issues		12			
1999	5	1	Hageman	OSU Geology Seminar-Krissek	Gibraltar Island	Science Cruise/R.O.V. Demo		8			
1999	5	1	Hageman	Grog Lippes, Curator of Herps	Toledo Zoo	Deliver Live Mudpuppies for Display		1			
1999	5	3	Bielen	Summit Street Proposal Committee	Toledo	Consultant Interviews			13		
1999	5	3	Williams	Legislative Day @OSU Extension	Cleveland	educating legislators on OSU		8			
1999	5	3-4	Hageman	Mills School V 6th Grade - Sandusky	Gibraltar Island	Aquatic Science Workshop				44	
1999	5	3-4	Hageman	Mills School I 6th Grade - Sandusky	Gibraltar Island	Aquatic Science Workshop				52	
1999	5	4-5	Hageman	Mills School VI 6th Grade - Sandusky	Gibraltar Island	Aquatic Science Workshop				47	
1999	5	4-5	Hageman	Mills School II 6th Grade - Sandusky	Gibraltar Island	Aquatic Science Workshop				44	
1999	5	4	Hageman	Put-In-Bay Birdathon	Gibraltar Island	Stone Laboratory Tour		4			
1999	5	4	Williams	MBE Teleblitz	Cleveland	Promoting Trade fair			26		
1999	5	5	Bielen	Sea Grant Extension Staff	Cleveland	Program Planning & Administration				10	
1999	5	5	Hageman	Sea Grant Extension Staff	Cleveland	Program Planning & Administration				10	
1999	5	5	Kelch	Sea Grant Extension Staff	Cleveland	Program Planning & Administration				10	
1999	5	5	Lichtkoppler	Sea Grant Extension Staff	Cleveland	Program Planning & Administration				10	
1999	5	5	Snyder	Sea Grant Extension Staff	Cleveland	Program update				10	
1999	5	5-6	Hageman	Mills School VII 6th Grade - Sandusky	Gibraltar Island	Aquatic Science Workshop				38	
1999	5	5-6	Hageman	Mills School III 6th Grade - Sandusky	Gibraltar Island	Aquatic Science Workshop				53	
1999	5	6	Hageman	Lyons Elem. 4th & 5th Grades	Lyons	Science Opportunities at Stone Lab					
1999	5	6	Snyder	Buffalo Evening News	Buffalo, NY	Lake Levels Interview			111		XX
1999	5	6	Williams	Executive Tour	Cleveland	Business Attraction				1	
1999	5	6-7	Hageman	Mills School IV 6th Grade - Sandusky	Gibraltar Island	Aquatic Science Workshop				48	
1999	5	7	Bielen	Summit Street Proposal Committee	Toledo	Consultant Interviews				13	
1999	5	7	Hageman	Rogers H.S. (Calveranette) - Toledo	Gibraltar Island	Aquatic Science Workshop				18	
1999	5	7	Hageman	Minnich Family (Sycamore Cottage)	Gibraltar Island	Stone Laboratory Tour				4	
1999	5	7	Lichtkoppler	Sea Grant Staff	Painesville	Conf. Call Lake Erie Brochure				3	
1999	5	7-8	Hageman	Seewickley Academy, Pritsburgh, PA	Gibraltar Island	Aquatic Science Workshop				63	
1999	5	8	Hageman	Cleveland State University	Gibraltar Island	Stone Laboratory Tour				11	
1999	5	10	Bielen	Summit Street Proposal Committee	Toledo	Consultant Selection				7	
1999	5	10	Bielen	Ottawa River Report Subcommittee	Toledo	Contact Survey Results				6	
1999	5	10	Hageman	Wanda Shirky/Ashley Johansen	Gibraltar Island	Cooke Castle Tour				2	
1999	5	10	Kelch	Black River RAP Coord. Com. Mtg.	Elyria	RAP update, planning					22
1999	5	10	Lichtkoppler	Lakeland Community College Students	Mentor	Lake Erie Economic Geography				20	
1999	5	10	Snyder	Water Resources Institute Planners	Fremont	Program Planning				8	
1999	5	11	Hageman	Dayton Daily News	Gibraltar Island	6/3 Feature Story of Workshop Prog.					XX
1999	5	11	Kelch	Governor's Submerged Lands Comm.	Vermilion	submerged lands issues, shipwrecks					15
1999	5	11	Williams	National TBZ	Cleveland	Business Attraction			1		
1999	5	12	Hageman	Amherst Steel H.S.	Gibraltar Island	Stone Laboratory Tour				26	

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1998	5	12	Kelch	LCVB Visitor Tracking sub-com Mtg	Lorain	updates, new ideas for data collection	7				
1998	5	12	Lichtkoppler	Grand River Partners Retention Committee	Perry Twp, Cleveland	Grand River Protection Retention	12	1		18	
1998	5	13	Lichtkoppler	Mentor Marsh Board	Mentor	Marsh Management	14				
1999	5	13	Williams	Ometted Geographic Interest Group	Ometted	Forming a JEDD	13	1			
1998	5	13-14	Hageman	Millis School VIII 6th Grade - Sandusky	Gibraltar Island	Aquatic Science Workshop				43	
1998	5	14	Bielen	Northriver Economic Development Com	Toledo	Economic Development Projects	9				
1998	5	14	Hageman	Springfield South H.S.	Gibraltar Island	Aquatic Science Workshop				12	
1998	5	14	Hageman	Central Catholic H.S. - Springfield	Gibraltar Island	Aquatic Science Workshop	8			12	
1998	5	14	Lichtkoppler	Extension Agents	Columbus	Small Business Management Excel					
1998	5	14	Williams	Business Owners-E325	Columbus	Business Excel Team Meeting	9				
1998	5	14,16	Hageman	OSU Limnology Class - Cuyler	Gibraltar Island	Field Trip				27	
1998	5	15	Hageman	Browne Troop #5328 - Berlin His	Gibraltar Island	Stone Laboratory Tour	14				
1998	5	17	Hageman	Ft. Meigs Elementary - Perrysburg	Gibraltar Island	Aquatic Science Workshop	54			18	
1998	5	17	Lichtkoppler	Extension Agents	Painesville	Coastal Land Use	10				
1998	5	17	Lichtkoppler	Coastal Business Owners	Fairport Harbor	Lake Levels & Dredging	8				
1998	5	17	Williams	Lunch w/Lou Zeman	Cleveland	Business Attraction	9				
1998	5	17-18	Hageman	McCord/Peiry M.S. - Worthington	Gibraltar Island	Aquatic Science Workshop	68				
1998	5	18	Bielen	Maureen Starkey/Lucy Gandert	Gibraltar Island	Participant Survey Results	18				
1998	5	18	Hageman	Toledo Zoo - Herpetology	Toledo	Specimen Delivery				4	
1998	5	18-18	Hageman	Toth Elementary - Perrysburg	Gibraltar Island	Aquatic Science Workshop				63	
1998	5	18-24	Williams	Business Retention Conference	Portland, OR	Business Retention		18		60	
1998	5	19	Bielen	NW District Extension Professionals	Bowling Green	OSHA Hazardous Materials Training				15	
1998	5	19	Bielen	NW Ohio Development Professionals	Toledo	Reg Growth Partnership Annual Progress				700	
1998	5	19	Hageman	Jim Chamberlain	Gibraltar Island	Eutrophication Workshops - 2000	2				
1998	5	19-20	Hageman	New Albany 1 7th Grade	Gibraltar Island	Aquatic Science Workshop				54	
1998	5	20-21	Hageman	New Albany 1 7th Grade	Gibraltar Island	Aquatic Science Workshop				54	
1998	5	20	Lichtkoppler	Land and Water Committee	Painesville	Coastal Land Use	7				
1998	5	20	Lichtkoppler	Fairport Harbor Rod & Reel Assoc	Fairport Harbor	Lake Erie Issues	65				
1998	5	21	Hageman	Rogers H.S. (C.J. Washington) - Toledo	Gibraltar Island	Aquatic Science Workshop				16	
1998	5	21	Hageman	Lucas Co. Youth Treatment Center	Gibraltar Island	Aquatic Science Workshop				16	
1998	5	21	Kelch	Rod Makers Shoppe, volunteer anglers	Strongsville	smallmouth bass tagging research	5				
1998	5	21	Snyder	News-Herald	Port Clinton	Marty Interview					XX
1998	5	21-23	Hageman	O.S.U. Molecular Genetics	Gibraltar Island	Research Conference				38	
1998	5	24	Hageman	Fallen Timbers H.S. - Perrysburg	Gibraltar Island	Aquatic Science Workshop				15	
1998	5	24	Hageman	Perrysburg H.S.	Gibraltar Island	Aquatic Science Workshop				9	
1998	5	24-25	Hageman	West Carrollton M.S	Gibraltar Island	Aquatic Science Workshop				39	
1998	5	25	Bielen	Leadership Toledo Affiliates	Toledo	Toledo Development Initiatives				45	
1998	5	25	Kelch	IAGLR Conference, presentations	Cleveland	two presentations, art reef, use of video	120				
1998	5	25	Kelch	IAGLR Conference, presentations	Cleveland	art reef, use of video					XX
1998	5	25	Kelch	IAGLR Conference, presentations	Cleveland	artificial reefs					XX
1998	5	25	Snyder	NW Sea Grant Advisory Committee	Sandusky	Office Conference				14	
1998	5	25	Snyder	NW Sea Grant Advisory Committee	Sandusky	Office Conference				1	
1998	5	25-26	Hageman	Toledo Horizons 1	Gibraltar Island	Aquatic Science Workshop	12	1		48	
1998	5	25-28	Lichtkoppler	IAGLR 99 Participants	Cleveland	Aquatic Science Workshop	48				XX
1998	5	26	Bielen	Toledo Brownies Working Group	Toledo	Marine and Conference Session Organz	20				XX
1998	5	26	Kelch	IAGLR Conference, presentations	Cleveland	Brownfield Redevelopment Strategy	25				XX
1998	5	26	Kelch	IAGLR, Great Lakes Radio Interview	Cleveland	presentation, art reef economic impact					XX
1998	5	26	Kelch	IAGLR, Great Lakes Radio Interview	Cleveland	artificial reefs					XX
1998	5	26-27	Hageman	Fox TV 8 Interview	Cleveland	gobies art reef, Adventure wreck video					XX
1998	5	27-28	Hageman	Toledo Horizons II	Gibraltar Island	Aquatic Science Workshop				46	
1998	5	27	Kelch	See Camp Conference call	Gibraltar Island	Aquatic Science Workshop				23	
1998	5	27	Williams	Ohio Economic Development Council	Columbus	planning for '99 Sea Camp	10				
1998	5	28	Kelch	Lorain County Bass Baiters Club	Lorain	SAE show		7			
1998	5	28	Snyder	Round Goby Conference	Cleveland	smallmouth bass tagging research	12				
1998	5	28	Snyder	Round Goby Conference	Cleveland	Goby Research				1	60

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1999	5	28	Snyder	Round Goby Conference	Cleveland	Yugoslavian Goby Research	60		1		
1999	6	1	Bielen	Business R&E Conference Call	Toledo	Business R&E Workshop Planning	2				
1999	6	1	Hageman	Whitford, Michigan M.S.	Gibraltar Island	Aquatic Science Workshop	79			10	
1999	6	1	Lichtkoppler	Extension Staff	Painesville	Web Page Training					
1999	6	2	Hageman	Jones Jr. High - Toledo	Gibraltar Island	Aquatic Science Workshop			7		
1999	6	2	Hageman	Genoa H.S.	Gibraltar Island	Aquatic Science Workshop			14		
1999	6	2	Hageman	O.S.U. Young Scholars	Gibraltar Island	Aquatic Science Workshop			14		
1999	6	2	Hageman	Layton Elementary	Gibraltar Island	Stone Laboratory Tour			62		
1999	6	2	Keich	Sea Grant Advisory Committee Mtg	Elyria	updates, planning, research, elections	15	1	1		
1999	6	2	Lichtkoppler	Ohio Sea Grant Proposal Review Panel	Columbus	Sea Grant Research Project Review			8		
1999	6	2	Snyder	Ohio Sea Grant Proposal Review Panel	Columbus	Sea Grant Research Project Review			8		
1999	6	3	Bielen	NW District Extension Professionals	Bowling Green	Aq. Business R&E Program	7				
1999	6	3	Hageman	Putnam Co. SWCD Envirothon	Gibraltar Island	Aquatic Science Workshop			8		
1999	6	3	Keich	LENESC-What's Up Under Erie Seminar	Cleveland	snipewicks, art reefs, aquatic life, biolo	70	1	1		
1999	6	3	Lichtkoppler	Citizens & Agency Representatives	Painesville	Mentor Marsh SAMP	17		5		
1999	6	3	Williams	Minotky Business League Teleblitz	Cleveland	Business Development			36		
1999	6	3-4	Hageman	Jones M.S. - Upper Arlington	Gibraltar Island	Aquatic Science Workshop					
1999	6	4	Keich	New Wave Dive Shop, Research Mtg	Port Clinton	teach research methodology to divers	3				
1999	6	4	Snyder	New Wave Dive Shop	Port Clinton	Artificial Reef Video			4		
1999	6	5	Hageman	Boy Scout Troop #271 - Grove City	Gibraltar Island	Stone Laboratory Tour	27				
1999	6	6	Hageman	EEOB 125	Gibraltar Island	Blue Heron Reserve Ecosystem	15				
1999	6	6	Snyder	Boy Scout Troop 312	Victory	Participant Survey Results	7				
1999	6	7	Bielen	Ottawa River Report Subcommittee	Gibraltar Island	Stone Laboratory Tour	21			16	
1999	6	7	Hageman	Lakota Schools Staff	Gibraltar Island	Meeting					
1999	6	8	Hageman	Lake Erie Buffer Team	Gibraltar Island	planning/coordination for 99 Sea Camp	11				
1999	6	9	Keich	Sea Camp Conference call	Elyria	Stone Laboratory Tour/Conference	26				
1999	6	10	Hageman	NW District Extension FCS Staff	Gibraltar Island	art reef update, research, bass tagging	45				
1999	6	10	Keich	West Cleveland Walleye Association	Cleveland	Marsh Management	14				
1999	6	10	Lichtkoppler	Mentor Marsh Board	Mentor	Fish Handling & Storage, HACCP	25				XX
1999	6	10	Snyder	NW District Extension FCS Staff	Put-in-Bay	Walleye Tournament Judge					
1999	6	11	Hageman	Columbus Athletic Club	Catawba Island	smallmouth bass tagging research	7			12	
1999	6	11	Keich	Wildwood State Park Marina	Cleveland	Office Conference					
1999	6	11	Snyder	NW District Extension Staff	Findlay	Stone Laboratory Tour	78				
1999	6	12	Hageman	Calawba Island Club	Gibraltar Island	Gibraltar Island Orientation	50				
1999	6	13	Hageman	GEO 107/NRE 611/EEOB 126	Gibraltar Island	Mayfly Interview	25				XX
1999	6	14	Snyder	Akron Beacon-Journal	Akron	Business Survey Results	23				
1999	6	15	Bielen	Ottawa River Action Group	Toledo	Grand River Protection & Grants	18				
1999	6	15	Lichtkoppler	Grand River Partners	Painesville	Ohio's Telemarketing Event	8	1			
1999	6	15	Williams	Ohio Economic Development Council	Columbus	discuss new policy for visitors bureau	10				
1999	6	16	Keich	LOVB Policy Comm. Mtg	Lorain	Science Cruise	3000	1		64	
1999	6	17	Hageman	Natural Resources 611	Gibraltar Island	Extension Outreach work with FCS			3		
1999	6	17	Hageman	Guest Lecture Series	Gibraltar Island	Counseling					
1999	6	18	Williams	Senior Days Cleveland Zoo	Cleveland	Sea Grant Wiosk	5			50	
1999	6	18	Williams	Private consultation	Cleveland	Stone Laboratory Tour	51				XX
1999	6	18-24	Lichtkoppler	Sea Grant Staff	Portland, OR	Mayfly Hatches Interview			5		
1999	6	20	Hageman	Bill Hirtzel	Gibraltar Island	Program Planning					
1999	6	20	Hageman	EEOB 621,651,652 and GEO 584	Gibraltar Island	P.E.R.S. "P.L.A.N." Seminar	18			113	
1999	6	21	Hageman	Toledo Blade	Toledo	visitor bureau updates, planning	7				
1999	6	22	Snyder	Water Resources Institute Planners	Fremont	Summit Street Redevelopment Planning	48			62	
1999	6	23	Bielen	Summit Street Developers	Toledo	Solutions To Brownfields					
1999	6	23	Hageman	Public Employees System Staff	Perrysburg	June Foreyth "Lake Erie Geology"	62				
1999	6	23	Keich	LOVB Board of Directors Meeting	Lorain	research, bass tagging, art reef fishery					
1999	6	24	Bielen	Summit Street Proposal Committee	Toledo						
1999	6	24	Bielen	Better Ways to Develop Ohio Conferenc	Columbus						
1999	6	24	Hageman	Guest Lecture Series	Gibraltar Island						
1999	6	24	Keich	Westlake Sportsman's Club	Cleveland						

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTER/NO.	CHAIR/NO.	ORGANIZ/NO.	PARTICIP./NO.	MASS MEDIA
1999	6	25	Lichtkoppler	Land & Water Committee	Cincinnati	Coastal Land Use Issues	8				
1999	6	25	Snyder	Ohio ANS Advisory Committee	Columbus	New Proposal Review	18		1		
1999	6	27	Hageman	EEOB 694	Gibraltar Island	Gibraltar Island Orientation	18				
1999	6	28	Bielen	Olawa River Report Subcommittee	Toledo	Business Survey Results	8				
1999	6	28	Keich	LOVB Visitor Tracking Sub-com. Mtg	Lorain	updates, new planning for data	7	1			
1999	6	28	Williams	Mid-Town Geographic Interest Group	Cleveland	Realtor Tour	48				
1999	6	28-29	Hageman	O.D.N.R. Carolyn Calkwell	Peach Point Research Lab	Meeting			13		
1999	6	29	Bielen	BREI Communications Comm. Conf. Cal	Toledo	Future Communication Issues	2				
1999	6	29	Hageman	B.G.S.U. - Governors Summer Institute	Gibraltar Island	Aquatic Science Workshop			31		
1999	6	29	Keich	Lake Erie Bass Anglers Association	Belden	smallmouth bass tagging research	14				
1999	6	29	Williams	BREI Communication Committee	Cleveland	Conference Call		8			
1999	6	30	Bielen	Toledo Brownfields Working Group	Toledo	Brownfield Redevelopment Strategy	20				
1999	6	30	Hageman	O.S.U. - Upward Bound	Gibraltar Island	Aquatic Science Workshop	30		37		
1999	6	30	Keich	LENSC: Lorain Youth Summer Program	Vernilion	water quality, macro invert sampling	4				
1999	6	30	Lichtkoppler	OSG Advisory Program Coordinators	Columbus	Proposal Development	4				
1999	6	30	Snyder	OSG Advisory Program Coordinators	Columbus	Proposal Development	4				
1999	6	30	Williams	NEOSA	Cleveland	TelePhiz			12		
1999	6	30	Williams	East Cleveland Park Commission	Cleveland	Preparation for Program			3		
1999	7	1	Hageman	Visitors for Guest Lecture	Gibraltar Island	John Keberg - Cooke Castle				70	
1999	7	2	Keich	OSU Board of Trustees	Stone Lab - Put-in-Bay	Board Meeting				55	
1999	7	2	Lichtkoppler	OSU Board of Trustees	Stone Lab - Put-in-Bay	Board Meeting				55	
1999	7	2	Snyder	OSU Board of Trustees	Stone Lab - Put-in-Bay	Board Meeting				55	
1999	7	2	Williams	OSU Board of Trustees	Stone Lab - Put-in-Bay	Board Meeting				55	
1999	7	2	Hageman	O.S.U. Board of Trustees	Gibraltar Island	Stone Laboratory Overview	40				
1999	7	5 B	Keich	15th Annual 4H Sea Camp	Kellys Island	Lake Erie, biology, fishery, snorkeling	90		90		
1999	7	6	Snyder	Cleveland Pain Dealer	Cleveland	Interview-Fish Consumption Advisories					XX
1999	7	6	Williams	East Cleveland parks	East Cleveland	Park security	5				
1999	7	6	Hageman	Nichols Family	Gibraltar Island	Stone Laboratory Tour	11				
1999	7	7	Snyder	Columbus Dispatch	Columbus	Interview - Lake Wave Effects					XX
1999	7	8	Snyder	Sandusky County Officials	Columbus	Water Resources Institute - Wellands	56				
1999	7	8	Snyder	State & Federal Legislators	Sandusky, Put-in-Bay	Lake Erie Legislative Issues	150		1		
1999	7	8	Hageman	NRE 611 Class	Gibraltar Island	Science Cruise	14				
1999	7	8	Hageman	Visitors for Guest Lecture	Gibraltar Island	Gary Isbell - Ohio Fish Mgmt	150			53	
1999	7	9	Keich	State & Federal Legislators	Sandusky, Put-in-Bay	Lake Erie Legislative Issues	150		1		
1999	7	9	Lichtkoppler	State & Federal Legislators	Sandusky, Put-in-Bay	Lake Erie Legislative Issues	150		1		
1999	7	9	Williams	State & Federal Legislators	Sandusky, Put-in-Bay	Lake Erie Legislative Issues	150		1		
1999	7	9	Hageman	State & Federal Legislators	Sandusky, Put-in-Bay	Lake Erie Legislative Issues	150				
1999	7	9	Bielen	State & Federal Legislators	Sandusky, Put-in-Bay	Lake Erie Legislative Issues	150				
1999	7	10	Lichtkoppler	National Clean Boating Kick-Off	Cleveland	Clean Boating Issues	25			400	
1999	7	10	Snyder	National Clean Boating Kick-Off	Cleveland	Clean Boating Issues	25			400	
1999	7	10	Hageman	Dockle Wolf	Gibraltar Island	Distance Learning Program	3				
1999	7	10	Hageman	Robbom/Conley/Weekdyke	Gibraltar Island	Stone Laboratory Tour	8				
1999	7	11	Hageman	Entomology 520 Class	Gibraltar Island	Stone Laboratory Orientation	8				
1999	7	12	Keich	Black River RAP Corr. Com Mtg	Elyria	RAP update, planning	18			25	
1999	7	12	Lichtkoppler	Teachers, Eco-Treck	Lake Erie, Grand River	Lake Erie Issues	1				
1999	7	12	Williams	Lou Zitzan	Cleveland	Consultation	9				
1999	7	12	Hageman	Tim Mason	Gibraltar Island	Stone Laboratory Tour	9				
1999	7	14	Lichtkoppler	Mentor Marsh SAMP/MARC	Mentor	SAMP/MARC Planning	20				
1999	7	14	Williams	Small Business Envr. Ctr	Cleveland	Board meeting	16				
1999	7	14	Hageman	Phil Pendergast, et al	Gibraltar Island	Laboratory Safety Visit	4				
1999	7	15	Keich	Guest lecture, Ft Stone, lab	Ft Stone Lab, Put-in-Bay	artificial reefs update, research findings	75				
1999	7	16	Williams	Tony Submarine shops	Cleveland	Consultation, business attraction	2				
1999	7	16	Bielen	North River Economic Development Cor	Toledo	North River Development Projects	2		10		
1999	7	17	Hageman	Senator Jeffery Amthuser	Gibraltar Island	Stone Laboratory Tour	10				
1999	7	18	Hageman	NPE 797 and ENI 126 Classes	Gibraltar Island	Stone Laboratory Orientation	23				
1999	7	18-24	Lichtkoppler	Teachers, EPA Staff	Lake Erie, Stone Lab	Lake Erie Limnology	33				XX

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1988	7	19	Hageman	Agriculture Business Enhancement	Gibraltar Island	Science Cruise	8				
1988	7	20	Snyder	Ohio Governor & Agriculture Industry	Tiffin	Ohio Buffer Strip Initiative			125		
1988	7	20	Williams	East Cleveland parks	East Cleveland	Park security	5				
1988	7	20	Bielen	Ottawa River Action Group	Toledo	Ottawa River Boating/Marine Trades St	15		X		
1988	7	20	Bielen	Ottawa River Action Group	Toledo	Ottawa River Boating/Marine Trades St	15		X		
1988	7	21	Keich	WCPN Public Radio Interview	Cleveland	Lake Erie fisheries, zebra mussels	18				XX
1988	7	21	Snyder	Portage River Basin Council	Bowling Green	Wildlife & Recreation Issues			1		
1988	7	22	Keich	WEOL FM Radio Interview	Elyria	water quality, algae, zebra mussels	5		1		XX
1988	7	22	Snyder	Calala Crayfish Fair	New London	Crayfish Marketing Issues	23				
1988	7	22	Hageman	Term II Students	Gibraltar Island	Stone Laboratory Orientation				15	
1988	7	23	Snyder	NW District Extension Office	Put-in-Bay	District Office Retreat				22	
1988	7	23	Hageman	NW District Extension Office	Put-in-Bay	District Office Retreat			20		
1988	7	23	Bielen	NW District Extension Office	Put-in-Bay	District Office Retreat				20	
1988	7	24	Hageman	Jim Saylor	Gibraltar Island	Stone Laboratory Tour	10				
1988	7	26	Keich	Clairmar Lakes Property Owners Assn	Wellington	aquatic weed control, fish stocking	35				
1988	7	26	Keich	Associated Press Art. Reef Outing	Cleveland	stadium artificial reefs	6		4		XX
1988	7	26	Bielen	Ottawa River Report Subcommittee	Toledo	Ottawa River Boating/Marine Trades St	6	X	X		
1988	7	26	Bielen	Ottawa River Report Subcommittee	Toledo	Ottawa River Boating/Marine Trades St	6	X	X		
1988	7	26-28	Lichtkoppler	Sea Grant Staff	Lorain County	Extension Proposal A/EP-1	2		1		
1988	7	28	Bielen	Brownfields Working Group	Toledo	Extension Proposal A/EP-1	2		1		
1988	7	28	Bielen	Brownfields Working Group	Toledo	Brownfield Redevelopment Strategy	15		X		
1988	7	29	Hageman	Visitors for Guest Lecture	Gibraltar Island	Brownfield Redevelopment Strategy	15		X		
1988	7	29	Bielen	Cherry/Bancroft/Summit Corridor Coalitie	Toledo	Dr. Herdendorf - "Ship of Gold"	X		15		75
1988	7	29	Bielen	Cherry/Bancroft/Summit Corridor Coalitie	Toledo	Corridor Coalition Projects/Strategic Pla	X		15		15
1988	7	30	Hageman	WBSU T.V. / Bowling Green	Gibraltar Island	Stone Laboratory Tour	2				
1988	7	30	Hageman	Melissa Hathaway - Div. Of Wildlife	Gibraltar Island	Stone Laboratory Tour	6			10	
1988	7	31	Hageman	Harbor North Sailing Club	Gibraltar Island	Stone Laboratory Tour			25		
1988	7	31	Hageman	Kent State Univ. Biol. Dept.	Gibraltar Island	Stone Laboratory Orientation	16				
1988	8	1	Hageman	EEOB 125 - Berg	Gibraltar Island	Stone Laboratory Orientation	12				
1988	8	3	Keich	LCVB Visitor Tracking sub-com. Mtg	Lorain	updates, new planning for data				6	
1988	8	3	Hageman	Phi Pendragast	Gibraltar Island	Dive Safety Protocol Meeting				9	
1988	8	4	Hageman	Sea Grant Extension Agents	Camp Perry	Quarterly Meeting					
1988	8	5	Keich	West Cleveland Walleye Association	Cleveland	stadium reef update	47				
1988	8	5	Hageman	Tom Fitz/David Reithelst - BBC	Gibraltar Island	Zebra Mussel Filming	2				
1988	8	5	Hageman	Stewart Family Tour	Gibraltar Island	Stone Laboratory Tour	5				
1988	8	5	Hageman	Visitors for Guest Lecture	Gibraltar Island	Stone Laboratory Tour				78	
1988	8	6	Williams	Heritage tour information	Cleveland	Scudder Mackery - "Lake Erie Geol."				2	
1988	8	7	Hageman	GEO 583 Class	Gibraltar Island	Stone Laboratory Orientation	12				
1988	8	8	Hageman	EEOB 125 - Snyder	Gibraltar Island	Stone Laboratory Orientation	14				
1988	8	8-14	Snyder	EEOB 125 Students	Stone Lab - Put-in-Bay	Aquatic Biology Course - 3 credit hrs	150		1		
1988	8	9	Lichtkoppler	Agency Staff	Painesville	Ohio NEMO	2			7	
1988	8	9	Hageman	Dr. Martha Garland / Tom Davis	Gibraltar Island	Stone Laboratory Tour	1			24	
1988	8	10	Lichtkoppler	Mentor Marsh SAMP/MARC	Mentor	SAMP/MARC Planning			15		
1988	8	10	Williams	Volunteers for TBZ	Cleveland	Business Attraction	17				
1988	8	11	Lichtkoppler	Teachers, Geology Class	NE Ohio Lake Erie Coast	Coastal Geology	8				
1988	8	11	Hageman	Walrus Valley Girl Scouts	Ottawa N WR	Ohio Sea Grant College Program	X			12	
1988	8	11	Bielen	North River Economic Development Cor	Toledo	North River Development Projects	X			12	
1988	8	11	Bielen	North River Economic Development Cor	Toledo	North River Development Projects	X			12	
1988	8	12	Lichtkoppler	Sea Grant Committee Chair	Ashtabula	Dredging, Economics	2				
1988	8	12	Hageman	Ron and Butch Coler	Butch & Denny's Bait Store	Advise on Minnow Health	2				78
1988	8	13	Williams	Heritage tour information	Gibraltar Island	Sam Speck - "ODNR Opportunities"				6	
1988	8	16	Williams	OEDC volunteer appreciation	Cleveland	Volunteer appreciation				1	
1988	8	17	Williams	OEDC telemarketing event	Cleveland	New business investment	17			1	
1988	8	17	Hageman	Alan Olsen	Gibraltar Island	Stone Laboratory Tour	5				

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1999	8	18	Lichtkopfer	ARP Outreach Committee	Ashabula	Ashabula River Outreach	6				
1999	8	18	Lichtkopfer	ARP Project Committee	Ashabula	ARP Project	20				
1999	8	18	Lichtkopfer	ARP Coordinating Committee	Ashabula	ARP Organization	35				
1999	8	18	Hageman	Karen & Colin Jones	Gibraltar Island	Stone Laboratory Tour	2				
1999	8	18	Bielen	TMAOOG Land Use/Storm Water Conf	Toledo	Extension Land Use Resources					XX
1999	8	18	Bielen	TMAOOG Land Use/Storm Water Conf	Toledo	Extension Land Use Resources					XX
1999	8	19	Snyder	OSHA Training	Oak Harbor	Office Compliance					XX
1999	8	19	Hageman	Ohio Farm Bureau	Gibraltar Island	Aquatic Science Workshop	33				
1999	8	20	Williams	Heritage tour information	Cleveland						
1999	8	21	Hageman	Ron Engel	Gibraltar Island	Stone Laboratory Tour	6				
1999	8	24	Bielen	Agricultural Business Study Committees	Bowling Green	Agricultural Business Study	X				
1999	8	24	Bielen	Agricultural Business Study Committee	Bowling Green	Agricultural Business Study	X				
1999	8	25	Snyder	INV Ohio Recycle Directors, PC Mayor	Port Clinton	Marly Composting Project	12				
1999	8	25	Hageman	R.D.H. Resident Life	Gibraltar Island	Stone Laboratory Orientation	40				
1999	8	25	Bielen	Brownfields Working Group	Toledo	Brownfield Redevelopment Strategy	20				
1999	8	25	Bielen	Brownfields Working Group	Toledo	Brownfield Redevelopment Strategy	20				
1999	8	26	Kelch	Westlake Sportsmans Club	Cleveland	stadium reef update	55				
1999	8	26	Bielen	Cherry/Bancroft/Summit Corridor Coalit	Toledo	Summit Street Redevelopment Proposal	15				
1999	8	26	Bielen	Cherry/Bancroft/Summit Corridor Coalit	Toledo	Summit Street Redevelopment Proposal	15				
1999	8	27	Hageman	Friends of Stone Lab Board	Gibraltar Island	Planning Session for Open House	17				
1999	8	27	Bielen	Neighborhood R&E Committee	Toledo	Ohio Planning Conference Presentation	X				
1999	8	28	Snyder	General Public	Toledo	Ohio Planning Conference Presentation	X				
1999	8	28	Snyder	Put-in-Bay Gazette	Put-in-Bay	Stone Lab Open House-Fishery Issues	X				
1999	8	28	Snyder	Put-in-Bay Gazette	Put-in-Bay	Stone Lab Open House-Fishery Issues	140				
1999	8	28	Snyder	Toussaint River Association	Oak Harbor	Interview - Stone Lab Classes					XX
1999	8	28	Hageman	Visitors for Stone Lab Open House	Gibraltar Island	Dredging Issues	28				
1999	8	28	Hageman	Visitors for Lighthouse Tour	Gibraltar Island	Stone Laboratory Tour	450				
1999	8	29	Hageman	Friends of Stone Laboratory	South Bass Is. Lighthouse	Lighthouse Tour					
1999	8	30	Hageman	Underwater Welding Workshop	Gibraltar Island	Annual Board Meeting	50				
1999	8	31	Williams	BREI Communication Committee	Cleveland	International Underwater Welding WS					
1999	8	31	Hageman	Lake Erie Commission	Gibraltar Island	BREI Website	9				
1999	9	1	Kelch	Sea Grant Advisory Committee Mtg	Elyria	Summer Meeting	14				
1999	9	1	Lichtkopfer	Agency Officials	Concord	see grant updates, planning	14				
1999	9	1	Snyder	Ohio Lake Erie Conference	Concord	Mentor Marsh Mitigation	6				
1999	9	1	Hageman	Natural Resource Conservation Service	Huron	Annual Meeting					
1999	9	2	Williams	Cuyahoga County Chair, research commit	Gibraltar Island	Aquatic Science Workshop					
1999	9	2	Hageman	Phillips - Osburn Farnessville, OH	Cleveland	Updating job description	5				
1999	9	2	Hageman	Put-in-Bay High School	Gibraltar Island	Aquatic Science Workshop					
1999	9	7	Kelch	OSG Agents/Director Mtg	Columbus	Aquatic Science Workshop	10				
1999	9	7	Lichtkopfer	Sea Grant Staff	Columbus	updates, planning	10				
1999	9	7	Snyder	Ohio Sea Grant Staff	Columbus	Start Meeting	10				
1999	9	9	Williams	OSU leader, Personnel search	Columbus	Start Meeting	10				
1999	9	9	Hageman	Sea Grant Extension Agents	Columbus	Review curriculum vitas	10				
1999	9	7	Bielen	Sea Grant Staff	Toledo	Quaterny Meeting	9				
1999	9	7	Bielen	Sea Grant Staff	Toledo	Quaterny Meeting	9				
1999	9	7	Hageman	Hilliard Station - Hilliard Ohio	Toledo	Sea Grant Program Development	10				
1999	9	8	Kelch	ESPN, TV 5 reporter, camera, art reef	Gibraltar Island	Sea Grant Program Development	X				
1999	9	8	Lichtkopfer	Mentor Marsh Subcommittee	Cleveland	Aquatic Science Workshop	40				
1999	9	8	Hageman	Genoa H.S. German Exchange	Mentor	stdium reef angling, diving, interview	1				XX
1999	9	8-9	Hageman	Hilliard Station II - Hilliard Ohio	Gibraltar Island	Wetland Mitigation	1				
1999	9	9	Kelch	Stadium Reef Press Conf, ESPN, TV5	Cleveland	Stone Laboratory Tour	15				
1999	9	9	Lichtkopfer	Mentor Marsh Board	Cleveland	Aquatic Science Workshop	39				
1999	9	9	Williams	Semib Corp	Cleveland	Marsh Management	1				XX
1999	9	9	Hageman	Ohio Farm Service Agency - Columbus	Gibraltar Island	Marsh Management	1				
1999	9	8-10	Hageman	Hilliard Station II - Hilliard, Ohio	Gibraltar Island	Site Search	4				
1999	9	8-10	Hageman	Hilliard Station II - Hilliard, Ohio	Gibraltar Island	Conference	15				
1999	9	8-10	Hageman	Hilliard Station II - Hilliard, Ohio	Gibraltar Island	Aquatic Science Workshop	37				
1999	9	8-10	Hageman	Hilliard Station II - Hilliard, Ohio	Gibraltar Island	Conference	5				

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTER/No.	CHAIRING, ORGANIZING	PARTICIP./No.	MASS MEDIA
1999	9	10	Lichtkoppler	ARP Outreach	AshTabula	ARP CMP/ELS Release to Public	12			XX
1999	9	10	Williams	Heritage tour information	Cleveland				3	
1999	9	10	Snyder	Ottawa Co. 5th Grade Conserv. Tour	Ottawa Nat. Wildlife Refuge	Aquatic Science	650			
1999	9	10	Hageman	Erie Basin RCD	Gibraltar Island	Stone Laboratory Tour			44	
1999	9	10	Hageman	Beth Anderson	Gibraltar Island	Stone Laboratory Tour			4	
1999	9	10	Bielen	Neighborhood R&E Committee	Toledo	Ohio Planning Conference Presentation	X	3	X	
1999	9	10	Bielen	Ohio EPA - Northwest District	Bowling Green	Maumee RAP Boaters Guide	X	X	2	
1999	9	10	Bielen	Neighborhood R&E Committee	Toledo	Ohio Planning Conference Presentation	X	3	X	
1999	9	10	Bielen	Ohio EPA - Northwest District	Bowling Green	Maumee RAP Boaters Guide	X	X	2	
1999	9	10-11	Hageman	Park Street M.S. - Grove City	Gibraltar Island	Aquatic Science Workshop				
1999	9	11	Hageman	Carol Judge / Bud Davis	Gibraltar Island	Stone Laboratory Tour	60			
1999	9	11	Hageman	American Legion Ceremony	Perry's Monument, P.I.B	Accept P.O.W. - M.I.A. Flag			4	XXXX
1999	9	13	Kelch	Black River RAP Coord. Com. Mtg.	Elyria	RAP update, planning	18			
1999	9	13	Hageman	Jefferson Elementary - Port Clinton	Gibraltar Island	Aquatic Science Workshop			42	
1999	9	13-14	Hageman	Belleuve Jr. High - Bellevue, OH	Gibraltar Island	Aquatic Science Workshop			15	
1999	9	14	Kelch	Governor's Submerged Lands Comm.	Vermilion	reef update, intentional sinking propos	14			
1999	9	14	Snyder	Sandusky Co. 4th Grade Conserv. Tour	Fremont	Aquatic Science	200			
1999	9	14	Williams	Save the Huletts committee	Cleveland	Save the Huletts			8	
1999	9	14-15	Hageman	Berley M.S. - Bevely, OH	Gibraltar Island	Aquatic Science Workshop			40	
1999	9	15	Lichtkoppler	OSU Professors	Akron/Cleveland	Roads Scholars Tour / Lake Erie	45		1	
1999	9	15	Snyder	OSU Roads Scholars Tour	Akron - Cleveland	OSU Lake Erie Program	55			
1999	9	15	Williams	Rhodes Scholar Tour	Cleveland	OSU new faculty	19			
1999	9	15	Bielen	Port Authority / OSU Agricultural Business	Toledo	Import Potential of Perishable Goods	X	3	X	
1999	9	15	Bielen	Port Authority / OSU Agricultural Business	Toledo	Import Potential of Perishable Goods	X	3	X	
1999	9	15-16	Hageman	Highland H.S. - Medina, OH	Gibraltar Island	Aquatic Science Workshop			48	
1999	9	16	Lichtkoppler	OSU Extension	Painesville	WEB Site Training			7	
1999	9	16	Snyder	NW District Extension Office	Findlay	District Office Conference			12	
1999	9	16	Williams	Earthwatch Radio	Madison, WI	Lake Levels				XX
1999	9	16	Williams	Executive tour	Cleveland	OSU new faculty	18			
1999	9	16	Hageman	Northwest District Extension Staff	Findlay	Office Conference			15	
1999	9	16	Hageman	Ohio Farm Service Agency	Gibraltar Island	Conference			12	
1999	9	16	Bielen	NW District Extension Professionals	Findlay	Northwest District Administrative Update				
1999	9	16	Bielen	Maumee RAP Ag Runoff Group	Bowling Green	Coats-Benefits of Sediment Reduction	7	X	X	
1999	9	16	Bielen	NW District Extension Professionals	Findlay	Northwest District Administrative Update			12	
1999	9	16	Bielen	Maumee RAP Ag Runoff Group	Bowling Green	Coats-Benefits of Sediment Reduction	7	X	X	
1999	9	17	Kelch	LCVB Policy Comm. Mtg.	Lorain	discuss new policy for visitors bureau	7			
1999	9	17	Hageman	John Kleberg / Glen Funk	Gibraltar Island/Lighthouse	Locate Cooke Castle Articles	2			
1999	9	17	Hageman	Padua Franciscan H.S. - Parma, OH	Gibraltar Island	Aquatic Science Workshop			32	
1999	9	17	Bielen	NSG Coastal Communities/Economics Th	Chicago, IL	Coastal Communities/Economics Topical	X	X	18	
1999	9	17	Bielen	NSG Coastal Communities/Economics Th	Chicago, IL	Coastal Communities/Economics Topical	X	X	18	
1999	9	17-19	Hageman	O.S.U. Molecular Genetics	Gibraltar Island	Conference			73	
1999	9	20	Hageman	8th Put-In-Bay Underwater Clean Up	Put-In-Bay Marina	Underwater Clean Up	195			
1999	9	20	Hageman	O.S.U. Extension - Erie Co.	Put-In-Bay	Stone Laboratory Overview	11			
1999	9	20	Hageman	Avon H.S. - Avon, OH	Gibraltar Island	Aquatic Science Workshop			18	
1999	9	20	Hageman	Phaeagants - Forever Board	Oak Harbor	Monthly Meeting	8			
1999	9	20	Hageman	West Holmes H.S. - Millersburg, OH	Gibraltar Island	Aquatic Science Workshop			13	
1999	9	21	Kelch	WCPN Public Radio interview	Cleveland	stadium artificial reefs				XX
1999	9	21	Lichtkoppler	Grand River Partners	Geauga Co.	Waterfearer Protection	25			
1999	9	21	Snyder	Lake Erie Buffer Team	Vermilion	Develop. Team Assignments	16		1	
1999	9	21	Williams	BRE: Communication Committee	Cleveland	Business retention	19			
1999	9	21	Hageman	Amherst Steel H.S. - Amherst, OH	Gibraltar Island	Aquatic Science Workshop			52	
1999	9	21	Bielen	Cherry/Bancroft/Summit Corridor Coalition	Toledo	Corridor Coalition Projects/Strategic Pla	X	X	15	
1999	9	21	Bielen	Ottawa River Action Group	Toledo	Ottawa River Boating/Marine Trades Stu	15	X	X	
1999	9	21	Bielen	Cherry/Bancroft/Summit Corridor Coalition	Toledo	Corridor Coalition Projects/Strategic Pla	X	X	15	
1999	9	21	Bielen	Ottawa River Action Group	Toledo	Ottawa River Boating/Marine Trades Stu	15	X	X	
1999	9	21-22	Hageman	Willis M.S. - Claware, OH	Gibraltar Island	Aquatic Science Workshop			22	

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTING	CHAIRING	ORGANIZING	PARTICIP. NO.	MASS MEDIA
1999	9	22	Keich	LCVB Board of Directors Meeting	Lorain	Chair mtg. updates tracking project	20				
1999	9	22	Lichtkoppler	USFPA Region V Officials	Chicago, IL	ARP Update - RV/Lake Guardian Class	20				
1999	9	22	Williams	P & T committee	Wooster	P & T Review	5				
1999	9	22-24	Hageman	The Wellington School - Columbus, OH	Gibraltar Island	Aquatic Science Workshop			66		
1999	9	23	Lichtkoppler	ARP Outreach Committee	Ashabula	Ashabula River Outreach	6				
1999	9	23	Lichtkoppler	ARP Project Committee	Ashabula	ARP Project	15				
1999	9	23	Lichtkoppler	ARP Coordinating Committee	Ashabula	ARP Organization	20				
1999	9	23	Bielen	Neighborhood R&E Committee	Toledo	Ohio Planning Conference Presentation	X	3	X		
1999	9	23	Bielen	Neighborhood R&E Committee	Toledo	Ohio Planning Conference Presentation	X	3	X		
1999	9	24	Keich	NE District Extension In-Service	Wooster	In-service workshop, updates					1
1999	9	24	Lichtkoppler	OSU Extension Agents	Wooster	Direct Inservice	65				
1999	9	24	Snyder	Ohio ANS Task Force	Columbus	Advisory Committee Meeting	11		1		
1999	9	24	Hageman	St. Mary's of the Falls - Olmstead Falls	Gibraltar Island	Aquatic Science Workshop			23		
1999	9	24	Hageman	McCormick M.S. - Huron, OH	Gibraltar Island	Stone Laboratory Tour					
1999	9	24-25	Hageman	Lakota Jr. High - Amsterd, OH	Gibraltar Island	Aquatic Science Workshop					
1999	9	25	Lichtkoppler	Chariton Rotary	Chariton	RV/Lake Guardian Class Lake Erie					
1999	9	25	Hageman	Hendelberg Cottage - Tiffin, OH	Gibraltar Island	Aquatic Science Workshop					
1999	9	27	Keich	Cleveland Fishing Association	Cleveland	stadium, reel update, fishery update	65				
1999	9	27	Williams	Growth Manager's meeting	Cleveland	Business retention					6
1999	9	27	Hageman	Tiffin City School Heights - Tiffin, OH	Gibraltar Island	Aquatic Science Workshop			22		
1999	9	28	Williams	County Country Staff retreat	Port Clinton	Performance Appraisal	2				
1999	9	28	Hageman	Baldwin Elementary - Port Clinton, OH	Cleveland	County program planning	13				
1999	9	29	Williams	Memphis Power & Gas	Cleveland	Aquatic Science Workshop					15
1999	9	29	Williams	City of Solon Business cluster	Cleveland	Program review					
1999	9	29	Hageman	Portage School - Gypsum, OH	Gibraltar Island	Reception, R&E			160		
1999	9	29	Bielen	Sea Grant Advisory Committee Meeting	Toledo	Aquatic Science Workshop	7	X	X	55	
1999	9	29	Bielen	Neighborhood R&E Committee	Toledo	Sea Grant Program Development in To	X	3	X		
1999	9	29	Bielen	Brownfields Working Group	Toledo	Ohio Planning Conference Presentation	20		X		
1999	9	29	Bielen	Waterfront Guide Graphic Designer	Toledo	Brownfield Redevelopment Strategy	X	2	X		
1999	9	29	Bielen	Sea Grant Advisory Committee Meeting	Toledo	Western Lake Erie Waterfront Guide	X	X	X		
1999	9	29	Bielen	Neighborhood R&E Committee	Toledo	Sea Grant Program Development in To	X	X	X		
1999	9	29	Bielen	Brownfields Working Group	Toledo	Ohio Planning Conference Presentation	20		X		
1999	9	29	Bielen	Waterfront Guide Graphic Designer	Toledo	Brownfield Redevelopment Strategy	X	2	X		
1999	9	29-30	Hageman	Bellevue H.S. - Bellevue, OH	Gibraltar Island	Western Lake Erie Waterfront Guide			X		
1999	9	30	Keich	Gratiot 4th Grade Science Classes	Gratiot	Aquatic Science Workshop	78				17
1999	9	30	Lichtkoppler	OSU Extension Agents	Mentor	changes in Lake Erie exotic species	30				
1999	9	30	Lichtkoppler	Mentor Marsh SAMPMARC	Mentor	Lake Erie Beach Ecology	1				
1999	9	30	Snyder	Portage River Basin Council	Elmore	SAMPMARC Planning	6		1		35
1999	9	30	Williams	Governor's Regional Advisory meeting	Cleveland	Develop Recreation & Wildlife Comm					40
1999	9	30	Bielen	Agricultural Business Study Committee	Bowling Green	Agricultural Business Study	15	X	X		
1999	9	30	Bielen	Agricultural Business Study Committee	Bowling Green	Agricultural Business Study	15	X	X		
1999	9	30	Bielen	Laurel School - Shaker Hills, OH	Gibraltar Island	Aquatic Science Workshop					20
1999	10	1	Hageman	Capital University - Columbus, OH	Gibraltar Island	Aquatic Science Workshop					15
1999	10	1	Hageman	Capital University - Columbus, OH	Gibraltar Island	Aquatic Science Workshop					15
1999	10	2	Hageman	Cleveland Shell Club - Cleveland, OH	Gibraltar Island	Stone Laboratory Tour	10				
1999	10	2	Hageman	Owens Comm. College - Toledo, OH	Gibraltar Island	Aquatic Science Workshop					17
1999	10	2	Hageman	Owens Comm. College - Toledo, OH	Gibraltar Island	Aquatic Science Workshop					28
1999	10	3	Hageman	O.S.U. Alumni Club - Ottawa Co.	Gibraltar Island	Stone Laboratory Tour	8				
1999	10	3	Snyder	U.S. Power Squadron	Cleveland	Lake Erie's Changing Ecosystem	68				
1999	10	4-5	Hageman	Workingway M.S. - Worthington, OH	Gibraltar Island	Stone Laboratory Tour	56				
1999	10	5	Bielen	Cherry/Barnett/Summit Corridor Coalit	Toledo	Aquatic Science Workshop	X				15
1999	10	5	Keich	LCVB Tracking Sub-Committee	Lorain	Review progress tracking research			12		
1999	10	5	Lichtkoppler	Sea Grant Researchers	Columbus	Sea Grant Research Project Review	X				10
1999	10	5	Snyder	Sea Grant Researchers	Columbus	Sea Grant Research Project Review	X				10
1999	10	5	Williams	Search committee for Leader of Person	Columbus	Search Committee					9

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTER No.	CHAIR/NO.	ORGANIZE/NO.	PARTICIP./NO.	MASS MEDIA
1999	10	5-6	Hageman	Woodside M.S. - Ft. Wayne, IN	Gibraltar Island	Aquatic Science Workshop			25		
1999	10	6	Hageman	Hinohara Chikara / Vic Mayer	Gibraltar Island	Stone Laboratory Tour	2				
1999	10	6	Lichtkoppler	ARP Committee Members	Ashabula	ARP details	1			8	
1999	10	6	Williams	Ohio Bait Dealers	Port Clinton	ANS Survey	12	X	X		
1999	10	6	Snyder	Agents meeting	Cleveland	Agents meeting				9	
1999	10	6-7	Hageman	Columbus School for Gifts - Cols., OH	Gibraltar Island	Aquatic Science Workshop	71				
1999	10	7	Bielen	Ohio Planning Conference Participants	Cleveland	Toledo R&E Efforts	15	X	X		
1999	10	7	Kech	Central Basin Charterboat Associa.	Lorain	update on art reefs, goby, research	35				
1999	10	7	Lichtkoppler	Mentor Marsh Board	Mentor	Marsh Management	1			14	
1999	10	7	Snyder	Ohio Bait Dealers	Huron Area	ANS Survey	6	X	X		
1999	10	7	Williams	Search committee for chair Cuyahoga	Cleveland	Search Committee		6			
1999	10	8	Snyder	GLSCN Barkin Research Group	Port Clinton	Barkin Survey Conference Call	5		X		
1999	10	8	Williams	DeWara University's R&E program	Delaware	Business retention in Urban area	19				
1999	10	8-9	Hageman	Erie Co. Family Fdn. - Sandusky, OH	Gibraltar Island	Conference			11		
1999	10	9	Hageman	Bowling Green State Univ. Bowling Gr	Gibraltar Island	Aquatic Science Workshop	20			20	
1999	10	10-11	Hageman	Granville M.S. - Granville, OH	Gibraltar Island	Aquatic Science Workshop				28	
1999	10	11	Snyder	Cuyahoga Heights M.S. - Cleveland, OH	Gibraltar Island	Aquatic Science Workshop					
1999	10	11	Snyder	Northwest District P&T Committee	Findlay	Vitae Review	7				
1999	10	11-12	Hageman	Society for Ecological Journalists	Gibraltar Island	Aquatic Science Workshop	16				
1999	10	12	Ketch	Cleveland Woods & Waters Club	Cleveland	reefs, gobies, fish contaminants	78				
1999	10	12	Snyder	Society for Ecological Journalists	Gibraltar Island	Lake Erie's Changing Ecosystem	18				
1999	10	12	Williams	BREI Conference call	Cleveland	BREI Members	15				
1999	10	12-13	Hageman	Hathaway Brown Sch. - Shaker Hts., OH	Gibraltar Island	Aquatic Science Workshop			70		
1999	10	13	Lichtkoppler	Mentor Marsh Board	Mentor	Marsh Management (mitigation)	8		1		XX
1999	10	13	Snyder	Buffalo Gazette	Buffalo, NY	Mapping Lake Erie's Bottom					
1999	10	14	Hageman	Tim Gramata / Diane Foster	Gibraltar Is./Rach. Lab	Stone Laboratory Tour	3			9	
1999	10	14	Ketch	LCVB Policy Committee	Lorain	develop new policy for visitor bureau					
1999	10	14	Lichtkoppler	Citizens	Ashabula	CMP/EIS details	1			35	
1999	10	14-15	Hageman	Rocky River M.S. - Rocky River, OH	Gibraltar Island	Aquatic Science Workshop			40		
1999	10	15	Bielen	NorthRiver Economic Development Com	Gibraltar Island	Aquatic Science Workshop			X		
1999	10	15	Bielen	Local Initiatives Support Corporation	Toledo	North River Development Projects	10				
1999	10	15	Hageman	Leadership Ohio	Toledo	Neighborhood Development				75	
1999	10	15	Ketch	WCPN Public Radio Interview	Gibraltar Island	Aquatic Science Workshop	31				XXX
1999	10	15	Snyder	Leadership Ohio	Cleveland	Lake Erie water levels & issues					
1999	10	15-16	Hageman	Mt. Union College - Alliance, OH	Sandusky	Lake Erie's Changing Ecosystem	60				
1999	10	15-17	Hageman	O.S.U. Plankton Class - Cols., OH	Gibraltar Island	Aquatic Science Workshop	3				
1999	10	18	Ketch	WCPN Public Radio Interview	Cleveland	Aquatic Science Workshop			16		
1999	10	18	Lichtkoppler	OSU Faculty	Columbus	Lake Erie water sales, impacts	1			11	XXX
1999	10	18	Snyder	Ottawa County Teachers Inservice	Oak Harbor	Ag. College Promotion & Tenure Comm	94				
1999	10	18	Williams	Harambee site visit	Cleveland	Lake Erie's Changing Ecosystem	5				
1999	10	18-19	Hageman	Brecksville H.S. - Broadview, OH	Gibraltar Island	Harambee board members				21	
1999	10	19	Snyder	Ohio Bait Dealers	Curtice Area	ANS Survey	8				
1999	10	19-20	Hageman	Hudson M.S. I - Hudson, OH	Gibraltar Island	Aquatic Science Workshop				45	
1999	10	20	Snyder	Portage River Basin Council	Bowling Green	Recreation & Wildlife	23	X			
1999	10	20-21	Hageman	Hudson M.S. II - Hudson, OH	Gibraltar Island	Aquatic Science Workshop	15			45	
1999	10	21	Bielen	Ottawa River Action Group	Toledo	Valuing the Ottawa River	46				
1999	10	21	Ketch	Wentlake Lions Club	Cleveland	artificial reefs, goby research	17				
1999	10	21	Lichtkoppler	Ashabula County Advisory Committee	Jefferson	Lake Erie / Sea Grant Update	7			1	
1999	10	21	Snyder	Ohio Bait Dealers	Lorain-Cleveland	ANS Survey					
1999	10	21	Williams	Bellar Purist Teleblitz	Cleveland	Local companies			5		
1999	10	21-22	Hageman	Edgewood School - Trenton, OH	Gibraltar Island	Aquatic Science Workshop			16		
1999	10	22	Snyder	Ohio Bait Dealers	Fremont Area	ANS Survey	6				
1999	10	26	Bielen	Ottawa River Remediation Team	Toledo	Valuing the Ottawa River	20				
1999	10	26	Bielen	BREI Communications Comm. Conf. Ca	Toledo	Communication Committee Activities			4		
1999	10	26	Bielen	Cherry/Bancroft/Summit Corridor Coalition	Toledo	Corridor Coalition/Projects/Strategic Planning				15	
1999	10	26	Snyder	Lake Erie Buffer Team	Port Clinton	Proposal Conference Call	9				

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1999	10	26	Williams	BREI Communication Committee	Cleveland	conference call					
1999	10	27	Bielen	Brownfields Working Group	Toledo	Brownfield Redevelopment Strategy	20	3	X	18	
1999	10	27	Kelch	LCVB Board of Directors Mtg	Lorain	lake related tourism impacts, programs				1	
1999	10	27	Lichtkoppler	ARP Outreach Committee	Ashabula	Ashabula River Outreach	5			1	
1999	10	27	Lichtkoppler	ARP Project Committee	Ashabula	ARP Project	1			18	
1999	10	27	Lichtkoppler	ARP Coordinating Committee	Ashabula	ARP Organization	1			28	
1999	10	27	Lichtkoppler	ARP Coordinating Committee	McClainville	Scenic River Proposal	11	X			
1999	10	28	Snyder	Portage River Basin Council	Cleveland	Evaluation of hotel sites			3		
1999	10	29	Williams	Hospitality Appraisals Inc	Cleveland	Investing in Northeast Ohio	46				
1999	11	1	Williams	CSU International MBA Students	Cleveland	Lake Erie Issues Interview					XX
1999	11	1	Snyder	Port Clinton News Herald	Port Clinton	Lake Erie Issues Interview					XX
1999	11	2	Lichtkoppler	City Manager of Painesville	Painesville	Memor Marsh Management MARGISAP	3		1	1	
1999	11	2	Snyder	Toledo Blade	Toledo	Endangered Species Interview					XX
1999	11	2	Williams	Per Employment Training (PET)	Cleveland	Cluster Group WireNet			15		
1999	11	2	Williams	Lorain County Resource Show	Lorain	p Doyle	3				
1999	11	2	Williams	Lorain County Resource Show	Columbus	Berrett Cost Workshop	50				
1999	11	3	Lichtkoppler	Agency Officials, Citizens	Cleveland	Extension Agents	5				
1999	11	3	Williams	Agency meeting	Cleveland	smallmouth bass tagging update	22				
1999	11	4	Kelch	Lake Erie Bass Anglers Association	Elyria	smallmouth bass tagging update	5				
1999	11	4	Snyder	Toledo Blade	Port Clinton	Kilfinch Photos	6				XX
1999	11	5	Snyder	GLSCN Barfish Research Group	Port Clinton	Barfish Survey Conference Call	3				
1999	11	5	Williams	Consultation	Cleveland	Cortess Newsome	3		X		
1999	11	8	Kelch	Black River RAP Cool Comm Mtg	Elyria	Black River RAP issues				18	
1999	11	8	Kelch	Black River RAP Study Team Mtg	Elyria	RAP issues, projects				8	
1999	11	8	Williams	IX Center IT show	Cleveland	Information technology show					XX
1999	11	9	Bielen	District Office Conference	Findlay	District Administrative Update			9		
1999	11	9	Hageman	ODNR - Div. Of Wildlife	Sandusky	Lake Delivery of M/V Explorer	15			6	
1999	11	9	Kelch	Governors Maritime Adv Council Mtg	Vermilion	shipwreck-buoysing reefs, int. Sinking	15			15	
1999	11	9	Snyder	Lake Erie Buffer Team	Lorain	Program Planning	18		X		
1999	11	9	Williams	National Telediz. biotechnology	Cleveland	attraction programming	14				
1999	11	10	Bielen	Extension Comm. Econ. Dev. Agents Mtg	Columbus	Extension Comm. Econ. Dev. Program Update	21		16	1	
1999	11	10	Lichtkoppler	Grand River Partners	Painesville	Land Use				1	
1999	11	10	Lichtkoppler	NE Sea Grant Committee	Unionville	Sea Grant Program Update	8			1	
1999	11	10	Williams	Business Resource Meeting	Cleveland	Economic Developers	15			1	
1999	11	11	Williams	Dwelling Enterprises	Akron	Display unit for SAE show	3				
1999	11	12	Williams	Arcen Warehouse & Storage	Cleveland	Site Search	3				
1999	11	15	Bielen	Agricultural Business Study Committee	Bowling Green	Agricultural Business Study			7		
1999	11	15	Bielen	Toledo Department of Development	Toledo	Future Office Relocation			3		
1999	11	15	Hageman	Phasants - Forever Board	Oak Harbor	Monthly Meeting	8				
1999	11	16	Bielen	Ottawa River Action Group	Toledo	Valuing the Ottawa River	15				
1999	11	16	Bielen	Toledo Department of Development	Toledo	Future Office Relocation			3		
1999	11	16	Hageman	Bruce Leach - O S U Bio Sci Library	Gibraltar Island	Store Lab Library Maintenance				5	
1999	11	16	Kelch	Vermilion Rotary Club	Vermilion	exotic species, gobies, contaminants	35				
1999	11	16	Snyder	Odyssey Magazine	Port Clinton	Zebra Mussels in Lake Erie Interview					XX
1999	11	16	Williams	Sales Training	Columbus	OEDC members	23				
1999	11	17	Bielen	Enterprise Toledo Meeting	Toledo	Future Comm. Econ. Dev. Agent Position			10		
1999	11	18	Bielen	Mayor of Toledo	Toledo	Future Office Relocation			5		
1999	11	18	Hageman	Stone Lab/F S E C Phys. Fac	Columbus	Year-End Departmental Meeting				14	
1999	11	18	Kelch	Westlake Sportsmans Club	Westlake	Stadium Reel update, photos	68				
1999	11	18	Lichtkoppler	ARP Outreach Committee	Ashabula	ARP Project	7			1	
1999	11	18	Lichtkoppler	ARP Project Committee	Ashabula	Ashabula River Outreach	1			20	
1999	11	18	Lichtkoppler	ARP Coordinating Committee	Ashabula	ARP Organization	1			31	
1999	11	18	Williams	SAE Planning	Columbus	SAE Team Members	3			36	
1999	11	18	Williams	Cuyahoga RAP	Cleveland	Cuyahoga Rap board meeting					
1999	11	19	Snyder	Portage River Basin Council	Painesville	Scenic River Proposal			X		
1999	11	19	Williams	American Commercial Vehicles	Cleveland	Consultation	3				
1999	11	22	Bielen	City of Toledo Quarterly Meeting	Toledo	Toledo Progress Report					75
1999	11	22	Bielen	Cherry/Bancroft/Summit Corridor Coalit.	Toledo	Corridor Coalit. on Projects/Strategic Planning					15

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1999	11	22	Hageman	Jerry Conner - Natl. Geodesic Survey	Gibraltar Island	Stone Laboratory Tour	1				
1999	11	23	Hageman	Port Clinton Jr. High - Port Clinton	Peach Point Resch Lab	Stone Laboratory Overview	22				
1999	11	23	Snyder	Lakeand Boating Magazine	Port Clinton	Mayfly Compositing Interview					XX
1999	11	24	Kelch	LCVB Board of Directors Mtg	Lorain	lake related tourism impacts, programs	16				
1999	11	24	Snyder	Wood County teachers Inservice	Perrysburg	lake related tourism impacts, programs	36				
1999	11	30	Bielen	Business R&E Workshop	Fremont	Business R&E Strategies	10		X		
1999	11	30	Lichtkoppler	OSU Faculty	Columbus	Ag. College Promotion & Tenure Comm	1			11	
1999	12	1	Bielen	Brownfields Working Group	Toledo	Toledo Brownfield Strategy	16				
1999	12	1	Williams	WECO	Cleveland	site evaluation	4				
1999	12	2	Bielen	Lucas County Advisory Cabinet	Toledo	Lucas County Extension Program	14				
1999	12	2	Snyder	Lorain Journal	Lorain	Lake Levels Interview	4				XX
1999	12	2	Williams	Cannon Advertising	Cleveland	promotional products for Ibz	4				
1999	12	2,3	Lichtkoppler	OSU Faculty	Columbus	Ag. College Promotion & Tenure Comm	1			11	
1999	12	3	Williams	Governor Regional Advisory	Cleveland	Ohio resources	3			26	
1999	12	3	Williams	Meeting with marketing	Cleveland	promotional products for Ibz	3				
1999	12	6	Bielen	Support Team Conference Call	Toledo	Future Office Relocation	3				
1999	12	6	Williams	Pre Employment Training (PET)	Toledo	How to start a PET program			16	x	
1999	12	6	Williams	OSU Annual meeting	Columbus	OSUE Annual Meeting					
1999	12	7	Bielen	OSU Extension Recognition Event	Toledo	OSUE Extension Awards and Recognition				250	
1999	12	7	Kelch	OSU Extension Conference	Columbus	OSUE Annual Meeting				300	
1999	12	7	Lichtkoppler	OSU Extension Faculty & Staff	Columbus	OSUE Annual Meeting				300	
1999	12	7	Snyder	Sea Grant Admin.	Columbus	Program Planning	3				
1999	12	7	Snyder	Sea Grant Staff	Columbus	Staff Meeting	12				
1999	12	7	Williams	Sea Grant Agent's mtg.	Columbus	Staff Meeting	12				
1999	12	7, 9	Lichtkoppler	OSU Faculty	Columbus	Ag. College Promotion & Tenure Comm	1			11	
1999	12	8	Bielen	Sea Grant Staff Meeting	Toledo	Sea Grant Program Development	10				
1999	12	8	Hageman	Ohio Sea Grant Extension	Columbu	Quarterly Meeting				9	
1999	12	8	Kelch	Sea Grant agents, director Mtg	Columbu	planning, computer, edu Program				10	
1999	12	8	Lichtkoppler	Sea Grant Staff	Columbu	Sea Grant Program Planning	1			10	
1999	12	8	Williams	Deal Team meeting	Cleveland	American Commercial Vehicle					
1999	12	9	Bielen	Sea Grant Advisory Committee Meeting	Toledo	Sea Grant Program in Toledo	8		8		
1999	12	9	Snyder	Lake Erie Buffer Team	Port Clinton	Strategic Plan Conference Call	8				
1999	12	10	Bielen	North River Economic Development Com	Toledo	North River Development Projects	8				
1999	12	13	Bielen	Agricultural Business Study Committee	Toledo	Agricultural Business Study	7				
1999	12	14	Bielen	Extension Vita Writing Workshop	Toledo	New Vita Outline and Writing a Vita				16	
1999	12	14	Lichtkoppler	Lake Erie College Faculty	Painesville	Sea Grant Education Web page	3				
1999	12	14	Snyder	OSUE Personnel	Lima	P&T Workshop				16	
1999	12	14	Williams	SAE Planning	Cleveland	Display unit for SAE show	4				
1999	12	14	Williams	Qatey PET program prep.	Cleveland	PET program prep.	13				
1999	12	15	Bielen	Summit Street Plan Meeting	Toledo	Summit Street Redevelopment				40	
1999	12	15	Kelch	LCVB Board of Directors Mtg	Lorain	lake related tourism impacts, programs	14				
1999	12	15	Williams	Mfg. Week show prep.	Seven Hills	Mfg. show prep	8				
1999	12	16	Bielen	Lucas County Staff Conference	Toledo	Lucas County Extension Program				22	
1999	12	16	Kelch	OSU Extension Training/workshop	Wooster	promotion & tenure workshop				25	
1999	12	16	Lichtkoppler	ARP Outreach Committee	Ashtabula	Ashtabula River Outreach	4			1	
1999	12	16	Lichtkoppler	ARP Project Committee	Ashtabula	ARP Project	1			19	
1999	12	16	Lichtkoppler	ARP Coordinating Committee	Ashtabula	ARP Organization	1			29	
1999	12	16	Snyder	GLSGN Conference Committee	Port Clinton	Conference Call	8				
1999	12	16	Snyder	OWO Convention Committee	Port Clinton	Convention Planning	4				
1999	12	16	Williams	Cuyahoga County Chair search commit	Cleveland	Prep. for interviews	4				
1999	12	17	Hageman	Northwest District Extension Staff	Bluffton	Office Conference				22	
1999	12	17	Lichtkoppler	Lake County Staff	Willoughby	Staff Retreat	1			12	
1999	12	17	Snyder	Northwest District Staff	Bluffton	Office Conference	14				
1999	12	17	Williams	Cuyahoga County Chair search commit	Columbus	Interview with applicants	4				
1999	12	20	Hageman	Phasants - Forever Board	Oak Harbor	Monthly Meeting	8				
1999	12	20	Williams	Cleveland Public Power	Cleveland	CPP, Watts Wise, Involvement	2				

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTER/No.	CHAIR/No.	ORGANIZE/No.	PARTICIP./No.	MASS MEDIA
1999	12	21	Snyder	GLSGN Program Leaders	Port Clinton	Conference Call	7				
1999	12	22	Belen	Cherry/Bancroft/Summit Corridor Coalit	Toledo	Corridor Coalition Strategic Plan	2		X		
1999	12	29	Keich	WCPCN Public Radio Interview	Cleveland	lake levels, fishery issues					XXX

AGENT ACTIVITIES

1 January – 30 September 2000

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTER/No.	CHAIR/No.	ORGANIZE/No.	PARTICIP./No.	MASS MEDIA
2000	1	4	Williams	BREI Communication Committee	Cleveland	BREI communication		4			
2000	1	5	Snyder	Lake Erie Buffer Team	Fremont	Curriculum Development Planning	12		x		
2000	1	7	Snyder	Ohio Crop Production Conference	Columbus	Agriculture and Lake Erie	150				
2000	1	7	Williams	OEDC Conference Call TBZ	Cleveland	OEDC Telebitz		3			
2000	1	7	Williams	Akron Warehouse & Storage	Akron	Expansion consultation					
2000	1	10	Snyder	Great Lakes Sea Grant Network Agents	Port Clinton	Conference Planning	8				
2000	1	10	Williams	Pre employment training mtg	Cleveland	Wire-Net Program PET	5				
2000	1	11	Hageman	Tri-Moraine Audubon Society	Lima	Stone Laboratory Research Overview	26				
2000	1	11	Lichtkoppler	Grand River Partners	Jefferson	Grand River Conservation	17				
2000	1	11	Williams	National Mig Week team meeting	Cleveland	NMWW organization			B		
2000	1	12	Hageman	Sea Grant Staff	Columbus	Sea Grant Strategic Planning	12				
2000	1	12	Snyder	Sea Grant Staff	Columbus	Sea Grant Strategic Planning	12				
2000	1	12	Keich	Sea Grant Staff	Columbus	Sea Grant Strategic Planning	12				
2000	1	12	Williams	Sea Grant Staff	Columbus	Sea Grant Strategic Planning	12				
2000	1	12	Lichtkoppler	Sea Grant Staff	Columbus	Sea Grant Strategic Planning	12				
2000	1	12	Snyder	OSUE CD Agents	Columbus	Long Range Planning	20				
2000	1	12	Lichtkoppler	OSUE CD Agents	Columbus	Long Range Planning	20				
2000	1	13	Lichtkoppler	Mentor Marsh Board	Mentor	Marsh Management	14				
2000	1	13	Williams	CPP	Cleveland	Involving CPP in Economic activities	4				
2000	1	14	Snyder	Portage River Basin Council	Pemberville	Recreation & Wildlife	9	x			
2000	1	14	Williams	Clarkwood Industries	Cleveland	Expansion of site	4				
2000	1	14-23	Keich	Cleveland Mid-America Boat Show	Cleveland	Sea Grant information Booth					XX
2000	1	14-23	Lichtkoppler	Cleveland Mid-America Boat Show	Cleveland	Sea Grant information Booth					XX
2000	1	14-23	Williams	Cleveland Mid-America Boat Show	Cleveland	Sea Grant information Booth					XX
2000	1	17	Hageman	Pheasants-Forever Board	Oak Harbor	Monthly Meeting	X			10	
2000	1	18	Hageman	Cleveland Mid-America Boat Show	Cleveland	Sea Grant information Booth					XX
2000	1	18	Snyder	Cleveland Mid-America Boat Show	Cleveland	Sea Grant information Booth					XX
2000	1	18	Williams	Economic Development Network	Cleveland	Ed. continuing Education	35				
2000	1	19	Snyder	Portage River Basin Council	Bowling Green	Committee Updates	21		x		
2000	1	20	Snyder	ANS Steering Committee	Columbus	Program Planning	12		x		
2000	1	21	Snyder	Northwest District Extension Staff	Findlay	Office Conference				10	
2000	1	21-22	Snyder	Cleveland Mid-America Boat Show	Cleveland	Sea Grant information Booth					XX
2000	1	24	Keich	Lorain Port Authority, USCAE, Citizens	Lorain	Harbor Recreation Uses	15				
2000	1	24	Lichtkoppler	Mentor Marsh Area Regional Coalition	Mentor	Steering Committee	14				
2000	1	24	Williams	Brei Board conference call	Cleveland	BREI communication	12				
2000	1	25	Lichtkoppler	College Students	Cleveland Community Coll	Lake Erie Natural Resources	22				
2000	1	25	Williams	U Store it company visit	Cleveland	Sales training for workforce	3				
2000	1	25	Williams	IMARA School	Cleveland	consultation	3				
2000	1	26	Keich	Lorain Cty. Visitors Bureau Bd. Mig	Lorain	Lake Erie Tourism	18				
2000	1	26	Lichtkoppler	Ashtabula River Partnership	Ashtabula	Clean-up Planning	20				
2000	1	26	Snyder	Sea Grant Staff	Columbus	Program Meeting				6	
2000	1	27	Williams	P&T Seminar	Columbus	P&T Forum	35				
2000	1	27	Williams	Cuyahoga RAP mtg	Cleveland	RAP					30
2000	1	28	Lichtkoppler	OSU Extension Staff	Cleveland	Grants Inservice	3				28
2000	1	28	Williams	PET	Cleveland	PET computer training	5				
2000	1	31	Lichtkoppler	Mentor MARC Task Force	Mentor	Wetlands/Biodiversity Planning	25				
2000	2	1	Lichtkoppler	Critzens	Critzens	Marsh/Metro Parks cooperation	5				
2000	2	3	Keich	Cleveland Fishing Association	Cleveland	Changes in Lake Erie	74				
2000	2	3	Snyder	Great Lakes Sea Grant Network Agents	Port Clinton	HACCP Ball Project	6		x		
2000	2	7	Keich	Cleveland Chapter, DAR	Cleveland	Zebra Mussels, Lake Erie	46				
2000	2	7	Keich	Lorain Cty. Visitors Bureau Comm. Mig	Lorain	Tourism	12				
2000	2	7	Snyder	Advisory Service Program Leaders	Port Clinton	Conference Call	10				
2000	2	8	Keich	Governors Submerged Lands Adv. Com.	Vermion	Shipwreck Center, wrecks, diving	15				
2000	2	8	Snyder	Coastal Resource Managers	Huron	NOAA Photogrametry Workshop					30
2000	2	8	Williams	Cuyahoga RAP - Social Economic mtg	Cleveland	committee meeting					
2000	2	9	Williams	National Tbz	Cleveland	Executive volunteers			18		

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTER/NO.	C-CHAIR/NO.	ORGANIZING/NO.	PARTICIP/NO.	MASS MEDIA
2000	2	9	Williams	Local TBZ	Cleveland	Executive volunteers			8		
2000	2	9	Williams	National Mtg Week team mtg	Cleveland	Team members			10		
2000	2	10	Hageman	Sea Grant Staff	Columbus	Sea Grant Strategic Planning	12				
2000	2	10	Kelch	West Cleveland Walleye Association	Cleveland	Changes in Lake Erie	48				
2000	2	10	Snyder	Sea Grant Staff	Columbus	Sea Grant Strategic Planning	12				
2000	2	10	Lichtkoppler	Sea Grant Staff	Columbus	Sea Grant Strategic Planning	12				
2000	2	11	Lichtkoppler	Sea Grant Staff	Columbus	Sea Grant Strategic Planning	12				
2000	2	11	Snyder	Oh. Div. Watercraft Staff	Columbus	Cooperative Programming	15			7	
2000	2	11	Williams	Oh. Div. Watercraft Staff	Columbus	Cooperative Programming	15				
2000	2	14-17	Snyder	Internat. Ag. Nuisance Species Conf	Toronto, Ontario	ANS British Research	14			700	
2000	2	15	Williams	Yard Metals Inc.	Independence	consultation	3				
2000	2	16	Lichtkoppler	OEDC	Columbus	OEDC meeting	24				
2000	2	16	Lichtkoppler	NE Ohio Sea Grant Committee	Unenville	Sea Grant Focus Group	3				
2000	2	16	Williams	Northern Ohio Lumber	Cleveland	Brownfield remediation of site	10				
2000	2	17	Hageman	Science Educators Council of Ohio	Cleveland	Stone Laboratory information	15				
2000	2	17	Williams	Dean Supply	Cleveland	Site expansion, brownfield	30				
2000	2	18	Williams	Quality Inn	Cleveland	Site evaluation	4				
2000	2	18-19	Lichtkoppler	Eastlake Sportfishing Show	Cleveland	Site evaluation	2				
2000	2	22	Snyder	NW Dist. Sea Grant Advisory Comm	Eastlake	Anglers, Citizens					XX
2000	2	22	Williams	Pre employment training mtg	Port Clinton	Sea Grant Focus Group			13		
2000	2	23	Kelch	Lorain Cty. Visitors Bureau Bd. Mtg	Cleveland	General mtg of PET partners	10				
2000	2	23	Lichtkoppler	Ashtabula River Partnership	Lorain	Tourism issues		16			
2000	2	24	Kelch	Sea Camp Planning Committee	Ashtabula	Clean-up Planning	21				
2000	2	24	Lichtkoppler	OSU Faculty	Mansfield	Sea Camp planning, issues	12				
2000	2	24	Williams	Business Succession Planning	Wooster	OSU Research Foundation Inservice					
2000	2	25	Williams	Growing Newsletter	Cleveland	Kent State Employee Ownership Ctr.	33			23	
2000	2	25	Williams	Direct Mail distribution	Cleveland	Edited Newsletter					
2000	2	25-27	Lichtkoppler	Citizens	Cleveland	MFG Eastside					XX
2000	3	1	Snyder	Fostoria Power Squadron	Ashtabula	Land and Living Workshop					XX
2000	3	1	Williams	Cuyahoga Rap	Acadia	Lake Levels Outlook	34				
2000	3	2	Kelch	OSG Advisory Com. Mtg. Focus Group	Cleveland	Remedial Action Plan committee mtg					
2000	3	2	Williams	Dean Supply	Elyria	OSG issues, planning, evaluation	24				32
2000	3	3	Hageman	Sea Grant Staff	Cleveland	Dean Supply deal team mtg		6			
2000	3	3	Lichtkoppler	Sea Grant Staff	Lorain	Sea Grant Strategic Planning	11				
2000	3	3	Snyder	Sea Grant Staff	Elyria	Sea Grant Strategic Planning	11				
2000	3	4	Hageman	Rich DeLong	Elyria	Sea Grant Strategic Planning	11				
2000	3	5-9	Williams	SAE Convention	Toledo	Senior Intern Project	1				
2000	3	6	Snyder	GLSGN Extension Leaders	Detroit MI	Chair OEDC, R&E, Attraction		12			
2000	3	7	Snyder	In-Betweeners Club	Port Clinton	Conference Call	7				
2000	3	9	Kelch	West Cleveland Walleye Association	Fremont	Lake Erie History	57				
2000	3	9	Lichtkoppler	Mentor Marsh Board	Cleveland	Research updates, reef, goby	48				
2000	3	9	Williams	Italian Consulate	Mentor	Marsh Management	16				
2000	3	10	Lichtkoppler	Land and Water Committee	Cleveland	Business Attraction, Host dinner		15			
2000	3	10	Snyder	Portage River Basin Council	Painesville	Land Use issues	7				
2000	3	11	Hageman	Pheasants-Forever Membership	Pemberville	Scenic River Status	8				
2000	3	11-19	Kelch	Cleveland Sport, Vacation, Travel Show	Sandusky	Annual Banquet					
2000	3	11-19	Lichtkoppler	Cleveland Sport, Vacation, Travel Show	Cleveland	Sea Grant Information Booth				450	
2000	3	11-12	Snyder	Cleveland Sport, Vacation, Travel Show	Cleveland	Sea Grant Information Booth					XX
2000	3	12-16	Williams	National Mtg Week	Cleveland	Sea Grant Information Booth					XX
2000	3	13	Snyder	Sandusky River Coalition	Chicago	Convention		10			XX
2000	3	14-16	Hageman	2000 Spring/Summer Applicants	Tiffin	Watershed Protection					
2000	3	15	Kelch	WTAM Radio, Cleveland	Columbus	Spring/Summer Employee Interviews	26			12	
2000	3	15	Kelch	Sport Show Seminars (2)	Cleveland	Changes in Lake Erie					
2000	3	15	Lichtkoppler	Mentor Lagoon Planning Committee	Cleveland	L. Erie Update, art. Reefs, gobies	140				XX
2000	3	16	Kelch	Sport Show Seminars (2)	Mentor	Marina & Park Planning	18				
2000	3	16	Kelch		Cleveland	L. Erie Update, art. Reefs, gobies	165				

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2000	3	16	Lichtkoppler	Mentor MARC Task Force	Mentor	Wetlands/Biodiversity Planning	9				
2000	3	16	Snyder	Northwest District Extension Staff	Findlay	Office Conference				13	
2000	3	17	Hageman	Stone Lab Scholarship Committee	Columbus	Summer 2000 Scholarship Awards	7				
2000	3	17-18	Snyder	Cleveland Sport, Vacation, Travel Show	Cleveland	Sea Grant Information Booth					XX
2000	3	18-19	Hageman	Cleveland Sport, Vacation, Travel Show	Cleveland	Sea Grant Information Booth					XX
2000	3	20	Hageman	Pheasants-Forever Board	Cak Harbor	Monthly Meeting				6	
2000	3	20	Lichtkoppler	Citizens	Mentor	Boater Survey	5				
2000	3	21	Lichtkoppler	Grand River Partners	Painesville	Land Use Issues & Dam Removal	15				
2000	3	21	Lichtkoppler	Mentor Marsh Area Regional Coalition	Mentor	Steering Committee	11				
2000	3	21	Williams	Economic Development Network	Garfield Hts.	Transportation & Employment Central	42				
2000	3	22	Lichtkoppler	Citizens	Mentor	Mentor Lagoons Citizens Survey	4				
2000	3	22	Lichtkoppler	Ashtabula County OSU Extension	Jefferson	Sea Grant Program Update	19				
2000	3	22	Snyder	Kiwanis Club	Port Clinton	Lake Levels Outlook	28				
2000	3	27	Hageman	3 Dept. Meeting	Columbus	Summer Planning Meeting				13	
2000	3	27	Williams	Business Mgt Excel	Columbus	Team meeting	8				
2000	3	28	Snyder	Sandusky River Coalition	Fremont	Watershed Protection				4	
2000	3	28	Williams	Bosina, Development Professionals	Cleveland	Econ. Dev. in NEO	12				
2000	3	28	Williams	PET team mtg	Cleveland	Final mtg prior to program	8				
2000	3	28	Williams	Traig Charitar/Nextlink	Columbus	GEDC telemarketing event prep.	3				
2000	3	29	Kelch	Lorain Cty. Visitors Bureau Bd. Mtg	Lorain	Tourism issues	18				
2000	3	29	Lichtkoppler	Ashtabula River Partnership	Ashtabula	Clean-up Planning	22				
2000	3	29	Lichtkoppler	Chagrin River Salmon Association	Eastlake	Lake Erie Research R/V Lake Guardian	42				
2000	3	29	Snyder	Dan Longnecker	Castalia	Aquaculture Development	1				
2000	3	30	Hageman	25th Annual Educators Symposium	Toledo	Store Laboratory Opportunities	10				
2000	3	30	Snyder	D. Marlin, J. Thomas	Port Clinton	Bleian Support Team Conf. Call	2				
2000	3	30	Williams	Cuyahoga RAP	Cleveland	Cuyahoga Rap					
2000	4	1	Snyder	Ohio Academy of Science	Ada	ANS Bairfish Research	27				
2000	4	3	Snyder	Sea Grant Staff	Columbus	Sea Grant Strategic Planning	10				
2000	4	3	Kelch	Sea Grant Staff	Columbus	Sea Grant Strategic Planning	10				
2000	4	3	Lichtkoppler	Sea Grant Staff	Columbus	Sea Grant Strategic Planning	10				
2000	4	3	Williams	Money 2000	Cleveland	PET program instruction	24				
2000	4	5	Lichtkoppler	Mentor Lagoons Planning Committee	Mentor	Develop Citizen Surveys	11				
2000	4	5	Snyder	Future OSU Students	Columbus	College Admission Workshop	33				67
2000	4	6	Kelch	Sea Camp Planning Committee	Ashtand	Sea Camp planning. issues	10				
2000	4	6	Lichtkoppler	Wetlands Biodiversity Task Force MARC	Mentor	Mentor Marsh Wetland Enhancement	6				
2000	4	6	Lichtkoppler	N. Coast Charter Captains Assoc	Grand River	Lake Erie Charter Fishing Survey Resu	46				
2000	4	7	Williams	Business Excel	Cleveland	Business Excel instruction	10				
2000	4	8	Hageman	Lake Erie Charter Captains	Sandusky	Ohio Charter Captains Conference	185				
2000	4	8	Snyder	Lake Erie Charter Captains	Sandusky	Ohio Charter Captains Conference	185			x	
2000	4	10	Hageman	U.N.I.T.S.	Gibraltar Island	Assist Installers of T-1 Line				8	
2000	4	10	Kelch	WCPN Radio, Cleveland	Cleveland	Changes in Lake Erie					XX
2000	4	10	Snyder	NW District Extension Agents	Port Clinton	Research Conference Planning	4				
2000	4	10	Williams	Brainerd, MN Daily Dispatch	Port Clinton	Lake Erie Waileye interview					XX
2000	4	10	Williams	Money 2000	Cleveland	PET program instruction	24				
2000	4	11	Kelch	LENSC Lake Erie Update Fish Seminar	Cleveland	Fisheries exotics, changes, research	102			x	
2000	4	11	Snyder	Lake Erie Buffer Team	Toledo	Team Activities Update	8			x	
2000	4	12	Lichtkoppler	Mentor Lagoons Planning Committee	Mentor	Develop Citizen Surveys	8				
2000	4	13	Lichtkoppler	Mentor Marsh Board	Mentor	Marsh Management	14				
2000	4	13	Snyder	Bataan Elementary Students	Port Clinton	Lake Erie Fishes	78				
2000	4	14	Kelch	LENSC Mussel Mania Seminar	Cleveland	Zebra Mussels, Lake Erie	75				
2000	4	14	Lichtkoppler	Land & Water Committee	Painesville	Land Use	6				
2000	4	14	Snyder	NW District Extension Spring Conf	Lima	Extension Updates	150				
2000	4	14	Williams	Business Excel	Cleveland	Business Excel instruction	16				
2000	4	15-16	Hageman	Friends of Stone Lab, Bd. of Directors	Gibraltar Island	Strategic Planning Session					
2000	4	16-18	Kelch	Great Lakes Sea Grant Network Conf.	Milwaukee, WI	Sea Grant Issues, Updates, Research	25			x	23
2000	4	16-19	Lichtkoppler	Great Lakes Sea Grant Agents	Milwaukee, WI	Great Lakes Sea Grant Network	50				

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2000	4	17	Williams	Money 2000	Cleveland	PET program instruction	24				
2000	4	18	Hageman	Kenwood Elementary II - Bowling Green	Gibraltar Island	Aquatic Science Workshop			46		
2000	4	18	Snyder	Northwest District Extension Staff	Findlay	Office Conference				14	
2000	4	18	Williams	Braire/d, MN Daily Dispatch	Port Clinton	Lake Erie Facts interview					
2000	4	18	Hageman	Northeast Spring Conference	Willoughby	OSU extension function					XX
2000	4	19	Hageman	Wynford High School - Bucyrus	Gibraltar Island	Aquatic Science Workshop			18		
2000	4	19	Williams	OEDC TBZ	Columbus	Marketing State of Ohio	12				
2000	4	19-20	Hageman	Kelley's Island School 5th & 6th grade	Gibraltar Island	Aquatic Science Workshop			15		
2000	4	20	Snyder	Prof. Walleye Tour	Catawba	Angler Interviews	26				
2000	4	20	Williams	Business Excel	Cleveland	Business Excel instruction	12				
2000	4	20-21	Hageman	Orange High School - Pepper Pike	Gibraltar Island	Aquatic Science Workshop			14		
2000	4	21	Hageman	Professional Walleye Trail	Port Clinton	Pro-Am Walleye Tournament					
2000	4	24	Hageman	St. Paul's Girl Scout Troop #2553	Gibraltar Island	Aquatic Science Workshop			12		
2000	4	24	Williams	Money 2000	Cleveland	PET program instruction	24				
2000	4	24-25	Hageman	Jonathan Alder High School	Gibraltar Island	Aquatic Science Workshop			14		
2000	4	25	Lichtkoppler	CFAES P&T Committee	Columbus	Promotion & Tenure Cases	x			12	
2000	4	25	Williams	CD agents meeting in Sandusky	Sandusky	CD Agents meeting				12	
2000	4	25-26	Hageman	Northwood Middle School I	Gibraltar Island	Aquatic Science Workshop			40		
2000	4	26	Hageman	Northwood Middle School II	Gibraltar Island	Aquatic Science Workshop			50		
2000	4	26	Hageman	Roger Fisher	Gibraltar Island	Gibraltar Island Tour	1				
2000	4	26	Keich	Lorain	Lorain	Tourism issues	15				
2000	4	27	Hageman	Westside Montessori School - Toledo	Gibraltar Island	Aquatic Science Workshop			41		
2000	4	27	Snyder	Chamber of Commerce	Port Clinton	Lake Levels Outlook	31				
2000	4	27	Snyder	Archbold, OH Radio	Archbold	Lake Erie Update					XX
2000	4	27	Snyder	Fulton Co. Pond Owners	Archbold	Pond Management	41				
2000	4	27-28	Hageman	Harding High School - Warren	Gibraltar Island	Aquatic Science Workshop			41		
2000	4	28	Hageman	Harding High School - Warren	South Bass Is. Lighthouse	Lighthouse Tour	41				
2000	4	28	Hageman	Sacred Heart School - Sandusky	Gibraltar Island	Aquatic Science Workshop			16		
2000	4	28	Williams	Cuyahoga County Space needs asses.	Cleveland	Space assessments for Cuyahoga		2			
2000	4	29	Hageman	Clay High School - Oregon	Gibraltar Island	Aquatic Science Workshop			21		
2000	5	1	Lichtkoppler	Lakeland Community College Students	Mentor	Lake Erie Economic Geography	32				
2000	5	1	Williams	Money 2000	Cleveland	PET program instruction	24				
2000	5	1-2	Hageman	Mills School II 6th grade - Sandusky	Gibraltar Island	Aquatic Science Workshop			45		
2000	5	2	Hageman	Sea Grant Staff	Columbus	Staff Conference / Strategic Planning	12				
2000	5	2	Keich	Sea Grant Staff	Columbus	Staff Conference / Strategic Planning	12				
2000	5	2	Lichtkoppler	Sea Grant Staff	Columbus	Staff Conference / Strategic Planning	12				
2000	5	2	Snyder	Sea Grant Staff	Columbus	Staff Conference / Strategic Planning	12				
2000	5	2	Williams	Sea Grant Staff	Columbus	Staff Conference / Strategic Planning	12				
2000	5	2-3	Hageman	Mills School II 6th grade - Sandusky	Gibraltar Island	Aquatic Science Workshop			47		
2000	5	3	Lichtkoppler	OSUE Dept. P&T Committee	Columbus	Promotion & Tenure Case Review	10				
2000	5	3	Snyder	OSUE Dept. P&T Committee	Columbus	Promotion & Tenure Case Review	10				
2000	5	3-4	Hageman	Balancing Work & Family, PET J Thos	Cleveland	PET program instruction	24				
2000	5	3-4	Hageman	Mills School III 6th grade - Sandusky	Gibraltar Island	Aquatic Science Workshop			43		
2000	5	4	Williams	ARDB	Akron	Leads			5		
2000	5	4-5	Hageman	Mills School IV 6th grade - Sandusky	Gibraltar Island	Aquatic Science Workshop			50		
2000	5	5-6	Keich	OSG State Advisory Comm. Mtg	Stone Lab, Put-in-Bay	Sea Grant planning, evaluation, issues				x	
2000	5	5-6	Hageman	Sewickley Academy - Pitsburgh, PA	Gibraltar Island	Aquatic Science Workshop			71		
2000	5	6	Hageman	O.S.U. Geology Class	Gibraltar Island	Aquatic Science Workshop			9		
2000	5	6	Lichtkoppler	Advisory Committee	Put-in-Bay	Strategic planning	x			25	
2000	5	6	Snyder	Sea Grant Extension Advisory Comm.	Put-in-Bay	Strategic Plan Development	7			25	
2000	5	6-7	Hageman	Ohio Sea Grant Advisory Committees	Gibraltar Island	Strategic Planning Session				26	
2000	5	8	Hageman	Eldernostel I	Gibraltar Island	Aquatic Science Workshop	30				
2000	5	8	Williams	East Cleveland Open Air Market	East Cleveland	Evaluation of East Cleveland Farmers	8				
2000	5	8	Williams	Money 2000	Cleveland	PET program instruction	24				
2000	5	8-9	Hageman	Mills School V 6th grade - Sandusky	Gibraltar Island	Aquatic Science Workshop			39		
2000	5	9	Williams	Cuyahoga RAP	Pennsilia	Social Economic committee			8		

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTER/No.	CHAIRING	ORGANIZE/No.	PARTICIP./No.	MASS MEDIA
2000	5	9-10	Hageman	Mills School VI 6th grade - Sandusky	Gibraltar Island	Aquatic Science Workshop			45		
2000	5	10	Hageman	Padua Franciscan High School	Gibraltar Island	Aquatic Science Workshop			4		XX
2000	5	10	Kelch	WCPN Radio, Cleveland	Cleveland	Lake Levels				7	
2000	5	10	Lichtkoppler	Wetlands Biodiversity Task Force MARC	Ashland	Welland Mitigation					
2000	5	10	Lichtkoppler	Mentor Lagoons Planning Committee	Mentor	Develop Citizen Surveys	12		x		
2000	5	10	Snyder	NW District Extension Agents	Port Clinton	Research Conference Planning	4				
2000	5	10	Williams	Brownfield remediation program	Cleveland	Brownfield remediation of site			32		
2000	5	11	Hageman	Ladyfield Catholic School - Toledo	Gibraltar Island	Aquatic Science Workshop			34		
2000	5	10-11	Hageman	Mills School VII 6th grade - Sandusky	Gibraltar Island	Aquatic Science Workshop			47		
2000	5	11-12	Hageman	West Carrollton/Miamisburg	Gibraltar Island	Aquatic Science Workshop			64		
2000	5	11-14	Hageman	Outdoor Writers of Ohio	Put-in-Bay	Writers Conference	95		x		
2000	5	11-14	Snyder	Outdoor Writers of Ohio	Put-in-Bay	Writers Conference	95	x			
2000	5	12-13	Hageman	Granville Elementary	Gibraltar Island	Aquatic Science Workshop			36		
2000	5	13	Hageman	Ladyfield Catholic School - Toledo	Gibraltar Island	Aquatic Science Workshop			28		
2000	5	14	Hageman	Rich Delong, St. Johns Jesuit H.S.	Gibraltar Island	High School Intern			1		
2000	5	15	Hageman	Eiderhostel II	Gibraltar Island	Aquatic Science Workshop	28		26		
2000	5	15	Snyder	Reutter, Martin, Rohrer, Thomas	Port Clinton	Toledo Position Conf Call	4				
2000	5	15	Williams	PET planning mtg	Cleveland	PET Planning Meeting	5				
2000	5	15	Williams	Money 2000	Cleveland	PET program instruction	24			15	
2000	5	15-16	Hageman	Perry/McCord M.S. - Worthington	Gibraltar Island	Aquatic Science Workshop			64		
2000	5	16	Williams	Economic Development Network	Cleveland	Economic Development Network	43				
2000	5	16-17	Hageman	Toth Elementary - Perrysburg	Gibraltar Island	Aquatic Science Workshop			64		
2000	5	17-18	Hageman	Toledo Horizons I	Gibraltar Island	Aquatic Science Workshop			55		
2000	5	18	Lichtkoppler	Mentor Marsh Board	Mentor	Marsh Management	12				
2000	5	18	Snyder	Northwest District Extension Staff	Findlay	Office Conference					
2000	5	18-19	Hageman	Toledo Horizons II	Gibraltar Island	Aquatic Science Workshop			41		
2000	5	19	Hageman	Woodward High School - Toledo	Gibraltar Island	Aquatic Science Workshop			19		
2000	5	19	Hageman	Lucas Co. Youth Treatment Center	Gibraltar Island	Aquatic Science Workshop			15		
2000	5	19	Hageman	Rogers High School - Toledo	Gibraltar Island	Aquatic Science Workshop			14		
2000	5	19	Lichtkoppler	CZM 2001 Committee	Cleveland	Local Input for CZM 01 Conference				23	
2000	5	19	Snyder	Cleveland Plain Dealer	Port Clinton	Lake Levels, Fisheries Interview					XX
2000	5	20	Hageman	Girl Scout Troop # 2412 - Columbus	Gibraltar Island	Aquatic Science Workshop			19		
2000	5	20	Hageman	Vincent Burke/Dr. Robert Heath	Peach Point, Research Lab	Radiation Safety Training				3	
2000	5	20	Williams	BREI Continuous R&E program	Portland, ME	Presentation to BREI certification class	16				
2000	5	22	Hageman	Elderhostel III	Gibraltar Island	Aquatic Science Workshop	30		30		
2000	5	22	Hageman	Amherst Steele Middle School	Gibraltar Island	Aquatic Science Workshop					
2000	5	22	Williams	BREI Communication Committee	Portland, ME	Webb site stats	60				
2000	5	22-23	Hageman	Robinson Jr. High - Toledo	Gibraltar Island	Aquatic Science Workshop			28		
2000	5	22-23	Hageman	All Saint Catholic School - Roseford	Gibraltar Island	Aquatic Science Workshop			20		
2000	5	22-26	Lichtkoppler	Int'l Assn. Of Great Lakes Research	Cornwall, Ontario	IAGLR 2000 Conference (presentations)	125	x			
2000	5	23	Kelch	Sea Camp Planning Committee	Kellys Island	Planning gear inventory, boat repair	12				
2000	5	23	Snyder	Boy Scout Troop 312	Fremont	Citizenship	8		x		
2000	5	24	Hageman	Perkins (New Horizons)	Gibraltar Island	Aquatic Science Workshop			33		
2000	5	24	Hageman	Springfield South High School	Gibraltar Island	Aquatic Science Workshop			9		
2000	5	24	Kelch	Lorain City Visitors Bureau Bd Mtg	Lorain	Tourism issues	17				
2000	5	24	Kelch	Aqua Amigos Dive Club	Cleveland	Artificial reefs, zebra mussel, research	62				
2000	5	24	Williams	Mayfield teleblitz	Cleveland	Cleveland			5		
2000	5	24-25	Snyder	Int'l Assn. Of Great Lakes Research	Cornwall, Ontario	Mayfly composting	25				
2000	5	25	Hageman	Put-in-Bay School	Put-in-Bay	Award Ceremony Program	120		9		
2000	5	25	Williams	NPE Pre show telemarketing	Akron	NPE pre show marketing			5		
2000	5	25-26	Hageman	Englewood Elementary	Gibraltar Island	Aquatic Science Workshop			26		
2000	5	25-26	Hageman	Arlington Elementary - Toledo	Gibraltar Island	Aquatic Science Workshop			29		
2000	5	26	Hageman	Whittier 7th grade - Lorain	Gibraltar Island	Aquatic Science Workshop			31		
2000	5	26	Hageman	Back to the Wild, Nature Nursery	Castalia	Animal Rehabilitation				2	
2000	5	30	Hageman	Guzzel Middle School - Dublin	Gibraltar Island	Aquatic Science Workshop			63		
2000	5	30	Lichtkoppler	SAMP / MARC	Mentor	SAMP Steering Committee				15	

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTER No.	CHAIRING	ORGANIZING No.	PARTICIP./No.	MASS MEDIA
2000	5	30	Lichtkoppler	SAMP / MARC	Mentor	Full MARC meeting				25	
2000	5	30	Snyder	Lucas Co. Ext. Staff	Toledo	Bienl Exh. Mtg				6	
2000	5	30	Snyder	Cleveland Plain Dealer	Port Clinton	Lake Levels and Real Estate Interview					XX
2000	5	31	Hageman	Grizzel Middle School II - Dublin	Gibraltar Island	Aquatic Science Workshop			63		
2000	5	31	Hageman	Northern Ohio Assoc. of Herpetologists	Gibraltar Island	Lake Erie Island Snake Fauna			3		
2000	5	31	Hageman	Stone Laboratory Participating Depts	Columbus	Courier Run					
2000	5	31	Snyder	NW Ohio Agencies and Academia	Toledo	Watershed Protection				300	
2000	5	31	Williams	Inservice training Northwest District	Findlay	Business Excel	15				
2000	6	1	Hageman	U.N.I.T.S.	Gibraltar Island	T-1 Line Check Out			4		
2000	6	1	Hageman	Biological Sciences/Pharmacy Library	Gibraltar Island	Delivery of Journals/Closed Reserved			4		
2000	6	1	Hageman	O.S.U. Bookstore	Peach Point Research Lab	Set Up Bookstore			5		
2000	6	1	Hageman	Whiteford M.S. - Ottawa Lake, MI	Gibraltar Island	Aquatic Science Workshop			97		
2000	6	1	Lichtkoppler	OSUE Faculty	Painesville	P&T	1				
2000	6	1-2	Hageman	Jones Middle School - Columbus	Gibraltar Island	Aquatic Science Workshop			35		
2000	6	2	Hageman	Columbus Athletic Club	Catawba	Judge Walleye Tournament	100				
2000	6	2	Keich	Lake Erie Bass Anglers Club	Elyria	Smallmouth logging research project	22				
2000	6	4	Hageman	EFOB 125	Gibraltar Island	Week 1 College Class, Orientation	13				
2000	6	5	Hageman	Sea Grant Staff	Columbus	Staff Conference / Strategic Planning	10				
2000	6	5	Lichtkoppler	Sea Grant Staff	Columbus	Staff Conference / Strategic Planning	10				
2000	6	5	Snyder	Sea Grant Staff	Columbus	Staff Conference / Strategic Planning	10				
2000	6	5	Williams	Sea Grant Staff	Columbus	Staff Conference / Strategic Planning	10				
2000	6	6	Hageman	Stone Laboratory Participating Depts.	Columbus	Courier Run					
2000	6	6	Hageman	Dr. Ken Krieger, Heidelberg College	Tiffin	Summer Course Planning Meeting			2		
2000	6	6	Snyder	Lake Erie Buffer Team	Put-in-Bay	Buffer Materials Development				17	
2000	6	6	Snyder	Great Lakes Historical Society	Vermillion	Lake Erie History	41				
2000	6	7	Hageman	O.S.U. President Kiwan & Invitees	Columbus	2000 Outstanding Staff Awards					
2000	6	7	Keich	Steamship Mather Historical Society	Cleveland	Changes in Lake Erie	19				
2000	6	8	Hageman	Ashtand Co./Huron County SWCD	Gibraltar Island	Aquatic Science Workshop			17		
2000	6	8	Hageman	Put-in-Bay Book Club	Gibraltar Island	Gibraltar Island Tour/Workshop					
2000	6	8	Hageman	Jim & Ann Harding	Put-in-Bay	Cooke Castle Renovation Meeting	12				
2000	6	8	Lichtkoppler	Coastal Resources Advisory Council	Ashtabula	Coastal Management Program				3	
2000	6	8	Lichtkoppler	OSUE staff	Painesville	Office Conference	5				
2000	6	8	Lichtkoppler	Mentor Marsh Board	Mentor	Marsh Management	16				
2000	6	8	Snyder	NW District Extension Agents	Port Clinton	Research Conference Planning	6				
2000	6	11	Hageman	EFOB 126, GEO 107, NRE 690	Gibraltar Island	Week 2 College Class, Orientation	56		x		
2000	6	12	Williams	Political environment in Brownified redeve	Cleveland	presentation (EET)	8				
2000	6	13	Hageman	Stone Laboratory Participating Depts	Columbus	Courier Run					
2000	6	13	Lichtkoppler	SAMP / MARC	Columbus	SAMP Steering Committee	9				
2000	6	13	Williams	National TBZ	Mentor	telemarketing	18				
2000	6	14	Lichtkoppler	NE Ohio Sea Grant Advisory Committee	Unionville	Sea Grant Planning	9				
2000	6	14	Snyder	Agricultural Broadcasting Network	Fremont	Buffer Development					XX
2000	6	14	Williams	Advisory Board meeting	Cleveland	Advisory Board			6		
2000	6	15	Hageman	Laboratory Animal Protocol Committee	Peach Point Research Lab	Laboratory Animal Protocol/Safety	4				
2000	6	15	Hageman	Visitors of Guest Lecture	Gibraltar Island	Chris Jones, Ohio E.P.A			64		
2000	6	15	Snyder	Great Lakes Agencies	Gross Ile, MI	Coastal Assessment Workshop	16				
2000	6	16	Hageman	Northwest District Office Staff	Put-in-Bay	Office Conference					
2000	6	16	Snyder	Northwest District Extension Staff	Put-in-Bay	Office Retreat	19				
2000	6	18	Hageman	EFOB 621 651 652 694 /GEO 584	Gibraltar Island	Term 1 College Classes, Orientation	52				
2000	6	19	Lichtkoppler	Lake Co. OSUE Advisory Committee	Painesville	Office Budget	21				
2000	6	20	Lichtkoppler	Grand River Partners, Inc.	Chardon	Watershed Management	18				
2000	6	20	Lichtkoppler	Land & Living Committee	Jefferson	Community Development					
2000	6	20	Snyder	Exchange Club	Sandusky	Lake Levels Update	28				
2000	6	21	Hageman	Fred Snyder/Joey Conroy	Stone Lab Office	HACCP Bat Training Project					
2000	6	21	Lichtkoppler	Mentor Lagoons Planning Committee	Mentor	Develop Citizen Surveys	11				
2000	6	21	Snyder	Conroy, Hageman	Put-in-Bay	HACCP Bat Training Project	2				
2000	6	22	Hageman	Visitors of Guest Lecture	Gibraltar Island	Dr. Jan Miller, U.S. Army Corp of Eng.			45		

YEAR	MONTH	DAY	LAST NAME	AUDIENCE	LOCATION	TOPIC	PRESENTER/No.	CHAIR/No.	ORGANIZ/No.	PARTICIP./No.	MASS MEDIA
2000	6	22	Snyder	NW Dist Sea Grant Advisory Comm.	Port Clinton	Strategic Plan Development	10		x		
2000	6	22	Snyder	Port Clinton News Herald	Port Clinton	Mayfly Interview					XX
2000	6	23	Snyder	Canadian Broadcasting Co.	Port Clinton	Mayfly Composing Interview					XX
2000	6	24	Hageman	Diane Cantrell, O.D.N.R.	Gibraltar Island	NRE 691 Class Preparation	210			3	
2000	6	24	Keich	G.L. Hist. Soc. Shipwreck Center Ded.	Vermilion	Dedication, Changes in Lake Erie	13				
2000	6	25	Hageman	NRE 691	Gibraltar Island	National Curricula for Water Edu Class	17				
2000	6	26	Hageman	B.G.S.U. Governors Summer Institute	Gibraltar Island	Aquatic Science Workshop	5				
2000	6	26	Hageman	Tim Granata, et al.	Gibraltar Island	Summer 2000 Research Project	19				
2000	6	26	Lichtkoppler	ECO Trek Teachers	Lake Erie	Lake Erie Coastal Tour	5				
2000	6	27	Hageman	Jill Stechshultz	Gibraltar Island	Island Tour	5			6	
2000	6	27	Snyder	Great Lakes Commission	Cleveland	Great Lakes Boating					
2000	6	27	Snyder	Canadian Broadcasting Co.	Fremont	Mayfly Composing Live Interview	5				XX
2000	6	28	Hageman	NW District Extension Agents	Port Clinton	Research Conference Planning	2		x		
2000	6	28	Hageman	Dr. Jane Forsythe	Gibraltar Island	Prepare for Guest Lecture	25				
2000	6	28	Keich	Stone Laboratory Student/Staff	Middle Bass Island	Softball Game, Gibraltar vs Middle Bass	21				
2000	6	28	Lichtkoppler	OSG Advisory Committee Mtg	Elyria	Planning, updates, Legislative Day			x		
2000	6	28	Lichtkoppler	Ashtabula River Partnership	Ashtabula	Public Outreach				6	
2000	6	28	Lichtkoppler	Ashtabula River Partnership	Ashtabula	Project Development				16	
2000	6	28	Lichtkoppler	Ashtabula River Partnership	Ashtabula	Coordination Committee				20	
2000	6	29	Hageman	Visitors for Guest Lecture	Gibraltar Island	Dr. Jane Forsythe Lake Erie Geology	5			63	
2000	6	29	Lichtkoppler	BDWetlands Task Force	Mentor	MARC Wetlands Work	10				
2000	6	29	Lichtkoppler	NOAA Coastal Mtg. Review Team	Painesville	OHIO Coastal Management Program					XX
2000	6	29	Williams	Article for BREI							

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