Lake Erie Shore Erosion Management Plan
Local Community Needs Assessment

Final Report

February 28, 2007

Mr. Frank Lichtkoppler
Ohio State University Extension, Sea Grant
99 East Erie Street, Painesville, Ohio 44077
Phone: 440.350-2267, fax: 440.350.5928, email: Lichtkoppler.1@osu.edu

and

Dr. Tom Archer
Ohio State University Extension
Agricultural Administration Building
2120 Fyffe Road, Columbus, Ohio 43210
Phone: 614.292.0179 fax: 614.688.3807, email: Archer.3@osu.edu

LESEMP Local Community Needs Assessment
OSURF Grants #60012934 and #600014172

Sponsored by the
ODNR, Office of Coastal Management

Introduction

The Ohio Department of Natural Resources (ODNR) Office of Coastal Management contracted with the Ohio Sea Grant College Program to conduct a local community needs assessment to gather information on the attitudes and beliefs of coastal property owners, community officials and others interested in Lake Erie coastal erosion. This information will be utilized by the ODNR Office of Coastal Management to help develop the Lake Erie Shoreline Erosion Management Plan (LESEMP). The work consisted of two phases: qualitative research in the form of focus groups and quantitative research in the form of random surveys of key coastal constituents. In the first phase three focus groups were conducted along the Ohio's Lake Erie coast. In the second phase, two mail/internet surveys were conducted surveying coastal property owners and public officials in the coastal counties.

Phase I Focus Groups

The goal of the focus group phase was to gain information about the perceived needs of local communities and use this information in the development of a survey instrument for gathering quantitative information on community needs relating to Lake Erie shore erosion. The ultimate aim is to incorporate specific measures into the Lake Erie Shore Erosion Management Plan to address identified issues. The objectives of the needs assessment were as follows:

- Increase the potential for Lake Erie Shoreline Erosion Management Plan (LESEMP) implementation by gaining support for the concept of the plan from stakeholders, identifying incentives for implementation, and recognizing possible barriers to shore erosion management and plan implementation;
- Develop a regional awareness of Lake Erie erosion-related issues;
- Initialize a dialogue between local communities and the LESEMP workgroup with the long-term goal of fostering positive, interactive relationships ; and
- Identify training and technical assistance needs of coastal property owners and community officials related to shore erosion management

OSU Extension worked with the ODNR, Office of Coastal Management and the Ohio Coastal Training Program to develop a set of focus group questions to obtain responses to a series of shore erosion issues identified by the ODNR LESEMP Assessment Team. The issues identified were:

A. Determine the current understanding of Lake Erie shore erosion, coastal processes, biological habitats, and erosion management from the perspective of the target audience;

B. Determine the target audience's understanding of the impact of coastal property modifications to physical and biological processes;

C. Determine perceived problems that the target audience faces related to Lake Erie shore erosion;

D. Identify perceived barriers and benefits to adoption of best shore erosion management practices and policies among the target audience;

E. Identify potential incentives that would increase adoption of best shore erosion management practices and policies among coastal property owners and communities;

F. Determine perceptions of the target audience regarding what they want and need to know to better manage Lake Erie shore erosion;

G. Identify individuals who want additional skills training or access to information and technologies with regard to Lake Erie shore erosion;

H. Identify topics for further training; these should be identified by those individuals wanting additional training/skills;

I. Determine the ability of the target audience to participate in training programs and identify preferred training logistics (e.g. location, time, length); and

J. Identify teaching and technical assistance approaches (workshops, seminars, fact sheets, web-based information) preferred by the target audience.

Focus Group Methods and Materials

The principal investigators (Lichtkoppler and Archer) obtained an OSU Internal Review Board exemption for working with human subjects in survey research and developed the following focus group questions with the assistance of the ODNR Office of Coastal Management (Amanda Wenczel) and the Ohio Coastal Training Program (Heather Elmer). The focus group sessions were conducted to elicit themes among various audience groups. The target audience for the focus group assessment is a combination of the following stakeholder groups: lakefront property owners, community officials, engineers and contractors. Participants for the focus groups were recruited by OSU Extension using the recruitment tools developed for this project (see Appendix A) from lists of consultants, coastal property owners and local community officials provided by the ODNR Office of Coastal Management and the Ohio Coastal Training Program. Occasionally, time constraints precluded the use of the mail confirmation letter and phone call reminder.

Focus Group Questions asked of each focus group are listed here.

1. How has the erosion of the Lake Erie shore affected you or someone you know?
    a. When is Lake Erie Shore erosion a problem?
2. What causes Lake Erie shore erosion?
3. What can be done about Lake Erie shore erosion?
4. What are some of the best management practices related to shore erosion?
5. What are the benefits of adopting the best management practices to reduce Lake Erie shore erosion?
6. What prevents people from adopting the best management practices to reduce Lake Erie shore erosion?
7. What would increase adoption of best management practices to reduce Lake Erie shore erosion?
8. What additional knowledge and skills would help people better manage Lake Erie shore erosion?
    a. Who needs additional knowledge and skills?
    b. What are the specific knowledge and skills?
9. How do you like to receive information?
    a. Workshops, seminars, fact sheets, technical guidance, web-based information, etc.?
    b. What are the best locations, times, lengths of services or sessions?
10. What technical assistance is needed on Lake Erie shore erosion?
11. Is there anything else?

OSU Extension conducted a series of three focus group sessions with Dr. Tom Archer facilitating the three focus groups and Lichtkoppler, Wenczel and Elmer sitting in to listen to the conversation, take notes and obtain information from the focus groups. Lichtkoppler, Wenczel and Elmer did not participate except for responding to a question or two from the focus group participants at the end of the focus group sessions.

1. Monday June 18, 2007 – 1 pm to 3 pm - Lake Erie Nature and Science Center, 28728 Wolf Road, Bay Village, Ohio 44140 --- Seven Participants.
2. Thursday June 21, 2007 1 pm to 3 pm – Lake County Planning Commission Community Room, 125 East Erie Street, Painesville, Ohio 44077 --- Eight participants
3. Tuesday June 26. 2007 1 pm to 3 pm - Erie Islands Regional Welcome Center, 770 S.E. Catawba Road, (State Route 2 and State Route 53) Port Clinton, Ohio 43452 --- Ten participants

Focus Group Results and Discussion

The focus group sessions were recorded with the informed consent of those participating for detailed analysis. What follows are some key ideas gleaned from the transcripts and notes taken at the focus group sessions.

We have learned a good deal about some key themes relating to Lake Erie Shore Erosion.

1) Recruitment of individuals for the focus groups was more difficult than expected. Many citizens did not want to talk to us thinking we were telemarketers. This initial reluctance was somewhat overcome by identifying ourselves as being Ohio State University. We reviewed the lists of stakeholders to verify our potential survey pool for the follow up mail and web surveys. In the short time available to conduct the focus groups, developers were not identified or recruited for participation in the focus groups.

2) Of the three targeted stakeholder groups, it was most difficult to recruit coastal property owners for the focus groups. Some individuals have a very deep resentment of the ODNR and did not want to participate in anything that would be helpful to the ODNR. Even with OSU Extension, a neutral information broker, conducting the focus groups, there were difficulties. Two coastal property owning citizens at the Painesville focus group, upon understanding that the information learned from the focus group would be provided to the ODNR, declined to participate and walked out. This has never occurred before in the 21 years of Dr. Archer's experience in conducting focus groups. Three other coastal property owners at the same Painesville focus group did participate and provided useful information.

3) Shore erosion is a very intense emotional issue to some citizens, and it is a concern among coastal community officials, local agencies, contractors, consultants and engineers. The ODNR will have to work hard to get citizen buy-in into the Lake Erie Shore Erosion Management Plan. Some see government as the problem. Citizen perceptions of causes and results of Lake Erie shore erosion (correct or incorrect) may cloud adopting LESEMP solutions to the problem.

The combined focus group interview site summary reports for each of the three focus groups are available upon request.

For this report the principal investigators offer the following observations, interpretation and analysis of the responses given to the focus group questions.

Q1: How has the erosion of the Lake Erie shore affected you or someone you know? When is Lake Erie Shore erosion a problem?

Lake Erie shore erosion has a dramatic impact on lakefront property owners personally and economically. It impacts individuals, coastal businesses, local officials and communities. It is a complex problem that is not easy to solve.

Q2: What causes Lake Erie shore erosion?

Causes of shore erosion are not well or incompletely understood by most respondents. This reflects in part the geographic location of the respondent (respondents tended to explain what was occurring where they lived or worked). Causes of erosion that were mentioned included wind, waves, ground water seepage, lack of vegetation on the shore, lack of sand for beaches, lake levels, manipulation of lake levels by the US Army Corps of Engineers, government policies, storm water pipe outfalls, dumping of rubble over the bluff and more.

There is opportunity for education on this topic.

Q3: What can be done about Lake Erie shore erosion?

"Not a whole lot without a permit." What people can do about shore erosion is a topic for debate. There was a variety of things mentioned including control lake levels better, hard structures, more natural protection such as beach nourishment, specific consultants with proprietary solutions, and controlling storm water runoff.

What works and what does not work is not well known by most of the respondents. Each site may need an individual and unique solution. There is opportunity for education on this topic.

Q4: What are some of the best management practices related to shore erosion?

Best Management Practices (BMPs) are so much a function of where you are on the lake and the type of material being eroded. Best management practices from what standpoint? Cost? Habitat? Inadvertent consequences? BMPs may be related more to water quality rather than erosion protection. It is difficult to get funding for BMPs for shore erosion for public property and not possible to get public funds for private property protection. Respondents would like to see BMPs at work on the shoreline.

Q5: What are the benefits of adopting the best management practices to reduce Lake Erie shore erosion?

You can slow shore erosion down but not stop it. Knowledge of what works would save money. Education can assist people in decision making. A unified watershed approach may help get things done.

Q6: What prevents people from adopting the best management practices to reduce Lake Erie shore erosion?

Prime response was a lack of funding. Some individuals can not afford the cost of shore protection. Lack of interest was also mentioned. If the state gets the land (after it falls into the lake) why should I protect my property?

It is difficult to get a group to decide on a uniform project. No land left to put in protection or adopt BMP's. A lack of credible solutions to shore erosion stops some. A dramatic fall off of interest in shore erosion by those not directly impacted by Lake Erie erosion precludes taxpayer assistance. It is private property. Let the individual property owners' deal with the issue. Bureaucracy and government red tape was mentioned as impediments to protection. The permitting process is too involved and complex. Government is seen as a problem and not a solution.

Q7: What would increase adoption of best management practices to reduce Lake Erie shore erosion?

A resolution of the public/private boundary on the Lake Erie shore may help. The high water/low water issue is a barrier to action by some. Knowledge of what works would help. Demonstrations of what works are needed to aid in individual decision making. Reduction of bureaucratic barriers is also needed. Sources of funding could help public agencies and communities address erosion. We need a call in line to report dumping. Uniform enforcement of the regulations would help.

Q8: What additional knowledge and skills would help people better manage Lake Erie shore erosion?
Who needs additional knowledge and skills?
What are the specific knowledge and skills?

Homeowners need information on the Lake Erie shore erosion process, on the permit process, how to get together for group erosion protection projects and on what works to stop erosion. Contractors and consultants need to know what they can do and how the permit process works.

Q9: How do you like to receive information?
Workshops, seminars, fact sheets, technical guidance, web-based information, etc.?
What are the best locations, times, lengths of services or sessions?

Coastal property owners should have a Lake Erie property owners' manual. Shore erosion information should be fully disclosed by real estate agents. They should have fact sheets that can be given out to prospective buyers. Learn from others via case studies of what has worked. Field trips to see what is working well would help. Some want a website for information, some want a brochure and some want a CD or video on the shore erosion problem. Make people buy the video. Make officials get erosion training to be eligible for grants. An ODNR Expo on shore erosion topics. A Lake Erie shore erosion newsletter could keep people informed.

Q10: What technical assistance is needed on Lake Erie shore erosion?

Written guidelines would help. Respond to frequently asked questions. Build in incentives for education. Several wanted face to face dialogue, site visits, and to learn what works. Create a successful demonstration and then tell people about it. Timing of the information is critical. Many (most) buy Lake Erie lakefront property with no idea or understanding of shoreline erosion issue.

Q11: Is there anything else?

People do not come to the table unless it directly impacts their pocketbook. Local officials want to be of assistance but what they can do is limited. Bring in the universities to help educate the public. Building consensus takes time and the public must have input. Private property rights and public assistance are in conflict.

Phase II Mail Surveys

Based on the information learned from the focus groups, staff from Ohio Sea Grant, Ohio State University Extension, the Coastal Training Program at Old Woman Creek NERR and the ODNR Coastal Management Office worked to develop survey instruments for: 1) coastal property owners and trustees of coastal property and, 2) public officials, consultants and contractors. Copies of the surveys are found in Appendix B and Appendix C.

Mail Survey Methods and Materials

The Ohio Coastal Training Program supplied Ohio Sea Grant with a public official's mailing list consisting of some 700 elected, appointed and administrative officials from Lake Erie coastal communities. Ohio Sea Grant obtained county based lists of coastal property owners provided from the seven coastal county auditors' offices. The seven county based lists of some 7,000 coastal property parcels and their owners mailing addresses were combined into one list for the purpose of this survey. A random sample of 350 names was drawn from the officials list and 500 names were randomly drawn from the combined property owners list. Duplicates were eliminated as some individuals owned numerous parcels and others owned a single parcel. Additional names were drawn at random until a total of 500 individuals were selected for the property owners mailing.

The initial post card announcing the surveys was mailed to 500 coastal property owners and to 350 coastal public officials. This mailing resulted in 65 undeliverable returns for the property owners group and 17 undeliverable returns from the coastal officials group. Thus the initial sample size was 435 for the property owner's survey and 333 for the coastal official's survey.

Property Owners Survey

Of the 435 property owners who received surveys a total of 243 provided useful information for a return rate of about 55.9 percent.

In survey research the issue of non-response bias is often a problem. For example, in the property owners' survey roughly half of the sample did not respond. It is important to know whether or not that half of the sample differed in any important way from the half that responded. One strategy to address the non response issue is to compare early and late respondents, since late respondents tend to be similar to non-respondents (Miller and Smith 1983).

We downloaded the data from the SurveyMonkey™ site into an Excel™ file using the numerical condensed options. Then we imported the Excel™ file into SPSS™ (Statistical Package for Social Science) for additional analysis. In SPSS™, we compared the responses of early respondents (n= 156) with the late respondents (those responding after the final mail contact n=87) using a Chi-Square test. There were no significant differences ($p \leq .05$) for any of the 25 variables tested. By simple chance one would expect to find significant differences in one of the variables. Therefore, we grouped the sample results and considered them to be representative of the population of coastal property owners.

Results (Coastal Property Owners)

Over eight of ten property owners said they were familiar with seawalls as shore protection while less than four out of ten were familiar with a groin /groin field as shore protection (Table 1). A significant percentage of respondents are not familiar with several of the types of shore protection. Open ended responses to questions are included in Appendix D.

Almost eight of ten respondents expect shore erosion control measures to remain functional for 20 plus years (Table 2.) Three of ten respondents expect shore erosion control measures to remain functional for 50 plus years.

Respondents were most likely to plant vegetation to hold soil on the bluff, control storm water runoff and construct engineered structures (Table 3). Placing sand on the shore and dumping concrete rubble / construction debris were the lease likely methods of shore erosion control.

Identifying new sources of funding for erosion control was the most popular incentive for encouraging shoreline property owners to adopt effective erosion control measures (Table 4). Creating a call-in line to report illegal dumping was the lease popular way to increase adoption of effective erosion control.

Mail and websites were the most popular ways for respondents to access Lake Erie shore erosion information and phone calls were the least popular (Table 5).

Newsletters were the most popular format for receiving information and exhibits at an expo, fair or show was the least popular (Table 6).

Other coastal property owners and neighbors were the most popular sources of shore erosion information (Table 7). Universities (including Sea Grant), Soil and Water Conservation Districts, and the Ohio EPA were some of the least popular sources of information. In the middle were federal government agencies, friends, contractors, local government, and the Ohio Department of Natural Resources.

Two hundred and thirty three coastal property owner respondents provided their zip codes. Responses came from a total of 38 different zip codes indicating a wide distribution of respondents. The top three zip codes followed by the number of their occurrence in parentheses were 44870 (30), 44041 (15) and 44095 (14). Twenty zip codes occurred four or fewer times. Because of the large number of zip codes and relatively few responses from each zip code it is not possible to obtain a statistically significant relationship between the respondents' zip code and the responses given.

Coastal Officials Survey

Of the 333 public officials who received surveys a total of 140 provided useful information for a return rate of about 42.0 percent.

We downloaded the data from the SurveyMonkey™ site into an Excel™ file using the numerical condensed options. Then we imported the Excel™ file into SPSS™ (Statistical Package for Social Science) for additional analysis. In SPSS™, we compared the responses of early respondents (n= 71) with the late respondents (those responding after the final mail contact n=69) using a Chi-Square test. There

were significant differences ($p \leq .05$) for four of the 50 variables tested. By simple chance one would expect to find significant differences in two to three of the variables.

Late respondents were significantly more likely to access information via one-on-one, face-to-face dialogue than early respondents. Early respondents preferred the hands-on field activities significantly more than late respondents. Early respondents indicated that continuing education credit was significantly more important to them in decision making to attend training than late respondents. Early respondents indicated that referrals to reference materials or scientific experts were significantly more important to them than it was to late respondents.

Recognizing these few differences, we grouped the sample results and considered them to be fairly representative of the population of coastal property owners.

Results (Public Officials)

Over seven of ten coastal community officials said that boat launches, recreational beaches and revetments could be found within their community (Table 8). Only two contractors provided information on this item. Both had worked with groins, seawalls and bluff vegetation. Only one of two contractors worked with jetties, revetments, beach nourishment, detached breakwaters, boat launch, marina, or recreational beach. Open ended responses to questions (except for item 8b) are included in Appendix E.

Almost nine of ten respondents expect shore erosion control measures to remain functional for 20 plus years (Table 9.) Almost one third of the respondents expect shore erosion control measures to remain functional for 50 plus years.

Constructing engineered structures, controlling storm water runoff, placing pre-cast concrete structures and installing drainage on the bluff were thought to be the most effective Lake Erie shore erosion control options (Table 10). Placing sand on the shore and dumping concrete rubble / construction debris were thought to be the least effective methods of shore erosion control.

Public officials indicated that identifying new sources of funding for erosion control was the incentive they thought most likely to encourage lake shore property owners to adopt effective erosion control measures (Table 11). Creating a call-in line to report illegal dumping was thought to be the lease popular way to increase adoption of effective erosion control.

Websites, email and face to face dialog in group meetings were the most popular ways for public officials to access Lake Erie shore erosion information and phone calls were the least popular (Table 12).

Public officials thought that their constituents would most likely access Lake Erie shore erosion information via websites, face-to-face dialogue in group meeting and email (Table 13.)

Public officials indicated that for them newsletters and fact sheets were the most popular formats for receiving Lake Erie shore erosion information and exhibits at an expo, fair or show was the least popular (Table 14).

Federal government agencies, the Ohio Department of Natural Resources and local government sources were the most popular sources of shore erosion information for public officials (Table 15). Friends,

neighbors and contractors were some of the least popular sources of information. In the middle were consulting engineers, soil and water conservation districts, universities and coastal property owners.

Over 56% of responding public officials said they were interested in training or technical assistance to help them in their work with Lake Erie shore erosion. Over 25% of respondents were not interested and 18% were unsure if they were interested in training or technical assistance.

Public officials were asked to write in specific technical knowledge or skills they needed relating to Lake Erie shore erosion. The responses could be grouped under the four general categories: 1) Plans and Permits; 2) Financing Structural Solutions; 3) Best Management Practices; and, 4) Understanding Lake Erie Shore Erosion. The following are all the responses to the open ended item (Q8b on the survey instrument or Q13 on the Survey Monkey™ summary) asking public officials to describe the specific technical knowledge or skills that they need grouped in the four categories listed above. Some responses could be placed in more than one category but were placed in only one to avoid double counting.

1) Plans and Permits

Help in selecting qualified engineers and contractors.

Understanding of permitting processes, construction options, finding sources.

Permitting process and__(illegible)_ act regulating run its (illegible)_ etc. have above.

To allow some processing of shore permits at the local level.

What can be done and associate cost.

Erosion Control for public beaches and nature preserves (not for swimming).

We are currently in the process of a 4.5 million dollar beach/harbor project - so any advice is welcome!

Lake Erie erosion control without damaging adjacent property owners or damaging natural structure of bluff already protecting area.

Help from army corp of engineers.

Access to landing, ease of permitting through fed bureaucracy (Corps of Engineers, EPA).

Design and construction

Permitting and design. How to streamline permitting process.

Develop a beach re-nourishment/replenishment plan.

2) Financing Structural Solutions

Help in securing grants at the State and Federal level.

Just how best to do it and funding options.

Funding for residential structures, streamlining the permit process and design standards.

Ways to seek funding for ways to control lake erosion.

Have served on Lake County Coastal Plan Committee last 4 years. Need shore reclamation knowledge and info on grant finding processes.

Information to assist in Ohio Coastal Management grant program.

We are an island; we have many shoreline issues and have limited resources due to funding issues.

3) Best Management Practices

best methods for prevention

methods/practices being used to prevent shoreline erosion, permit requirements, bmp's

Once stopped or under control. How to maintain it.

Use of erosion control devices best practices.

State of the art methods. Lake shore dynamics data on lake levels, littoral, sand system, etc, and how the global warming the combination of these effect the shoreline.

How to install and maintain structures that will prevent erosion.

Better methods/techniques to protect against/prevent erosion, demonstration projects.

Case studies of successful projects materials that are most effective.

Effective shoreline protection

Need info regarding appropriate materials are OK to use as fill for private property owners & advantage to improving erosion control at public property local ions.

BMP's for shoreline management to local officials and developers, property owners.

Maintenance and new technology

Best management practices.

1. Cost-effective erosions control measures. 2. Interpretation of shoreline erosion maps.

Appropriate best management practices

Maintenance Procedures

Innovative/New Technology

Environmentally Friendly Practices

4) Understanding Lake Erie Shore Erosion

understanding the engineering

How to stop or control erosion

Hard facts and unbiased trustworthy information not manufactured data or skewed data to serve some hidden agenda.

How to educate others. How would you like us to help.

Effective shoreline protection methods. Understanding coastal erosion info.

Need to educate on proven and cost effective measures to control erosion.

How to increase recreational shoreline - bring back the beaches.

What means are the most effective.

Shore erosion. Breakup of wave.

I do not need a specific skill. I am a township trustee and need a general knowledge erosion management.

Fact sheets on proper shore protection geared toward homeowners. .

Basic

First hand examples, demos of erosion control projects.

Hydraulic pressure from the lake.

I am a village councilman, and quite honestly am not very familiar with shore erosion issues or control methodology. I have a vague idea of the communication and implementation processes for erosion control. I would like to become more knowledgeable in the process as a whole.

Is erosion a problem in our community that needs to be addressed. If so, how do we address it in Willoughby?

Seven out of ten respondents (73.6%) have not attended any shore erosion training events in the past three years. Fourteen percent have attended one, almost 11% have attended from two to four, and less that 2% have attended five or more shore erosion training events in the past three years.

Site visits or demonstration projects, hands on field activities and case study power point presentations were the preferred training formats of public officials (Table 16). Computer based work sessions and technology fairs were the least preferred training formats of public officials.

Important factors in public official decisions to attend training include the schedule, their interest in the topic, distance to travel and cost (Table 17). Least important factors are endorsement by a professional association, who else participates, and continuing education credit.

Assistance with grant proposals is the most useful type of technical assistance to public officials (Table 18). Review of plans/designs, facilitation of demonstration projects, and referrals are also useful.

Public officials prefer to receive information about training and technical assistance via email notices. email notices that direct them to a website with details and then postal announcements are the second and third preferences. No one out of 129 respondents preferred to receive fax announcements of training opportunities.

Public officials prefer to register for training via email and websites (Table 19). Registration by phone and fax were the least preferred methods of registration.

One hundred twenty nine coastal community officials provide their zip codes. Responses were received from a total of 46 different zip codes indicating a wide distribution of respondents. The top three zip codes followed by the number of their occurrence in parentheses were 44004 (10), 44077 (10) and 44060 (9). Thirty-four zip codes occurred three or fewer times. Because of the large number of zip codes and relatively few responses from each zip code it is not possible to obtain a statistically significant relationship between the respondents' zip code and the responses given.

Reference: Miller, L. E. and K. L. Smith. 1983. Handling nonresponse issues. Journal of Extension. XXI (Sept/Oct) 45-50.

Acknowledgement: This publication is a result of work that was supported, in part, by the Ohio Department of Natural Resources, Office of Coastal Management (OSURF Grants #60012934 and #600014172), the Ohio Sea Grant College Program (project A/EP-1 Core Extension) from the National Oceanic and Atmospheric Administration (NOAA grant NA06OAR4170020 and NOAA grant NA16RG2252), US Department of Commerce. Support was also provided by the Ohio Board of Regents, The Ohio State University, and Ohio State University Extension. The authors wish to thank Heather Elmer, ODNR - Coastal Training Program; Amanda Wenczel and Deborah Beck, ODNR Office of Coastal Management; and Carmina Chiappone, OSU Extension for their assistance with this research.

Table 1. Coastal property owners were asked to select all of the following shoreline protection devices/methods with which they were familiar. Respondents were asked to select all that applied to them. Number of respondents = 243.

Type of shore protection	Number Familiar	Percent of respondents
Seawall (solid vertical wall placed between the land and the water)	192	82.1%
Revetment (sloped rock structure placed along the shore)	160	68.4%
Jetty (structure perpendicular to shore at river mouth, for navigation)	149	63.7%
Bluff Vegetation	138	59.0%
Detached Breakwater (parallel to shore, not connected to the shore, holds sand)	130	55.6%
Sand/Beach Nourishment (sand placed on the beach)	126	53.8%
Groin/Groin Field (perpendicular to shore, holds sand)	86	36.8%
Other	30	12.8%

Table 2. The length of time coastal property owners expect a coastal structure to remain functional. Number of respondents = 232.

Length of Time	Number of Respondents	Percent of respondents
Less than 10 years	11	4.7%
10 - 19 years	39	16.8%
20 - 29 years	56	24.1%
30 - 39 years	24	10.3%
40 - 49 years	32	13.8%
50 – 99 years	50	21.6%
Will never fail	20	8.6%

Table 3. The percent of coastal property owners indicating the likelihood on a scale of from 1 (Not Likely) to 6 (Very Likely) of their using various Lake Erie shore erosion options. Number of respondents = 228. Not all respondents answered every item.

Erosion Control Option	Not Likely 1	2	3	4	5	Very Likely 6	Total Responses	Mean Response
Planting vegetation to hold soil on the bluff	25.4%	8.1%	8.6%	12.4%	12.0%	33.5%	209	**3.78** ±2.0
Controlling storm water runoff	26.2%	8.3%	7.3%	15.0%	13.6%	29.6%	206	**3.70** ±2.0
Constructing engineered structures	34.6%	8.7%	8.2%	6.7%	13.9%	27.9%	208	**3.40** ±2.1
Installing drainage on the bluff	32.3%	13.1%	9.6%	12.6%	10.6%	21.7%	198	**3.21** ±2.0
Placing pre-cast concrete modular structures	36.8%	8.1%	11.5%	14.4%	11.0%	18.2%	209	**3.09** ±2.0
Dumping concrete ruble / construction debris	54.5%	8.1%	5.1%	10.6%	7.6%	14.1%	198	**2.51** ±1.9
Placing sand on the shore	74.1%	9.1%	4.6%	4.6%	3.0%	4.6%	197	**1.67** ±1.4

Table 4. The percent of coastal property owners indicating the likelihood on a scale of from 1 (Not Likely) to 6 (Very Likely) that the options below would increase the adoption of effective shore erosion control measures by coastal property owners. Number of respondents = 230. Not all respondents answered every item.

Option	Not Likely				Very Likely		Total	Mean
	1	2	3	4	5	6	Responses	Response
Identify new sources of funding for shore erosion control	4.5%	2.2%	3.1%	15.6%	24.1%	50.4%	224	**5.04** ±1.3
Streamline the permitting process	4.2%	6.5%	9.3%	15.9%	22.9%	41.1%	214	**4.70** ±1.5
Increase education on proper erosion control techniques	5.6%	4.2%	12.5%	23.1%	23.1%	31.5%	216	**4.49** ±1.4
Implement demonstration projects	7.4%	5.1%	16.2%	23.6%	25.5%	22.2%	216	**4.21** ±1.5
Enforce related regulations uniformly	14.0%	9.3%	16.4%	22.0%	15.9%	22.4%	214	**3.84** ±1.7
Create a call-in line to report illegal dumping	17.2%	13.0%	17.7%	18.1%	11.6%	22.3%	215	**3.61** ±1.8

Table 5. The percent of coastal property owners indicating how they likely they would be to access information on Lake Erie shore erosion from various delivery methods on a scale of from 1 (Not Likely) to 6 (Very Likely). Number of respondents = 231. Not all respondents answered every item.

Delivery Option	Not Likely					Very Likely	Total Responses	Mean Response
	1	2	3	4	5	6		
Mail	6.7%	6.7%	11.7%	14.8%	23.8%	36.3%	223	**4.51** ±1.6
Websites	14.4%	8.1%	11.0%	11.5%	23.0%	32.1%	209	**4.17** ±1.8
Face-to-face dialogue, in group meeting	17.6%	7.4%	14.4%	20.8%	19.4%	20.4%	216	**3.78** ±1.7
Email	20.6%	9.6%	10.0%	18.7%	17.7%	23.4%	209	**3.74** ±1.8
Face-to-face dialogue, one-on-one	21.3%	12.1%	10.6%	17.4%	15.0%	23.7%	207	**3.64** ±1.9
Phone Calls	26.3%	13.9%	17.7%	14.8%	12.0%	15.3%	209	**3.18** ±1.8

Table 6. The percent of coastal property owners indicating how well various formats for receiving information on a scale of from 1 (Do Not Like) to 6 (Like Extremely Well). Number of respondents = 232. Not all respondents answered every item.

Information Format	Do Not Like 1	2	3	4	5	Like Extremely Well 6	Total Responses	Mean Response
Newsletter	1.8%	4.4%	6.2%	16.7%	24.7%	46.3%	227	**4.97** ±1.3
Fact Sheet	4.5%	2.7%	5.0%	22.3%	26.4%	39.1%	220	**4.80** ±1.3
Brochure	4.7%	3.7%	14.0%	24.8%	21.0%	31.8%	214	**4.49** ±1.4
CD/DVD	16.4%	13.1%	16.0%	18.3%	15.0%	21.1%	213	**3.66** ±1.8
Educational workshop/training	16.9%	22.5%	18.8%	20.2%	8.5%	13.1%	213	**3.20** ±1.6
Exhibit at Expo/Fair/Show	23.3%	23.3%	23.8%	15.7%	8.1%	5.7%	210	**2.79** ±1.5

Table 7. The percentages of coastal property owners who obtain information from various sources. Respondents were asked to select all the sources that applied to them. Number of respondents = 231. Not all respondents answered every item.

Shore Erosion Information Source	Number of Respondents	Percent of respondents
Other Coastal Property Owners	157	68.0%
Neighbors	144	62.3%
Federal government agencies (including US Army Corps of Engineers or Natural Resource Conservation Service)	104	45.0%
Friends	94	40.7%
Contractors	92	39.8%
Local (township, municipal, county government sources	87	37.7%
Ohio Department of Natural Resources	78	33.8%
Consulting Engineers	64	27.7%
Universities (includes Sea Grant)	46	19.9%
Other	34	14.7%
Soil and Water Conservation District	34	14.7%
Ohio Environmental Protection Agency	28	12.5%

Table 8. Coastal community officials were asked to select which of the following shoreline items could be found within their community. Respondents were asked to select all that applied to their community. Number of respondents = 133.

Type of shore protection or coastal facility	Number Familiar	Percent of respondents
Boat launch	97	72.9%
Recreational Beach	96	72.2%
Revetment (sloped rock structure placed along the shore)	94	70.7%
Marina	90	67.7%
Bluff Vegetation	87	65.4%
Seawall (solid vertical wall placed between the land and the water)	85	63.9%
Sand/Beach Nourishment (sand placed on the beach)	68	51.1%
Jetty (structure perpendicular to shore at river mouth, for navigation)	63	47.4%
Groin/Groin Field (perpendicular to shore, holds sand)	49	36.8%
Detached Breakwater (parallel to shore, not connected to the shore, holds sand)	43	32.3%
Other	21	15.8%

Table 9. The length of time coastal community officials expect a coastal structure to remain functional. Number of respondents = 128.

Length of Time	Number of Respondents	Percent of respondents
Less than 10 years	1	0.8%
10 - 19 years	14	10.9%
20 - 29 years	35	27.4%
30 - 39 years	15	11.7%
40 - 49 years	21	16.4%
50 – 99 years	34	26.9%
Will never fail	8	6.3%

Table 10. The percent of coastal community officials indicating the effectiveness on a scale of from 1 (Not Effective) to 6 (Very Effective) of various Lake Erie shore erosion options. Number of respondents = 120. Not all respondents answered every item.

Erosion Control Option	Not Likely 1	2	3	4	5	Very Likely 6	Total Responses	Mean Response
Constructing engineered structures	0%	0%	8.0%	31.2%	38.4%	22.4%	125	**4.75** ±0.9
Controlling storm water runoff	1.6%	4.8%	18.5%	27.4%	32.3%	15.3%	123	**4.30** ±1.2
Placing pre-cast concrete modular structures	3.3%	5.7%	18.7%	35.8%	24.4%	12.2%	123	**4.09** ±1.2
Installing drainage on the bluff	2.5%	12.7%	22.0%	28.0%	22.9%	11.9%	124	**3.92** ±1.3
Planting vegetation to hold soil on the bluff	4.9%	12.2%	18.7%	38.2%	17.9%	8.1%	123	**3.76** ±1.3
Dumping concrete ruble / construction debris	21.3%	22.2%	25.9%	18.5%	10.2%	10.2%	118	**2.80** ±1.4
Placing sand on the shore	34.2%	29.2%	17.5%	15.0%	2.5%	1.7%	120	**2.28** ±1.2

Table 11. The percent of coastal community officials indicating the likelihood on a scale of from 1 (Not Likely) to 6 (Very Likely) that the options below would increase the adoption of effective shore erosion control measures. Number of respondents =129. Not all respondents answered every item.

Option	Not Likely 1	2	3	4	5	Very Likely 6	Total Responses	Mean Response
Identify new sources of funding for shore erosion control	0.8%	0.0%	3.9%	9.4%	38.3%	47.7%	128	**5.27** ±0.9
Streamline the permitting process	1.7%	3.3%	14.2%	21.7%	30.8%	28.3%	120	**4.62** ±1.2
Enforce related regulations uniformly	0.8%	4.7%	14.8%	25.0%	30.5%	24.2%	128	**4.52** ±1.2
Implement demonstration projects	3.9%	3.1%	8.6%	26.6%	39.1%	18.8%	128	**4.50** ±1.2
Increase education on proper erosion control techniques	3.1%	3.9%	13.3%	26.6%	32.0%	21.1%	128	**4.44** ±1.3
Create a call-in line to report illegal dumping	9.6%	18.4%	15.2%	20.8%	20.0%	16.0%	125	**3.71** ±1.6

Table 12. The percent of coastal community officials indicating how likely they (public officials) would be to access information on Lake Erie shore erosion from various delivery methods on a scale of from 1 (Not Likely) to 6 (Very Likely). Number of respondents =131. Not all respondents answered every item.

Delivery Option	Not Likely				Very Likely		Total Responses	Mean Response
	1	2	3	4	5	6		
Websites	1.6%	2.4%	9.6%	21.6%	33.6%	31.2%	125	**4.77** ±1.2
Email	4.8%	4.0%	9.5%	26.2%	33.3%	22.2%	126	**4.46** ±1.3
Face-to-face dialogue, in group meeting	2.4%	6.3%	8.7%	39.4%	25.2%	18.1%	127	**4.33** ±1.2
Face-to-face dialogue, one-on-one	5.6%	12.9%	14.5%	27.4%	21.0%	18.5%	124	**4.01** ±1.5
Mail	7.0%	16.3%	12.4%	24.0%	18.6%	21.7%	129	**3.96** ±1.6
Phone Calls	13.6%	18.4%	20.0%	23.2%	14.4%	10.4%	125	**3.38** ±1.5

Table 13. The percent of coastal community officials indicating how likely they think their constituents would be to access information on Lake Erie shore erosion from various delivery methods on a scale of from 1 (Not Likely) to 6 (Very Likely). Number of respondents =124. Not all respondents answered every item.

Delivery Option	Not Likely					Very Likely	Total Responses	Mean Response
	1	2	3	4	5	6		
Websites	1.6%	7.4%	14.8%	27.0%	27.0%	22.1%	122	**4.37** ±1.3
Face-to-face dialogue, in group meeting	2.5%	6.7%	17.5%	33.3%	25.0%	15.0%	120	**4.17** ±1.2
Email	4.1%	7.4%	16.5%	30.6%	26.4%	14.9%	121	**4.12** ±1.3
Mail	5.0%	13.3%	17.5%	23.3%	20.0%	20.8%	120	**4.03** ±1.5
Face-to-face dialogue, one-on-one	8.5%	14.4%	21.2%	23.7%	17.8%	14.4%	118	**3.71** ±1.5
Phone Calls	10.9%	16.8%	34.5%	12.6%	15.1%	10.1%	119	**3.34** ±1.5

Table 14. The percent of coastal community officials indicating how well they like various formats for receiving information on a scale of from 1 (Do Not Like) to 6 (Like Extremely Well). Number of respondents = 130. Not all respondents answered every item.

Information Format	Do Not Like 1	2	3	4	5	Like Extremely Well 6	Total Responses	Mean Response
Newsletter	0.8%	2.4%	12.6%	25.2%	34.6%	24.4%	127	**4.64** ±1.1
Fact Sheet	0.0%	4.8%	12.0%	24.0%	36.8%	22.4%	125	**4.60** ±1.1
Brochure	1.6%	4.0%	15.3%	33.9%	28.2%	16.9%	124	**4.34** ±1.2
Educational workshop/training	3.2%	4.8%	20.8%	19.2%	32.0%	20.0%	125	**4.32** ±1.3
CD/DVD	4.1%	9.1%	21.5%	29.8%	26.4%	9.1%	121	**3.93** ±1.3
Exhibit at Expo/Fair/Show	7.3%	22.8%	26.0%	26.0%	14.6%	3.3%	123	**3.28** ±1.3

Table 16. Percent of coastal community officials ranking their preferences for various training formats on a scale of 1 (Not Preferred) to 6 (Highly Preferred) Number of respondents = 128. Not all respondents answered every item.

Training Format	Not Preferred 1	2	3	4	5	Highly Preferred 6	Total Responses	Mean Response
Site visits or demonstration projects	1.6%	2.4%	4.1%	17.1%	45.5%	29.3%	123	**4.90** ±1.1
Hands-on field activities	5.0%	8.3%	10.7%	18.2%	37.2%	20.7%	121	**4.36** ±1.4
Case Study PowerPoint presentations	4.9%	3.3%	12.2%	26.0%	42.3%	11.4%	123	**4.32** ±1.2
Informational PowerPoint presentations	5.6%	4.0%	17.5%	28.6%	32.5%	11.9%	126	**4.14** ±1.3
Panel or Round table discussions	2.5%	11.6%	25.6%	34.7%	21.5%	4.1%	121	**3.74** ±1.1
Small group break-out activities	5.2%	18.1%	26.7%	30.2%	16.4%	3.4%	116	**3.45** ±1.2
Computer-based work sessions	11.9%	14.4%	29.7%	27.1%	14.4%	2.5%	118	**3.25** ±1.3
Technology fairs	17.8%	19.5%	34.7%	16.9%	10.2%	0.8%	118	**2.85** ±1.3

Table 17. Percent of coastal community officials ranking the importance of various factors influencing their decision to attend training on a scale of 1 (Not Important) to 6 (Very Important). The number of respondents = 128. Not all respondents answered every item.

Factor influencing decision	Not Important 1	2	3	4	5	Very Important 6	Total Responses	Mean Response
Schedule	0.8%	0.8%	4.8%	6.5%	30.6%	56.5%	124	**5.35** ±1.0
Interest in topic, technology	3.3%	0.8%	5.0%	15.0%	37.5%	38.3%	120	**4.98** ±1.2
Distance traveled to attend	2.4%	0.8%	6.4%	22.4%	36.0%	32.0%	125	**4.85** ±1.1
Cost	4.0%	1.6%	10.4%	17.6%	28.0%	38.4%	125	**4.79** ±1.3
Endorsement by professional association	18.0%	18.0%	18.9%	21.3%	14.8%	9.0%	122	**3.24** ±1.6
Who else participates	25.2%	20.9%	14.8%	20.0%	13.9%	5.2%	115	**2.92** ±1.6
Continuing education credit	34.7%	21.2%	14.4%	15.3%	9.3%	5.1%	118	**2.58** ±1.6

Table 18. Percent of coastal community officials ranking the usefulness of various types of technical assistance on a scale of 1 (Not Useful) to 6 (Very Useful). The number of respondents = 120. Not all respondents answered every item.

Type of technical assistance	Not Useful 1	2	3	4	5	Very Useful 6	Total Responses	Mean Response
Assistance with grant proposals	2.4%	1.6%	6.3%	14.3%	28.6%	46.8%	126	**5.06** ±1.2
Review of plan/designs	1.6%	0.8%	11.4%	26.8%	27.0%	33.3%	123	**4.75** ±1.2
Facilitation of demonstration projects	4.0%	2.4%	7.3%	27.4%	33.9%	25.0%	124	**4.60** ±1.2
Referral to reference materials or scientific experts	4.1%	0.8%	12.3%	27.0%	35.2%	20.5%	122	**4.50** ±1.2

Table 19. Coastal community officials responses to the item, "How do you prefer to register for training? (Select all that apply)". The number of respondents = 127. Not all respondents answered every item.

Registration Method	Number Preferring	Percent Response
Email	74	58.3%
Website	58	45.7%
Through my employer	50	39.4%
Mail	50	39.4%
Phone	26	20.5%
Fax	22	17.3%
Other	1	0.8%

****

APPENDIX A

Focus Group Recruiting Letters/ Information

Phone Recruiting Script:

Hi, my name is *{designated recruiter}*, with the Lake Erie Shore Erosion Management Plan (LESEMP)

You have been identified as a *{Property Owner, Community Official, Engineer and Contractor, or Developer}* in the Lake Erie coastal region. I am part of a group which is identifying local needs to help establish a plan for local communities and individual property owners to use in addressing Lake Erie based erosion and flooding concerns. You can help us gain valuable information in this process.

To gather this information, we would like to visit with small groups of people like you for about 90 minutes each. We will give you $30 to help cover your time and expenses to participate in the interview. We have scheduled these interviews for the following three dates:

1. Monday June 18, 2007 – 1 pm to 3 pm - Lake Erie Nature and Science Center, 28728 Wolf Road, Bay Village, Ohio 44140 (440) 871-2900
2. Thursday June 21, 2007 1 pm to 3 pm – Lake County Planning Commission Community Room, 125 East Erie Street, Painesville, Ohio 44077 (440) 350-2739
3. Tuesday June 26. 2007 1 pm to 3 pm - Erie Islands Regional Welcome Center, 770 S.E. Catawba Road, (State Route 2 and State Route 53) Port Clinton, Ohio 43452 (419) 734-4386

Are you interested and available to attend one of these three sessions?

If YES, record:

Session Number:
Name of Participant:
Address of Participant:
Email Address of Participant:
Phone Number of Participant:

We will send you a written confirmation either by U.S. Mail or Email prior to this event, as well as give you a reminder phone call a day or two in advance.

Thank you for your interest, and we look forward to gaining your perspective.

.....

Confirmation Letter:

Dear *{Property Owners, Community Officials, Engineers and Contractors, or Developers}*:

You have agreed to participate in a group interview on *{date}* beginning at *{time}* at *{location}*.

I am preparing group interviews in an effort to establish a plan for local communities and individual property owners to use in addressing Lake Erie based erosion and flooding concerns, one component of which will include the restoration of the shore and near-shore habitats and resources along Ohio's Lake Erie Coast. This letter describes the study and provides some background information.

The target audience for this assessment is a combination of the following four stakeholder groups: lakefront property owners, community officials, engineers and contractors, and developers. A total of three group interviews, with six to nine participants each, will be conducted. During each group interview, a moderator asks participants to respond to a predetermined sequence of open-ended questions and then listens to hear what people have to say. Group interviews are primarily about listening but also about being nonjudgmental and systematic with the information people share. The results often benefit the people who shared the information. I estimate each interview will last approximately ninety minutes. You should also know that the study was approved by the Institutional Review Board at Ohio State University. Participants are promised confidentiality.

You will receive a reminder phone call the day before this interview to confirm your attendance.

I will be happy to answer any questions about the project. To learn more about the study, phone or e-mail me at 614-292-0179 or **archer.3@osu.edu**, or contact the principal investigator, Frank Lichtkoppler at 99 E. Erie Street, Painesville, OH, 44077-3907, 440-350-2582 or **Lichtkoppler.1@osu.edu**.

Sincerely,

Thomas M. Archer
Leader, Program Development and Evaluation
Ohio State University Extension

.....

Phone Reminder Script:

Hi,

Please remember that you agreed to participate in a group interview on *{date}* beginning at *{time}* at *{location}*. If you have questions, or concern, or now find that you cannot attend, please contact Tom Archer at 614-292-0179 or archer.3@osu.edu, or contact the principal investigator, Frank Lichtkoppler at 99 E. Erie Street, Painesville, OH, 44077-3907, 440-350-2582 or Lichtkoppler.1@osu.edu. Thank you.

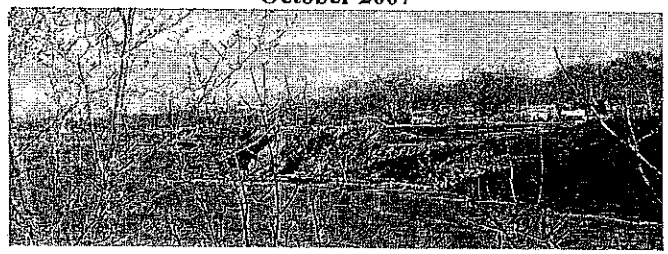
END

Appendix B

Sea Grant
Ohio Sea Grant College Program

Lake Erie Shore Erosion Management Plan Needs Assessment for Coastal Property Owners and Trustees of Coastal Properties

October 2007



This study is an effort to gain information on the attitudes and beliefs of coastal property owners and trustees of coastal property concerning Lake Erie shore erosion.

Please answer all questions completely. All responses will remain completely confidential and will be reported only as grouped data.

Please use the enclosed envelope to return the survey to:

Ohio State University
Ohio Sea Grant
99 East Erie Street
Painesville, Ohio 44077

THE OHIO STATE UNIVERSITY EXTENSION

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NOAA U.S. DEPARTMENT OF COMMERCE

LESEMP Survey Questions Property Owners or Trustees

[1] Please select all of the following structures with which you are familiar? *(Please select all that apply.)*

Type of shore protection

a. _____ Groin/Groin Field (perpendicular to shore, holds sand)

b. _____ Jetty (structure perpendicular to shore at river mouth, for navigation)

c. _____ Revetment (sloped rock structure placed along the shore)

d. _____ Seawall (vertical wall placed between the land and water)

e. _____ Sand / Beach Nourishment (sand placed on the beach)

f. _____ Bluff Vegetation

g. _____ Detached Breakwater (parallel to shore, not connected to the shore, holds sand)

h. _____ Other, Please Explain below…

_____

_____

[2] How long do you expect an erosion control measure to remain functional? *(Select only one.)*

a. _____ Less than 10 years

b. _____ 10-19 years

c. _____ 20-29 years

d. _____ 30-39 years

e. _____ 40-49 years

f. _____ 50-99 years

g. _____ Will Never Fail

More ><>

[3] How likely are you to use each of the following options to control Lake Erie shore erosion?

	Not Likely					Very Likely
a. Constructing engineered structures	1	2	3	4	5	6
b. Placing pre-cast concrete modular structures	1	2	3	4	5	6
c. Placing sand on the shore	1	2	3	4	5	6
d. Planting vegetation to hold soil on the bluff	1	2	3	4	5	6
e. Controlling storm water runoff	1	2	3	4	5	6
f Installing drainage on the bluff	1	2	3	4	5	6
g. Dumping concrete rubble/ construction debris	1	2	3	4	5	6

h. Other, Please Explain below…

_____

_____

[4] How likely is it that each item below would increase the adoption of effective shore erosion control measures by coastal property owners?

	Not Likely					Very Likely
a. Increase education on proper erosion control techniques	1	2	3	4	5	6
b. Implement demonstration projects	1	2	3	4	5	6
c. Identify new sources of funding for shore erosion control	1	2	3	4	5	6

	Not Likely					Very Likely
d. Create a call-in line to report illegal dumping	1	2	3	4	5	6
e. Enforce related regulations uniformly	1	2	3	4	5	6
f. Streamline the permitting process	1	2	3	4	5	6

g. Other, Please Explain:_____

_____

_____

[5] How likely would you be to access information on Lake Erie shore erosion through each of the following?

	Not Likely					Very Likely
a. Mail	1	2	3	4	5	6
b. Websites	1	2	3	4	5	6
c. Email	1	2	3	4	5	6
d. Phone Calls	1	2	3	4	5	6
e. Face-to-face dialog, one-on-one	1	2	3	4	5	6
f. Face-to-face dialog, in group meeting	1	2	3	4	5	6

More ><>

[6] How well do you like each of the following formats for receiving information?

	Do Not Like					Like Extremely Well
a. Newsletter	1	2	3	4	5	6
b. Fact Sheet	1	2	3	4	5	6
c. Brochure	1	2	3	4	5	6
d. CD/DVD	1	2	3	4	5	6
e. Exhibit at Expo / Fair / Show	1	2	3	4	5	6
f. Educational workshop/training	1	2	3	4	5	6

[7] Where do you obtain information about shore erosion?

(Select all that apply.)

a. _____ Friends

b. _____ Neighbors

c. _____ Local (township, municipal, county) government sources

e. _____ Federal government agencies (including US Army Corps of Engineers or the Natural Resource Conservation Service)

f. _____ Universities (includes Sea Grant)

g. _____ Consulting engineers

h. _____ Contractors

i. _____ Other Coastal Property Owners

j. _____ Soil & Water Conservation District

k. _____ Ohio Department of Natural Resources

l. _____ Ohio Environmental Protection Agency

m. _____ Other, Please List

_____

[8] What is your zip code? _____

Note: Your zip code will be used to identify your community's shore characteristics (i.e. bluff, low-lying wetlands, etc.)

Comments:_____

_____

_____

_____

_____

END

Sea Grant
Ohio Sea Grant College Program

Please return your completed survey to:

Lake Erie Erosion Survey
Ohio State University
Ohio Sea Grant
99 East Erie Street
Painesville, Ohio 44077

THE OHIO STATE UNIVERSITY EXTENSION

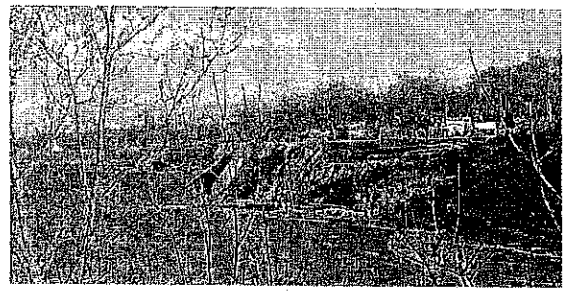
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NOAA U.S. DEPARTMENT OF COMMERCE

Ohio State University Extension embraces human diversity and is committed to ensuring that all research and related educational programs are available to clientele on a nondiscriminatory basis without regard to race, color, religion, sex, age, national origin, sexual orientation, gender identity or expression, disability, or veteran status. This statement is in accordance with United States Civil Rights Laws and the USDA.
Keith L. Smith, Ph.D., Associate Vice President for Agricultural Administration and Director, Ohio State University Extension
TDD No. 800-589-8292 (Ohio only) or 614-292-1868

Appendix C

Lake Erie Shore Erosion Management Plan
Needs Assessment
for
Public Officials, Consultants & Contractors

October 2007



This study is an effort to gain information on the attitudes, and beliefs of public officials, consultants and contractors concerning Lake Erie shore erosion.

Please answer all questions completely.

All responses will remain completely confidential and will be reported only as grouped data.

Please use the enclosed envelope to return the survey to:
Ohio State University
Ohio Sea Grant
99 East Erie Street
Painesville, Ohio 44077

Sea Grant
Ohio Sea Grant College Program

LESEMP ***Survey for Public Officials, Consultants & Contractors***

If you are a public official please respond to question 1a. If you are a consultant or contractor, please go to question 1b.

[1a] Please select all of the following items that may be found within your community.

Type of shore protection / coastal structure

a. _____ Groin/Groin Field (perpendicular to shore, holds sand)

b. _____ Jetty (structure perpendicular to shore at river mouth, for navigation)

c. _____ Revetment (sloped rock structure placed along the shore)

d. _____ Seawall (solid vertical wall placed between the land and water)

e. _____ Sand/ Beach Nourishment (sand or gravel placed on the beach)

f. _____ Bluff Vegetation

g. _____ Detached Breakwater (parallel to shore, not connected to the shore, holds sand)

h. _____ Boat Launch

i. _____ Marina

j. _____ Recreational Beach

k. _____ Other; Please Explain

_____

_____

_____

More ><>

[1b]. Please check all of the types of shore protection / coastal structure(s) with which you have worked.

Type of shore protection / coastal structure

a. _____ Groin/Groin Field (perpendicular to shore, holds sand)

b. _____ Jetty (structure perpendicular to shore at river mouth, for navigation)

c. _____ Revetment (sloped rock structure placed along the shore)

d. _____ Seawall (solid vertical wall placed between the land and water)

e. _____ Sand/ Beach Nourishment (sand or gravel placed on the beach)

f. _____ Bluff Vegetation

g. _____ Detached Breakwater (shore parallel, not connected to the shore, holds sand)

h. _____ Boat Launch

i. _____ Marina

j. _____ Recreational Beach

k. _____ Other; Please Explain

_____

[2] How long do you expect a coastal structure to remain functional?

(Select only one.)

a. _____ Less than 10 years

b. _____ 10-19 years

c. _____ 20-29 years

d. _____ 30-39 years

e. _____ 40-49 years

f. _____ 50-99 years

g. _____ Will Never Fail

[3] How effective is each of the following options in controlling Lake Erie shore erosion?

	Not Effective					Very Effective
a. Constructing engineered structures	1	2	3	4	5	6
b. Placing pre-cast concrete modular structures	1	2	3	4	5	6
c. Placing sand on the shore	1	2	3	4	5	6
d. Planting vegetation to hold soil on the bluff	1	2	3	4	5	6
e. Controlling storm water runoff	1	2	3	4	5	6
f. Installing drainage on the bluff	1	2	3	4	5	6
g. Dumping concrete rubble/construction debris	1	2	3	4	5	6
h. Other, Please Explain:	1	2	3	4	5	6

_____

_____

[4] How likely is it that each item below would increase the adoption of effective shore erosion control measures?

	Not Likely					Very Likely
a. Increase education on proper erosion control techniques	1	2	3	4	5	6
b. Implement demonstration projects	1	2	3	4	5	6
c. Identify new sources of funding for shore erosion control	1	2	3	4	5	6
d. Create a call-in line to report illegal dumping	1	2	3	4	5	6
e. Enforce related regulations uniformly	1	2	3	4	5	6
f. Streamline the permitting process	1	2	3	4	5	6
g. Other, Please Explain:	1	2	3	4	5	6

_____

[5a] How likely would you be to access information on Lake Erie shore erosion through each of the following?

	Not Likely					Very Likely
a. Mail	1	2	3	4	5	6
b. Websites	1	2	3	4	5	6
c. Email	1	2	3	4	5	6
d. Phone Calls	1	2	3	4	5	6
e. Face-to-face dialog, one-on-one	1	2	3	4	5	6
f. Face-to-face dialog, in group meeting	1	2	3	4	5	6

[5b] How likely would your constituents / clients be to access information on Lake Erie shore erosion through each of the following?

	Not Likely					Very Likely
a. Mail	1	2	3	4	5	6
b. Websites	1	2	3	4	5	6
c. Email	1	2	3	4	5	6
d. Phone	1	2	3	4	5	6
e. Face-to-face dialog, one-on-one	1	2	3	4	5	6
f. Face-to-face dialog, in group meeting	1	2	3	4	5	6

[6] How well do you like each of the following formats for receiving information?

	Do Not Like					Like Extremely Well
a. Newsletter	1	2	3	4	5	6
b. Fact Sheet	1	2	3	4	5	6
c. Brochure	1	2	3	4	5	6
d. CD/DVD	1	2	3	4	5	6
e. Exhibit at Expo/ Fair/Show	1	2	3	4	5	6
f. Educational workshop/training	1	2	3	4	5	6

[7] Where do you obtain information about shore erosion?
(Select all that apply.)

a. _____ Friends

b. _____ Neighbors

c. _____ Local (township, municipal, county) government sources

e. _____ Federal government agencies
(including US Army Corps of Engineers or Natural Resource Conservation Service)

f. _____ Universities (includes Sea Grant)

g. _____ Consulting engineers

h. _____ Contractors

i. _____ Coastal Property Owners

j. _____ Soil & Water Conservation District

k. _____ Ohio Department of Natural Resources

l. _____ Ohio Environmental Protection Agency

m. _____ Other, Please List

_____

_____

[8a] Are you interested in training or technical assistance to assist you in your work with Lake Erie shore erosion?

a. _____ YES

b. _____ NO

c. _____ UNSURE ...Please tell us why you are unsure_____

_____

_____

More ><>

[8b] If YES to Question 8, please describe specific technical knowledge or skills that you need:

_____

_____

_____

_____

[9] How many training events have you attended related to shore erosion control in the last three years?

a. _____ 0

b. _____ 1

c. _____ 2-4

d. _____ 5 or more

[10] Please rate the following training formats:

	Not Preferred					Highly Preferred
a. Informational PowerPoint presentations	1	2	3	4	5	6
b. Case-study PowerPoint presentations	1	2	3	4	5	6
c. Hands-on field activities	1	2	3	4	5	6
d. Small group break-out activities	1	2	3	4	5	6
e. Panel or round table discussions	1	2	3	4	5	6
f. Site visits or demonstration projects	1	2	3	4	5	6
g. Computer-based work sessions	1	2	3	4	5	6
h. Technology fairs	1	2	3	4	5	6

[11] How important are the following in your decision to attend training?

	Not Important					Very Important
a. Schedule	1	2	3	4	5	6
b. Continuing education credit	1	2	3	4	5	6
c. Endorsement by professional association	1	2	3	4	5	6
d. Interest in topic, technology	1	2	3	4	5	6
e. Distance traveled to attend	1	2	3	4	5	6
f. Cost	1	2	3	4	5	6
g. Who else participates	1	2	3	4	5	6

h. Other (please describe)

_____

[12] How useful are the following types of technical assistance?

	Not Useful					Very Useful
a. Review of plans/designs	1	2	3	4	5	6
b. Facilitation of demonstration projects	1	2	3	4	5	6
c. Assistance with grant proposals	1	2	3	4	5	6
d. Referral to reference materials or scientific experts	1	2	3	4	5	6
e. Other (please describe)	1	2	3	4	5	6

_____

_____

More ><>

[13] How do you prefer to receive information about training and technical assistance opportunities?

a. _____ E-mail notice

b. _____ E-mail that directs me to website with details and registration

c. _____ Postal announcement

d. _____ Fax announcement

e. _____ Other (please describe)

_____

[14] How do you prefer to register for training? *(Select all that apply)*

a. _____ Through my employer

b. _____ Email

c. _____ Mail

d. _____ Fax

e. _____ Phone

f. _____ Website

g. _____ Other (please describe)

_____

[15] When would you prefer to participate in training? *(Select all that apply)*

How long?

a. _____ ½ Day

b. _____ 1 Day

c. _____ 2 Days

d. _____ 1 Week

When?

e. _____ Weekdays

f. _____ Weekday evenings

g. _____ Weekend

h. _____ Other (please describe)

_____

_____

[16] What is your zip code? _____

[17] What is the best descriptor of yourself: Please select all that apply.

a. _____ Private Consultant / Engineer

b. _____ Contractor

c. _____ Public Official, City/County Engineer, City/County Planner in a jurisdiction that contains Lake Erie shore

d. _____ Coastal Property Owner

END

Sea Grant
Ohio Sea Grant College Program

Please return your completed survey to:

Coastal Erosion Planning Survey

Ohio State University
Ohio Sea Grant
99 East Erie Street
Painesville, Ohio 44077

THE OHIO STATE UNIVERSITY EXTENSION

NOAA

Ohio State University Extension embraces human diversity and is committed to ensuring that all research and related educational programs are available to clientele on a nondiscriminatory basis without regard to race, color, religion, sex, age, national origin, sexual orientation, gender identity or expression, disability, or veteran status. This statement is in accordance with United States Civil Rights Laws and the USDA.
Keith L. Smith, Ph.D., Associate Vice President for Agricultural Administration and Director, Ohio State University Extension
TDD No. 800-589-8292 (Ohio only) or 614-292-1868

APPENDIX D Property Owners Open ended Responses

Note; Respondent address information where provided has been deleted to maintain anonymity.

Item 1. Please select all of the following structures with which you are familiar?

Other (please explain below) (See Page 8 in the text and Table 1 of the report.)

Planting sea grass allowing softwood trees to root on sand.

My backyard slopes gently down to the beach. The remains of an old seawall stick up approximately 1 to 2 ft. depending at the lake and sand level.

Gabian baskets - break walls, and sheet pricing in Sandusky and Cedar Point. Area 18-22 deep to rock strata.

It is on "informal" revet in that it looks like property owners have just continued to throw concrete over the side.

Pier - vertical wall placed perpendicular to shore.

Lived in Florida - elected member of Soil and Water Conversation District.

Steel pilings and concrete barriers.

Cement Barrels.

Pier, perpendicular to shore.

Jetty's not designed for navigation but to retain and build sand beaches and minimize erosion.

Cribbing

Rubble dumped along shoreline to prevent wave erosion.

5 + 10 ton square sandstones parallel to shore and concrete squares on each side of property.

Weir, Pier, Quay, Breakwall, stilling Basin, etc.

This is completed!

Baskets of brick brack impregnated with concrete.

Limited beach-side construction.

Submerged structures - o rings cement wall with water flow thrus.

Concrete forms cabled together.

Improvements in place on my property to protect from erosion.

crib-open crib shaped wooden structure placed at waters edge to help stop erosion. Very successful on our property.

I have limestone along my shoreline, (Natural formation).

Gabion Mattress and Baskets

Rip Rap
breakwater holds more shale from cliff then sand,

Pre-cast concrete structure.

Our company has installed concrete walls in the past.

Breakwall connected to shore

Building on(E) with massive sand build up on shores with (f) build to hold sand beaches and shore protection. Sand as Jersey, Florida and California shores.

pier, perpendicular to seawall jetty not at river mouth

Item 3 How likely are you to uses each of the following options to control Lake Erie Shore erosion?

Other (please describe) (See Page 8 in the text and Table 3 of the report.)

Normal sand beach lake site bay side steel sea wall.

Rocks groin.

Our beach is virtually solid flat rock, the result of glacial movement any erosion happens when land meets water during storms. Jetty's won't help. Only land based efforts.

This has been done. The lake and bay is a great and powerful force. Respect it!!!

Used concrete bridges sides the back fill.

Additional dump rock as necessary.

Already have concrete pillows with dirt filled in behind with draine tiles at base of bank.

None of the above. It seems very secure.

Structures good for rat population - snakes and other animals and debris.

In the 80 years our family has owned this lake front property we have done all the control options.

There (have) to be a specific plans for any location.

I am not located on a bluff. Eliminate or reduce diking of states Fed wet lands - This would enable high eroding water to vent reducing the height and force of lake storms erosion.

I have installed all of the above.

We have a $8m dollar dike by the Army Corps.

Jetty's to build sand and retain current shoreline.

Outer cribs to create inner harbor.

Big Rip Rap Rocks

Contouring earthen bluff to stable configuration to prevent slumping and hold vegetation.

Corp of Engineers dike - stone face

Armor Stone

I have already taken care of the shore.

We have used a combination of some of the above and still have lost over 3 acres of land due to erosion.

Placing armor stone on 2 to 1 slope.

Adding concrete to existing dike

Armor stone on water flow thru material.

Placing rip rap rock along shoreline.

No bluffs - land only 10 feet above average lake.

Our area is not on a bluff, it is just a little above median lake level.

Have already employed all but C

Engineered breakwall structure already in place, dumped concrete rubble already in place, would like to beautify and would be interested in consultant's opinion to protect shore and beautify.

I have previously built a revetment and also Campbell modules

Village responsibility

Dumped clean clay/dirt over bluff to build up slope

Again the use of a "crib"

I have natural limestone shelf.

Attached notes in comment section.

Railroad type cribs filled with rock.

Rip Rap (5) nothing solid (as a wall) or unsightly

We have a dike along our shoreline.

Natural limestone borders.

I installed a concrete wall 30 years ago it is still good.

In (a) above refer to stone (armor stone) it may fall under (h).

Presently have an armor rock wall; this is our 3rd attempt. Had concrete cones and wedges and steel walls.

We have jetty's, vegetation, drainage

Item 4. How likely is it that each item below would increase the adoption of effective shore erosion control measures by coastal property owners?

Other (please explain) (See Page 8 in the text and Table 4 of the report.)

People that want to protect their property are educated - save your money.

Work with people who with no money are trying.

Already live behind revetment.

Since it has been 20+ years since lake levels have been high and our immediate area has plenty of concrete revetment, it doesn't seem to be an issue.

Co-ordinate effort between Ohio EPA and Ohio Dept. of Natural Resources and Army Corps of Engineers.

Home owners have to deal with the three separately.

Only dump stone, cement not things that can float away and boats hit them.

There are many illegal structures in my area - state has done nothing - not right.

The technology is available to combat erosions state efforts look very pitiful and ill planned.

The lake shoreline erosion has a different needs and solutions in different areas of the lake. Shoreline residents need to know what right they have in controlling erosion.

EPA permits are not uniform between county, state and private facilities. ODNR, FEMA, ACOE has not assistance for private property.

It is fine now.

Put it back to were it was in 1973 when my dugs etc. were approved by USCOFE and the state in 3 weeks. Under separate cover, I will send you some interesting info.

Have no knowledge of this - but I'm sick of all the junk that washes up.

It is a prime time to appeal to everyone's conscience about environmental improvement. People want to work with nature.

Cottage located 3 miles east of Huron north of SR 6 and just to the west of cranberry creek.

Permit process is awful. We waited 2 years.

Until ODNR stops charging for our land that we've owned for over 60 years. We don't plan on doing anymore until it's ours again.

Remove ODNR from the process and return to the CORPS of Army Eng. eliminate engineering approvals and/or require engineering firms to be financially responsible for erosion control performance of their design.

Eliminate costly PE requirements by establishing engineering guidelines for all erosion control structures.

Wonderful ideas

No action required.

It took two years before the present project was approved. It was all paper work and no one ever came to see the project.

Offer Gout sponsored site review/analysis up front to lead the landowner through the design/permit also eliminate the land lease criteria process free of charge.

Ways to fund an effective erosion control program with limited resources.

Lake Erie lake shore a big problem with permits in our area. Decline survey not endangered. Besides they are not!

Cost is a real problem.

Opinion: Most lakefront owners are quite familiar with erosion control measures.

Too many regulations in place by ODNR bureaucracy on land they do not own. My deed is being insured by state of Ohio illegally - Gov Strickland has right and solution.

Action now would serve to advance all subsequent actions such as the above.

Educating each property owner with various methods of erosion control with estimated cost structures per each method is an excellent idea.

Settle the outstanding issues of shoreline deeded ownership. Provide some financial assistance.

Combined program educating owners about the ecosystems living in and around the lake, its importance as a unique fresh water natural wonder/resource and the available sources of funding (including the application process).

Continual education of the public on the value of this great resource - Lake Erie and how we preserve for all in perpetuity.

Regulations must be fair .

Item 7. Where do you obtain information about shore erosion?

Other Please List (See Page 8 in the text and Table 7 of the report.)

Informational Meetings.

Nursery

They are the most intelligent but also stupid in some instances. Lack common sense.

Newspaper

The whole process in my opinion has been done very poorly. The real estate value dictates sea wall construction.

Personal observation.

Magazines, newspaper, booklets.

None

Port authority.

Newspaper

A/E that design proven shore protection on Lake Erie.

We have no way of knowing anything at all.

My personal observations of the lake for 45 years.

Experience. There are many efforts/options. Few work, neighbors need to work together, but it is unlikely that waterfront people ever will. They are to independent and varied.

TV/News

Ohio Lakefront Group

Learned from people who originally built the dike.

Personal experience, observations.

I observe

Don't have a problem

Library

None

Library Internet

Homeowner's Association

First-hand experience watching the shore!

Our family owns an erosion control supply company and supply gabions, seeds, mattings and other like materials.

life experiences on Great Lakes and (3) and Gulf of Mexico

ODNR and OEPA Can't be trusted. Hidden agenda.

Direct observation.

Developed our own.

US Army Corps do not act. Ohio Department of Natural Resources do not act, failure.

Internet, libraries

Public library

Final Item Comments: Open-Ended Responses (See Page 8 in the text.)

Good Luck! Hope we win!

Located in crystal rock.

Good Luck! Hope we win!

Glad you are being proactive.

Federal aid would be nice for breakwall construction or improvements.

House Sold.

"red Tape" needs to be eliminated in application process! Too many permits needed to protect our own property.

My beach stays pretty constant - average of 40 ft. out from end of yard. It is protected on the east side by a "jut" of land that runs out into the lake with a house on it. This protects us from a lot of "northeastern" erosion. Northwest winds tend to being more sand into this kind of 'cove" area we are in.

I have lived at Cedar Point as a full time resident 54 years. I have witnessed a lot of changes and storms. God is still ruler of all! I am a mere woman but knowledgeable.

Management should stay with the Federal Government.

I'm new to being a property owner on the lake and information is key Thank you. Can you e-mail me some useful websites at_____?

I wish we had current info on what is allowable, given changing reg's, lawsuits, etc. Our erosion is moderately severe and we aren't sure what we can legally do about it.
We sold our coastal property last year.

Make it easy to get approval for proactive plans that are certified by a consulting engineer - certified in knowing what most new lake front owners have to learn "once" for their property. Certified engineer can best give advice on a plan that is effective an approvable by all agencies. Ohio EPA is worst - they're unrealistic and make the process hostile rather than cooperative or collaborative. ODNR and Army Corp helpful.

Anything done to prevent the sand or clay running into the Lake would be better than nothing. Proper fill only should be placed over the hills!!

I have had an on going debate with the state in Sandusky. I am a victim of sea wall intrusion on my property. The State sited the offender than has done nothing in 7 years. The department has no teeth and too political - several structures without permits - nothing - too much kick back between the design engineers and the poorly constructed sea walls. My opinion, I put sea walls and shore erosion in the same category of typical state corruption which is more ever so present. John - _____

Dear Frank or Tom - We have tried numerous erosion control methods - none work in the long run. We have had to move our home back twice in the 80 years our family has owned this property. We have lost more than two acres of land to Lake Erie erosion. A comprehensive erosion management plan needs to be developed as often what one property owner implements negatively impacts the neighbors. Lake erosion is not sudden disaster like wildfire, tornado, flood or hurricane and earthquake. It is none the less devastating financially and can deprive people of their homes. Many people do not have the financial means nor the land acreage to maintain their homes on Lake Erie. Zero interest federal loans would certainly get my vote for property owners combating erosion.

Our shores need help before its too late.

We are not willing as a state to be proactive in our erosion efforts, we close the door after the horse has fled. -

Thanks! Good Job!

I am the owner of _____ Co. we are a marine contractor based out of Toledo, Ohio.

A lot of issues remain property ownership. Where shoreline boundary exist between private and state ownership. What right do the property owners have and what rights the state and Fed have. Good Luck!

This is from a property owner on Lake Erie since 1962. A lot of agencies after control of Lake Erie shoreline.

With a dike in front of the property I have no useful information for you.

My breakwall is in place for 20 years and has stopped erosion.

This property is no longer owned by _____New Owner: _____

Chagrin Lagoons Yacht Club had over $650,000 worth of damage from a 2006 flood. No financial assistance allowed from ODNR, ACOE, FEMA, Etc. This was all seawall damage.

This year the lake is a low as it has been in the last 21 years. I capped my pier in 1987 and water was 10" below new pier top. Twice in 21 years we have measured 68" from top of pier to lake level - once was this Sept. 07 - every me is very casual about erosion control now because of our low levels. Some of the most valuable - info may be accurate predictions on future levels. Very hard I know.

I do not wish to participate.

I (_____) will be sending you some pertinent info. under separate cover.

I live on Sandusky Bay with rip rap shoreline which falls about 5 foot from our yard. Zebra Mussels are a "big" problem.

It is becoming more and more difficult to justify fronts for erosion when the state of Ohio is attempting to steal the lake frontage. It does not make good business sense to invest dollars when it may turn out not to be yours.

We would be very likely to build a pier on our property if the permit process wasn't so long and complicated. A pier would be very effective for our location to prevent further erosion and to provide a nice bearer for enjoying the lake.

It is important to get input from property owners, and there wishes and concerns. They are the people who own the property. Too much debate from ODNR on who owns the shoreline and where. Mother Nature is in charge. The years of low water persuade property owners to do all the living things - gazebos, building to waters' edge, etc. Education, easy access to _____, matching grants, would all help waterfront property owners to make reasonable improvements and prevent erosions. Mandating public use of private beaches set back everyones' stake in erosions. Neighbors need to work together and government should work for the property owners - not against them. We, the people, are the government. Study groups, strategic planning initiatives headed by skilled facilitators from the "outdoor" government agencies which invite the public who have vested interests would be effective. Everyone who lives in the water is an expert. They resent interference with their lifestyle. It is a very difficult and challenging group of individuals, i.e. waterfront property owners.

Major erosion damage was caused on our property approximately 1-1/2 years ago due to the heavy rainfall and flooding. We had to take immediate action, which was extremely costly, but necessary to maintain the value of our property.

See 4 q. Appreciate copy of report mailing address _____

Until ODNR stops trying to take our property, erosion is not something to worry about - let ODNR handle it!

ODNR has their own "agenda" which prevents them from being an effective force in this area. The Corps is very understaffed and, as a result, not a very viable source. Property owners with erosion control in effect and then contractors are the best and most knowledgeable sources for effective erosion control.

Thanks and good luck! I have lakefront property on VI.

This is former industrial property now being redeveloped stabilizing the Lake Erie shoreline is an absolute must.

Glad to help. We have lost 2-3 feet only in 50 years. We do have a slight natural cove which may have helped. In addition to sandstones and concrete rocks along shore.

You left out the problems that the St. Lawrence Seaway has caused. Government doesn't always have the right answers. Also you omitted that Canada and the U.S. should maintain the same laws as to fishing, selling water and other related problems.

Landowners are in time dated by the land lease. It inherits cooperation! I think the land leave issue should be separated from permitting then more people will go for a permit and a functional share erosion correction.

We, as an association representing over 265 homes are extremely interested in any or all studies, literature, grants, advise, etc. Thank you for allowing us to participate.

We are fortunate to own property approximately one mile west of the western seawall at Fairport/Grand River. The normal flow west to east of the lake at this point causes a buildup of sand and gravel. Probably has done so ever since the mouth of the Grand River has been used as a port of entry and sailing of ships engaged in commercial navigation. This is evidenced buy the fact of the location of the Fairport Light house which was first built 190 years ago and stands inland perhaps 1/4 mile in from the shore. In future times the present breakwall must again extended out in to the lake if Fairport is to regain a viable port. Sincerely, John

We have photos of our property over 100 years old and we have never had erosion. Seawall and Jetty were put in place in the early 1940's and are still very effective.

We have been on the lake for 40 years and have tried various methods to protect our property. The best protection appears to be large rock sloping into the water that dissipates the strength of the waves. However this does not build a sand beach.

We applaud your program and efforts.

The Lake Erie water snake here is endangered. Has presented a lot of people from putting in erosion controls. What is more important - the snake or the land? Most people in the area are fed up with the snake issue and feel like snakes and more important draw people to the powers to be. We need government to get the priorities in order.

If ODNR is really so interested in protecting the shoreline they should provide homeowners funding - presently the shore resident must bear the full cost of breakwalls etc.

Ohio Department of Natural Resources has taken property owners along the lake for a ride thru their insertion of right of way into a bill with little public consideration, so working with them leaves me cold. Wish I could say otherwise. Further, the Army Corps of Engineers has repeatedly shown limited success in projects I 've seen New Orleans lives draining of S. Fla. of fresh water only to now restore areas at great cost. Lastly, by Wildwood State Park a detached breakwater was installed only to greatly increase bacterial levels by stilling the water near Euclid Creek so a lack of dilution occurs, ODNR> Please consider a no wake zone within first several hundred yards of shoreline as this is major sand eroder on flat water days and then would allow sand buffer during storms.

As previously stated, the prime problem locally is high water. Will be glad to answer any questions.

In our area nine (9) connected property owners installed on interlocking steel wall in the early 70's. It has worked well, though we are in an area that is just a few feet above median lake level.

The zip code is for an island with different conditions operating every 1/4 mile or less.

We are in process of shoreline erosion control project engineered and permitted 2/17/07. Still waiting on Army Corp approximately 11/1/07 hope to complete 2008, 2 offshore BW, 1 Revetment.

My Lake front property is about 1/2 mile west of Walnut Beach Park in Ashtabula. There is no erosion on this property.

I installed a "first of its kind" breakwater 15 years ago. It is doing the job with little deterioration. I know how to improve it, most government agencies fight good improvement. In my estimation they are of little value. P.S. The states attempt to at a land grab is not helpful to innovation or implementation.

My year round home is in Virginia. We, like other southern states are suffering from drought year after year. Build a pipeline - bring water from the Great lakes to the South - solve the drought problems and shore erosion problems with one pipeline. P.S. I'm originally from Pennsylvania not born in the south!!! Penn State class of '73.

Home is on Lake Erie no shore erosion since home was built in 1909. Even with variances in water levels at the western basin of Lake Erie.

It becomes more difficult to justify high dollar spending on lake front knowing our state government is attempting to steal the frontage from the land owners.

Anything the government can do to help preserve my Lake Front property is a plus - I have paid for past erosion control myself.

Note I've been around Lake Erie my whole life, but only moved to coastal property last May of '07. 50' shale cliff, sloped cove, non-verticle area have vegetation. Property has beach, offering protection from wave activity. No undercutting of cliff from wave activity.

State of Ohio wants control of lakefront with no economic burden on state. They expect homeowners to do erosion control at their cost under egis of state. Where is the state of Ohio's overall plan for lakefront and where is their economic commitment to state of Ohio to implement such a plan? We suffer from too much and too many ineffective bureaucracies ODOT, OSHA, WS Corps of Engineers etc. What baloney!!

Would like info on affordable system for low budget non profit neighborhood group.

I recommend highly the Ohio Lakefront Group,_____. This is the premier local organization monitoring the lakeshore condition.

I would like to here possible solutions/remedies for slowing the erosion process, or to meet with someone to evaluate my condition.

I'm more than happy to see some interest in the erosion dilemma. However, I believe that the state of Ohio should be actively striving to control Lake Erie erosion. I would appreciate any further discussion or solutions to the erosion problem.

I am happy to take part in any research, etc. that deals with Lake Erie erosion and other problems.

There needs to be a program that includes, construction permits, financing and recommended solutions. When I purchased my home the breakwall retaining wall was already there from when Army Core came through.

Our residence is on Cedar Point Road in Sandusky, Ohio. We currently have approximately 50-60' of sand from our vegetated area to the water line level. Our prior location had approximately 15-20' of sand area and in N/E storms would wash some. We put large (2-4') dump rock in 18-20 years ago and that remains and works well. We had installed Gabion Baskets without the mattress portion below and that stayed in place for a number of years until a large storm required repair. Our current home, with the large Beach, stays in place with a little sand grading 1 or 2 times per year. Breakwall too close to the water seem to backwash Sand back into the lake. (Note: I am mailing you a copy of our Firelands Supply Co. Catalog for whatever value it may be.

My husband and I are new lakeshore property owners. We are searching for new ways to preserve our beautiful property.

Erosion protection requires constant maintenance by the homeowner. There is no state or federal aide yet we pay taxes on land in the lake taken prior to erosion protection structures. I understand sand fallen from the lake by company even from out of state gives the state a percentage (our natural beach building material which would give us added protection.(not of air). The state of Ohio has no right to demand access to privately owned lake front property when we have spent thousands helping protect the Ohio shoreline. A thank you box of chocolate from the governor would give us some compensation. (Incidentally we are still paying taxes on the land the state claims).

E-mail blast to all shoreline property owners with easy access to answers to specific questions by e-mail.

The implications of the shoreline land grant by the state are so onerous as to keep property owners from committing funds which could be lost to the agencies.

A "500-year" dike was constructed along the shoreline in my neighborhood around 15 years ago. No problems since then.

We do not have an erosion problem.

I wish all property owners would do something to protect their shoreline. i have one neighbor that does and the other nothing, except occasional dumping which I really don't think is proper.

I am a clinical microbiologist and educator. I have a small lakeside cottage with 52 ft. of frontage. Our taxes on the shore are very high - consequently a grant to fund a shoreline erosion control project is my only option to improve and save the shoreline. I am finding that so many neighboring property owners have no understanding or awareness of what the lake is used for other than fishing, boating, and sunsets. I believe simple information about the living organism, the commercial shipping, international waterway connection and our connection the largest fresh water system in the world, etc. may spark a deeper interest and connection. Colorful maps and diagrams for display or coffee tables would be of interest, showing the wildlife, fish, water levels, connections to the other great lakes etc. After the interest is peaked and on people's list of interest, finding funding and the application process could be presented through brochures and meetings. Please feel free to contact me for any assistance.
Jayne_____.

I can be contacted, my card is enclosed.

The _____Co. is a excavating and marine contractor located in Toledo. We do a substantial amount of dredging and shoreline protection for the Corp of Engineers, state of Ohio and private owners on the Western half of Lake Erie.

Property deeds should be recognized.

In the 43 years we have owned this property there has been no erosion of the shore. Thus I do not feel that I am qualified to participate in this survey. Thanks.

My neighbor put in a pier without any approval. I complained to Ohio Department of Natural Resources and nothing was done.

Although not in the context of this survey, study should be done on the filtering of storm water into the lake. This is a large problem with a lot of garbage and contamination occurring every year to the lake and beaches. Every storm generates trash cans of garbage on our beach. We are close to a storm sewer (just east), but it should not be reaching the lake.

Please educate people to not dump concrete etc. on their hillsides - the power of the waves to immense - that concrete and debris ends up on our once beautiful beach! Our family has lived 88 years on Lake Erie's shoreline!

Sincerely believe that Lake Erie and its shores are a wonderful resource that belongs to all Ohioans and should be enjoyed by all Ohioans whether they live on its shores of belong to a yacht club. For all to enjoy we must have a lot of public access and freedom to enjoy a beach (if we could ge them back) by walking its expanse, and use its waters for recreation of all kinds, its a big subject but I must end. P.S. My wife and I are long time Lake Front Property (home) owners.

Out property has a wide sand beach. We have no problems, except after large storms, our beach always comes back. I'm sorry, I am no help with your survey.

I currently have little or no erosion. Held in place by ivy vegetation and no wave erosion. Only erosion (small) is wind, rain, groundwater, but controlled. Do not want any large scale breakwall (etc.) planned (as in Perry). I would like to see my property be kept natural. _____ Road, Madison property west of Stanton Park.

This zip code is the location of our beach property.

APPENDIX E Public Officials Open Ended Responses

Item 1 Please select all of the following items that may be found within your community. Other (please describe) (See page 9 of the text and Table 8 of the report.)

none, my community has no Lake Erie shoreline - river only.

Confined disposal facility, commercial shipping channels, coastal wetlands.
Large quarry stone loading pier structure

Most of the above exist within the municipalities along Lake Erie.

Boat launch in progress

Vermilion Chamber of Commerce

Ronald B_____ is deceased.

We have no Lake Erie shore in our township.

I do not feel I have adequate experience or knowledge to complete this questionnaire.

Danburg Twp., Marblehead

Breakwall attached to shoreline.

Boardwalk

Sheet pilings

Enclosed disposal site for dredged material which cannot be released into the lake.

As an official with the County Engineers office we have maintenance responsibility for county roads and bridges in Olmsted Twp. Road, Chagrin Falls Twp. We also have maintenance responsibility for bridges along the county network but none have direct connectivity with the Lake Erie shoreline. The county recently became owners of a Lake Front Park and Marina, but the County Engineers office is not really involved with that operation.

None of the above Colebrook does not touch the lake yet!!

Park with a beach - no swimming allowed.

Confined disposal facilities.

Property owned has no improvements along Lake Erie shoreline - any sand or beach is natural and ot man-made.

Light house (operating and historic structure) dyke disposal site.

We have no Lake Erie Coastline in our jurisdiction. However, we are directly affected as we rely on travel and tourism.

Item 3. How effective is each of the following options in controlling Lake Erie shore erosion?

Other, Please Explain: (See page 9 of the text and Table 10 of the report.)

Large rock/boulders installed.

Combination with stormwater continue bluff drainage and toe protection is most effective.

1. For bluff conditions - combination of SNL and toe protection is economical. 2. Segmented breakwaters combined with nourishment.

Item 4. How likely is it that each item below would increase the adoption of effective shore erosion control measures?

Other, Please Explain: (See page 9 of the text and Table 11 of the report.)

Create better understanding of regulations across the board.

Enforce current law.

Actually do enforcement on illegal dumping.

Get Army Corps to do their job on shoreline dumping enforcement.

State/Fed gov't to regulate approved shoreline erosion control methods using BMP

Item 7. Where do you obtain information about shore erosion?

Other Please List: (See page 9 of the text and Table 15 of the report.)

I have lived on the lake for 31 years.

Local Port Authority

FYI for Q: 5 & 6 our department has access to the water bill with commissioners approval.

Item 8a. UNSURE Please tell us why you are unsure... (See page 10 of the report.)

Time constraints.

Need basic education to be a stronger partner to the coastal office, as to make appropriate referrals.

What would the cost factor be.

We do not work with this.

Interested in training -unsure of he need - have not given much thought to lake shore erosion.

I believe soil and water at the county has been given the impression Coastal Zone Management OCNR wants full control.

What is a township gov't authority on private waterfront property.

For whom?

Time and location of training.

Not sure of what is available - for all of us time is too valuable to waste.

It has been very ineffective.

Not applicable.

Not sure how I would use it.

I would, with too many activities.

Time issues.

Not sure what types of training is offered.

Item 8b. If YES to Question 8, Please describe specific technical knowledge or skills that you need:

Responses to this item are included in the text of the report. **(See pages 10 to 12 of the report.)**

Item 11. How important are the following in your decision to attend training?

Other (please describe) (See page 12 of the text and Table 17 of the report.)

What will it achieve?

Item 12. How useful are the following types of technical assistance?

Other (please describe) (See page 12 of the text and Table 18 of the report.)

Permitting ease

If erosion measures fail to perform as expected who will assume responsibility? Ultimate responsibility rests with individual/agency making improvements and not technical advisor. Due to coast improvement must work first time.

Constructability/methods review, which is typically not specified on plans but has environmental impacts. Your preserve should be at pre-con as well.

Item 13. How do you prefer to receive information about training and technical assistance opportunities?

Other (please describe) (See page 12 of the text.)

No open responses were written in for this item.

Item 14. How do you prefer to register for training?

Other (please describe) (See page 12 and Table 19 of the text.)

Through city office or county invitation via position with both.

Item 15. When would you prefer to participate in training?

Other (please describe) (See page 12 of the text.)

Not available anytime

Depends on quality of material and what's in it for me/my village. for a workshop of great of value I'd spend a day.