

Ohio Coastal Management Program
Assessment and Multi-Year Strategy
2006-2010

Coastal Zone Enhancement Grants Program
Authorized by Section 309 of the
Coastal Zone Management Act of 1972

Ohio Department of Natural Resources
Office of Coastal Management

October 2006

(NOAA Approval 11/29/06)

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Introduction

The Ohio Coastal Management Program (OCMP) was approved for admission into the federal Coastal Zone Management Program on May 16, 1997. With the National Oceanic and Atmospheric Administration's (NOAA) approval and funding, the Ohio Section 309 program began in July 1999 following completion and public review of the OCMP's first assessment and strategies in February 1999. A second assessment was completed and strategies developed in March 2001.

Section 309 of the Coastal Zone Management Act (CZMA), as amended in 1990 and 1996, establishes the Coastal Zone Enhancement Grant Program. The enhancement program provides states and territories with federal funds to develop and implement changes to their approved coastal programs. The enhancement program provides funding through a noncompetitive weighted formula. The state is not required to provide matching funds.

To be eligible for these funds, the state must assess its coastal program and develop a strategy for enhancing priority areas. The nine priority enhancement areas set by statute are:

1. Public Access
2. Coastal Hazards
3. Ocean Resources
4. Wetlands
5. Cumulative and Secondary Impacts
6. Marine Debris
7. Special Area Management Plans
8. Energy and Government Facility Siting
9. Aquaculture

States and territories must update their Assessments based on a set of questions that was developed by the Office of Ocean and Coastal Resource Management in consultation with states and territories. The Assessment will consist of an Introduction that includes a summary of past 309 efforts and a summary of public review, and an Enhancement Area Analysis section for each of the nine priority enhancement areas. Strategies must be based on the priority needs and priority enhancement areas identified in the Assessment and will cover the five-year period from federal FY 2006 through federal FY 2010.

Section 309 grant funds may not be used to fund Section 306A-type projects such as acquisition, construction, or "shovel-in-the-dirt" projects. Section 309 grant funds may be used to fund activities that lead to program amendments, routine program changes and program change implementation. Program changes include any of the following activities that would enhance the state's ability to achieve one or more of the coastal area enhancement objectives: coastal area boundary changes; new or revised authorities; new or revised local coastal programs; new or revised land acquisition, management and restoration programs; new or revised Special Area Management Plans or plans for Areas of Particular Concern; new or revised guidelines, procedures and policy documents formally adopted by the state.

Program implementation activities: (1) relate to one or more Section 309 program changes; (2) include a component of the activity that measures, within two years, how it will improve program effectiveness; and (3) are cost-effective. Section 309 funds may be used to implement a program change for no longer than two years.

In addition, under special considerations, states are encouraged to incorporate consideration of threatened and endangered species within their Assessments and Strategies. States are also encouraged to consider how they can improve management of any special marine and Great Lakes' areas during the Section 309 Assessment and Strategy process.

The State of Ohio's focus for the past five years of the Section 309 program was on the following elements: Wetlands, Cumulative and Secondary Impacts, and Special Area Management Planning. In addition, the ongoing and episodic erosion elements of Coastal Hazards were prioritized for purposes of initiating enhancement efforts with regard to sand management and improved permitting enforcement and monitoring.

The focus for the five-year period from federal FY 2006 to federal FY 2010 will be on:

- 1- Public Access (Performance Measures only)
- 2- Coastal Hazards (including Performance Measures)
- 3- Great Lakes Resources
- 4- Wetlands (including Performance Measures)
- 5- Cumulative and Secondary Impacts (including Performance Measures)
- 6- Energy & Government Facility Siting

The general format for each of the nine priority enhancement areas of this Section 309 Assessment and Strategies for Enhancement of the Ohio Coastal Management Program is: (1) Section 309 Programmatic Objectives; (2) Resource Characterization; (3) Management Characterization; (4) Conclusion; and if applicable, (5) Strategy- Description of Change, Anticipated Effect of Change, Appropriateness of Change, General Work Plan, Cost Estimate, Likelihood of Success, Fiscal and Technical Needs, (6) Performance Measures.

A summary matrix of the priority enhancement area strategies is included in Appendix A.

An (*) indicates that the question or category is included in the National Coastal Management Performance Measurement System (NCMPMS).

Summary of Past 309 Efforts

This is Ohio's 3rd Program Assessment. The previous Program Assessment and Strategies were developed prior to the formation of the ODNR Office of Coastal Management in July 2002.

In FY 2001, the OCMP continued its support of three projects under the following priority enhancement areas: Cumulative and Secondary Impacts (CSI) and Special Area Management Planning (SAMP). The three projects were: (1) evaluation of hydrologic regime trends, channel morphology, wetland resources and the development of a watershed GIS for the Chagrin River; (2) Arcola Creek Watershed Study and Plan; and (3) a Special Area Management Planning process for the City of Mentor, Mentor Marsh State Nature Preserve, Village of Fairport Harbor and surrounding communities.

The first project consisted of a series of studies conducted by the Chagrin River Watershed Partners, Inc. Long-term hydrologic regime trends of the Chagrin River Watershed were assessed using USGS gage data. A baseline study of four headwater streams was conducted and will be used to assess changes in channel morphology over time in conjunction with land use changes. A Chagrin River watershed GIS was developed that included an analysis of current and historic wetland resources. This study showed a loss of nearly 12,000 acres or 80 percent of the historic wetlands in the Chagrin River watershed. Additional studies in the Chagrin River watershed were funded over the following four years through FY 2004 that enabled the assessment of cumulative and secondary impacts of land use at a local level. The products and expertise resulting from these studies is available to communities and watershed organizations throughout the Lake Erie Basin. A brief description of these studies is provided in this assessment document under the CSI category.

The second project was the Arcola Creek Watershed Study. This study resulted in a watershed plan that was developed by the Lake Soil and Water Conservation District and was coordinated with Lake County's stormwater management planning efforts. Stream habitat data was collected and extensive public outreach was undertaken in the development of the plan. A brief description of this study is provided in this assessment document under the CSI category.

The third project was the Special Area Management Plan for the City of Mentor, Mentor Marsh State Nature Preserve, Village of Fairport Harbor and surrounding communities. The Special Area Management Planning process has resulted in improved coordination among the various levels of government and increased awareness of Mentor Marsh watershed issues in relation to the surrounding land uses. The Mentor Marsh Area Special Area Management Plan was completed in June 2004 with implementation beginning in 2005 as further described in this assessment document under the SAMP category.

Other projects funded during the past Section 309 Assessment period include: Ocean/Great Lakes Resources- 1) Sand Monitoring in Nearshore Disposal Sites, 2) Information to Support Placing Sand as Mitigation During Construction, and 3) Data Collection for the Coastal GIS and Ohio Coastal Atlas; and Cumulative and Secondary Impacts- 1) GIS for Section 401 Enforcement through the Ohio EPA, and 2) Evaluation of the Potential Impact of Irrigation Farming on the Water Quality of Lake Erie. Brief descriptions of these projects are provided in this assessment under the indicated categories.

Summary of Public Review

Prior to public review, the draft 309 Assessment and Strategies document was distributed to Ohio Department of Natural Resources Divisions and Offices for review and comment.

Ohio's 309 Assessment and Strategies document was made available for public review from February 20, 2006 through April 3, 2006. (42 days) As part of the public review process, public notice was given in seven coastal area general circulation newspapers. Approximately 33 members of organizations including ODNR's Integrated Management Team (IMT), the Policies and Programs Coordinating Committee (inter-agency network), and the Ohio Lake Erie Commission were sent an email request for review and comment with a link to the Draft Assessment and Multi-year Strategy document. Also, an announcement was posted on the Ohio Watershed Network Listserv hosted by Ohio State University Extension. Information on progress on the Assessment document was provided at the February 2006 Coastal Resources Advisory Council meeting and 17 copies were mailed to members for review and comment on February 28, 2006.

In addition, the following announcement (with attached file for downloading the entire document) was posted on the Office of Coastal Management web site on February 20, 2006.

Draft Assessment and Multi-year Strategy 2006-2010 for the Section 309 Coastal Zone Enhancement Grants Program

The Ohio Department of Natural Resources has made available for public review and comment the Draft Assessment and Multi-year Strategy 2006-2010 for the Section 309 Coastal Zone Enhancement Grants Program for the State of Ohio. This has been done in accordance with Section 309 of the federal Coastal Zone Management Act of 1972. Section 309 of the CZMA requires states to assess their programs in nine issue categories. These are 1. Wetlands, 2. Coastal Hazards, 3. Public Access, 4. Marine Debris, 5. Cumulative and Secondary Impacts, 6. Special Area Management Planning, 7. Ocean Resources (Great Lakes Resources), 8. Energy and Government Facility Siting, and 9. Aquaculture. Assessments are based on both the status of the resource and the status of existing

management authorities and programs to address the concerns. Strategies include general direction and specific actions proposed by the Ohio Coastal Management Program to address these issues over the next five fiscal years.

Ohio's document (updated from Ohio's 2001 assessment) identifies three of these categories as high priorities: Great Lakes Resources, Wetlands, and Cumulative and Secondary Impacts. A fourth, Coastal Hazards, is identified as a Medium priority overall, while chronic and episodic erosion are considered a high priority for purposes of improving sand resource management and erosion control.

Comments must be postmarked or emailed by April 3, 2006 and sent to: Yetty Alley, ODNR, Office of Coastal Management, 105 West Shoreline Drive, Sandusky, Ohio 44870, or yetty.alley@dnr.state.oh.us. Print a PDF version of the Draft Assessment and Multi-year Strategy 2006-2010 for the Section 309 Coastal Zone Enhancement Grants Program or obtain a copy by calling 1-888-OHIOCMP.

Five responses were received during the public review period and are included in Appendix B.

Public Access

Section 309 Programmatic Objectives

- I. Improve public access through regulatory, statutory, and legal systems.
- II. Acquire, improve, and maintain public access sites to meet current and future demand through the use of innovative funding and acquisition techniques.
- III. Develop or enhance a Coastal Public Access Management Plan that takes into account the provision of public access to all users of coastal areas of recreational, historical, aesthetic, ecological, and cultural value.
- IV. Minimize potential adverse impacts of public access on coastal resources and private property rights through appropriate protection measures.

Resource Characterization

Extent and Trends in Providing Public Access (publicly owned or accessible):

1. Provide a qualitative and quantitative description of the current status of public access in your jurisdiction. Also, identify any ongoing or planned efforts to develop quantitative measures to assess your progress in managing this issue area.

Portions of nine of Ohio's 88 counties are located within Ohio's designated Coastal Management Area. The Ohio portion of Lake Erie shore encompasses approximately 312 miles including the island areas. Of these 312 miles of shore, 41.7 miles or approximately 13 percent are publicly accessible including 6.59 miles of public beaches that are monitored for water quality.

Many types of access are available from parks, preserves and wildlife areas to fishing and boating access sites and facilities. There are 12 state parks within the Coastal Management Area that feature beaches, trails, fishing access, boating access, scenic vistas and historical/cultural information. Numerous local parks also feature shore access and lake viewing opportunities. Erie County, which includes Kelleys Island, has the most public access sites (25) of the coastal counties. Fishing enthusiasts can choose from 69 access locations. For boaters, there are 61 government-owned boating access sites, 169 commercial sites, and 70 boating club sites.

Access to Lake Erie's underwater archaeological resources has been enhanced through several initiatives to expand the educational resources available and facilitate public access to these valuable resources. The Peachman Lake Erie Shipwreck Research Center (PLESRC) at the Great Lakes Historical Society has accomplished several actions with Section 306 funds from the Office of Coastal Management. The Peachman Lake Erie Shipwreck Research Center is kept open to the general public; data on Lake Erie shipwrecks is gathered and digitized; outreach to the general public is conducted about the existence and current state of Lake Erie shipwrecks; and workshops for divers are held that culminate in an underwater survey of a Lake Erie shipwreck. Public access to shipwrecks has been improved with Lake Erie Protection Fund dollars that were awarded to the Ohio Coastal Management Program to place mooring buoys on six shipwrecks in Lake Erie. The Ohio Coastal Management Program contracted with the Maritime Archaeological Survey Team to deploy the buoys. The buoys enable recreational divers and researchers to more easily locate the shipwrecks and to moor their vessels in a way that helps protect the shipwrecks from damage. Planning for an additional educational initiative was conducted by the Office of Coastal Management for a project to develop an underwater trailway for Ohio's Lake Erie. This project will be accomplished through work with the Ohio Sea Grant College Program and will result in a website and written materials to distribute to the public.

The state's progress in managing public access is assessed through several means. The coastal management program offers and tracks local assistance grants that are used to plan for and construct public access. Other state administered grant programs also fund and monitor public access projects such as boating facilities, fishing access, parks, and trails such as the Waterways Safety Fund, Cooperative Boating Access Grants, Clean Ohio Trails Fund, Recreation Trails Fund, Land and Water Conservation Fund and NatureWorks. Also, through the coastal program's Ohio Coastal Atlas, public access information is being gathered and incorporated into the Lake Erie GIS where it can be viewed and assessed. Public access information is also being tracked in the Statewide Comprehensive Outdoor Recreation Plan (SCORP).

2. Briefly characterize the demand for coastal public access within the coastal zone, and the process for periodically assessing public demand. *Question/category is included in the National Coastal Management Performance Measurement System (NCMPMS).

There continues to be a high demand for public access as indicated in the previous assessment. Ohio's population is approximately 11.5 million with nearly 25 % living in the nine Coastal Management Area counties. Lake Erie continues to be the state's primary region for recreation and tourism.

The following statistics are based on information from an opinion survey conducted in 2003 for the purpose of compiling the *Lake Erie Quality Index* published in 2004. The *Lake Erie Quality Index* was first published in 1998. Seventy percent of Ohio residents have visited Lake Erie at some time in their lives. Almost half of those who had visited the lake had done so within the previous year. The opinion survey specifically addressed public access to facilities. On a scale of 0 to 4, where 4 equaled very satisfied, coastal recreation accessibility received an overall score of 3.27, which was equal to a rating of Good and showed an improvement over the score of 3.07 received in the 1997 survey.

While the majority of lake users are satisfied with the lake as a recreation site, the demand for access continues to rise. According to Ohio's 2003 SCORP, "Water-based recreation activities continue to be among the most popular in our water-rich state. Fishing, swimming, beach activities, and boating all rank among Ohioans' favorite outdoor recreation pursuits. Recreation providers should continue to provide and emphasize water-based opportunities while attempting to provide better and increased access to the state's water resources."

Periodically assessing public demand for access is accomplished through the *Statewide Comprehensive Outdoor Recreation Plan* (SCORP) that is compiled approximately every five years and through the *Lake Erie Quality Index*.

3. Identify any significant impediments to providing adequate access, including conflicts with other resource management objectives.

Chief among the significant impediments to providing increased public access is the fact that approximately 85% of the land bordering Lake Erie in Ohio is developed and held in private ownership. Most recreational access improvements at the state and federal level are anticipated to be either enhancement or renovation of existing facilities or acquisitions from willing sellers. At the local level, there has been some increase in new access sites in the last few years, using Coastal Management Assistance Grants (CMAG) and boating access grants. Inland sites within the Coastal Management Area are only slightly more available. Increased emphasis has been placed upon providing connections between facilities using trails, greenways and other linkages, especially within the context of several new regional planning initiatives. Local entities are identifying corridors and rights-of-way and either acquiring them or converting them to recreational use.

The lack of availability of lakefront properties, coupled with the desirability of the location and generally rising real estate prices, places a high premium on such land. As a result, the extremely high cost of purchasing such land is an additional impediment.

Lake levels, both high and low, present an additional challenge for recreational opportunities on Lake Erie as well. Formidable erosive effects during many years prior to 1998 impaired or threatened a number of existing public recreation and access sites. Further, the extensive armoring of the shore and the transport of large quantities of sand offshore as a result of open lake disposal, storms and high lake levels have left the shore with an acute scarcity of sand for public recreational beaches. Since the previous assessment, the lake's level has remained fairly consistent with the long term average.

While demand for marinas and other docking facilities along the shore is high, construction of marinas is not possible in some areas due to shallow depths, substrate content, and other physical constraints. Additionally, the environmental impacts of these and most other recreational facilities must be considered during permit review and submerged lands leasing processes. The resource management objectives of protecting water quality, fish and wildlife habitat, and local planning and protection of quality of life are significant considerations that must be weighed when new marinas and other recreational facilities are planned.

4. Please explain any deficiencies or limitations in data.

| Access Type | Current Number(s) | Change Since Last Assessment |
|--|--|--|
| State/County/Local Parks (# and acres) | State- 12 parks; 5,277.7 A County- Not available, but increasing Local- Not available | 1 new state park added |
| Beach/Shoreline Access Sites (#)* | 116 sites, 41.7 miles = ~13% of Ohio's 312-mile shore | Unable to Determine (Only public beaches [24] listed in previous assessment) |
| Recreational Boat (power or non-power) Access Sites (#) | Government owned- 61 sites Commercial- 169 sites Boating Club- 70 sites | Unable to Determine (Boat lanes [291] reported previously) |
| Designated Scenic Vistas or Overlook Points (#) | Not Inventoried | Not Available |
| State or Locally Designated Perpendicular Rights-of-Way (i.e. street ends, easements) (#) | Not Inventoried | Not Available |
| Fishing Points (i.e. piers, jetties) (#) | 69 sites | Unable to Determine |
| Coastal Trails/Boardwalks (# and miles) | 12 Trails (various types) located in 9 coastal counties, 241.36 miles | Unable to Determine (Not quantified before) |
| ADA Compliant Access (%) | Wheelchair accessible facilities at: 2 ODNR State Nature Preserves 4 ODNR State Parks | Unable to Determine (Not quantified before) |
| Dune Walkovers (#) | Not Inventoried | Not Available |
| Public Beaches with Water Quality Monitoring and Public Notice (% of total beach miles) and Number Closed due to Water Quality Concerns (# of beach mile days) | 22 public beaches monitored, 6.59 miles = ~14 % of public beach/shore access miles On average, 58% of beaches per season had at least 1 day posted. Posted beaches were posted 13% of the beach season during 2001-2005. (Based on total # of posted days over five beach seasons) 442.05 beach mile days posted during 2001-2005 (days posted x beach miles) | Unable to Determine (Monitored beaches not specified previously) |
| (Data for this access type was obtained from Ohio Department of Health information submitted to U.S. EPA relative to the BEACH ACT monitoring program and from the U.S. EPA BEACON website.) | | |
| Number of Existing Public Access Sites that have been Enhanced (i.e. parking, restrooms, signage - #)* | Not Inventoried | Not Available |

*Question/category is included in the National Coastal Management Performance Measurement System (NCMPMS).

5. Does the state have a Public Access Guide or website? How current is the publication or how frequently is the website updated?

The Ohio Department of Natural Resources website features a Publications section that includes the following public access related documents: *Public Boating Facilities*, *Ohio Trails*, *Natural Wanderings Brochure*, *State Wildlife Area Maps*, *Watchable Wildlife Viewing Sites*, *Accessible*

Wildlife-associated Recreation in Ohio, Guide to Ohio State Parks, A Visitor's Guide to Ohio's State Nature Preserves. The website is routinely updated. However, the publications may only be updated periodically.

The *Lake Erie Fishing Guide* is another publication that is available as a printed copy through the ODNR Division of Wildlife website. It was last issued in June 2004.

Management Characterization

1. For each of the management categories below, identify significant changes since the last assessment.

| Management Category | Changes since last assessment |
|--|--------------------------------------|
| Statutory, regulatory, or legal system changes that affect public access | Significant Moderate <u>None</u> |
| Acquisition Programs or techniques | <u>Significant</u> Moderate None |
| Comprehensive Access Management Planning (including development of GIS data layers or databases) | <u>Significant</u> Moderate None |
| Operation & Maintenance Programs | Significant <u>Moderate</u> None |
| Funding Sources or Techniques | Significant <u>Moderate</u> None |
| Education and Outreach (access guide or website, outreach initiative delivered at access sites, other education materials such as pamphlets) | <u>Significant</u> Moderate None |
| Beach water quality monitoring and/or pollution source identification and remediation programs | Significant <u>Moderate</u> None |

2. For categories with changes:

Summarize the change

Specify whether it was a 309, 306A, or other CZM driven change and specify funding source

Characterize the effect of the changes in terms of both program outputs and outcomes

Statutory, regulatory, or legal system changes that affect public access- None

Acquisition Programs or techniques- Significant

None of the following are Section 309 changes.

- The federal Great Lakes Coastal Restoration Grants were funded through a competitive matching grant program, administered by the ODNR Office of Coastal Management. This grant funding was

part of a one-time \$30 million Congressional appropriation to improve the Great Lakes and was for coastal and water quality restoration projects. Local projects totaling \$2,363,520 were announced on December 18, 2001 and began December 31, 2001. A supplemental request for proposals was issued in 2003 for \$888,000 originally awarded in 2001 for the Buckeye Point Land Acquisition project. Selected projects were consistent with Ohio Coastal Management Program priorities and helped implement the *Lake Erie Protection and Restoration Plan*. These projects accomplished acquisition and restoration of coastal habitats, natural areas, open space and greenways, and increased lakefront and streamside public access. Other benefits included restoration of degraded streams, eradication of noxious, invasive plants, and increased outdoor recreation opportunities. State projects awarded totaled \$2,224,000 with most of those funds going for the purchase of nearly ten acres of lakefront property adjacent to Marblehead Lighthouse that increased public access to the lake and this historic resource.

- The Ohio Department of Natural Resources (ODNR) has protected significant stretches of Lake Erie shore with acquisitions of rare coastal open space on North Bass Island- 589 acres and Marblehead Peninsula- about 10 acres. These significant additions to the recreational diversity of the coastal region will help boost the economic impact of travel and tourism along Ohio's North Coast by providing access to over 2 miles of shore. These acquisitions were accomplished utilizing a variety of federal and state funding sources including the Land and Water Conservation Fund, the Great Lakes Coastal Restoration Grant Program and the Coastal and Estuarine Land Conservation Program.

- The NatureWorks Program is administered by ODNR and identifies projects funded by the Ohio Parks and Natural Resources Bond Issue which was approved by Ohio voters in November 1993. The NatureWorks grant program provides up to 75% reimbursement assistance for local government subdivisions (townships, villages, cities, counties, park districts, joint recreation districts, and conservancy districts) for the acquisition, development, and rehabilitation of recreational areas. Since the last assessment, this program has been used to enhance coastal access and facilities through the development of a seawall, a riverwalk, trails and lakefront walkways.

- The federal Land and Water Conservation Fund Act was passed by Congress in September 1964, and became effective January 1965. The Land and Water Conservation Fund grant program provides up to 50% reimbursement assistance for state and local government subdivisions (townships, villages, cities, counties, park districts, joint recreation districts, and conservancy districts) for the acquisition, development, and rehabilitation of recreational areas. These funds have been used toward the acquisition of approximately 238 acres adjacent to Mentor Marsh and the construction of 1.6 miles of paved trail at the Canal Reservation in Cuyahoga Heights.

- The Transportation Equity Act for the 21st Century (PL 105-178), commonly referred to as TEA-21, reauthorized the Recreational Trails Program (RTP). The RTP provides for the transfer of federal gas taxes paid on fuel used in off-highway vehicles used for recreational purposes. The funds can be used to assist government agencies and trail groups in the rehabilitation, development, maintenance, and acquisition of recreational trails and related facilities. The trails may be motorized, non-motorized, or multiple use trails. RTP funds can also be used for environmental protection and safety education projects related to trails. Five projects have been funded in coastal adjacent counties to construct and restore trails and to construct pedestrian bridge crossings in places such as the West Creek Preserve in Parma. West Creek is a tributary to the Cuyahoga River.

- Through the Cooperative Public Boating Facility Grant program, approximately \$3.6 million is available annually statewide for the construction or improvement of public facilities for recreational boating on navigable waters within the state. Since 2001, fourteen projects totaling over \$3 million have been completed along Lake Erie through this grant program. In addition, \$750,000 is available

each year for recreational dredging projects on Lake Erie. Ten projects have been completed under this program since 2001 spending nearly \$1.4 million to improve recreational boating on Lake Erie.

- Threatened and endangered species considerations factor strongly into any new acquisition and development of recreational facilities by ODNR.

Comprehensive Access Management Planning (including development of GIS data layers or databases)- Significant

- The ODNR Office of Coastal Management has hired two GIS specialists/cartographers to continue development of the Lake Erie GIS. Data collected for the Lake Erie GIS has been used to develop the *Ohio Coastal Atlas* first edition, released in 2005, that included boating access maps. A second edition of the atlas is being prepared for release in early 2007. It will include updated outdoor recreation and public access maps. Lake Erie GIS data will also be used in the Office's coastal GIS Map Viewer and internet map server (IMS) product.

- The ODNR Division of Watercraft completed a site inventory and development of the Phase 1 Watercraft Facilities Database resulting in a dataset of all public boating facilities in Ohio. Information is available in a GIS format. Phase 2, currently underway, is the inventory and subsequent analysis of stream access facilities.

- The ODNR Division of Real Estate and Land Management is developing a real estate GIS database that is very early in the data retrieval stage which includes all state lands and county data information. They are also compiling up-to-date information on outdoor recreation facilities as part of the Statewide Comprehensive Outdoor Recreation Plan (SCORP) planning process. The completion target date is mid 2006. This information is being compiled to both update the 2003 SCORP and prepare for the next SCORP due in 2008. The information will help guide and inform public access planning and funding efforts.

- The federal Coastal and Estuarine Land Conservation Program (CELCP) was established in 2002 to protect coastal and estuarine lands considered important for their ecological, conservation, recreational, historical or aesthetic value or that are threatened by conversion from a natural or recreational state to other uses. Future eligibility for federal CELCP funding is contingent upon a state's development of a plan for conservation of remaining open and natural areas. Through the Ohio Coastal Management Program, the Office of Coastal Management has created such a plan for Ohio and submitted it to NOAA for approval. To be eligible for funding under this program, projects must provide for access to the general public or other public benefit, as appropriate and consistent with resources protection of the project lands.

- The federally funded Coastal Management Assistance Grant program is a competitive matching grant program administered by the ODNR Office of Coastal Management with Section 306 and 306A funds from NOAA. The grants program provides approximately \$250,000 annually to local government entities for planning, public access, acquisition, educational and research projects. Priority for the past several years has been on waterfront/public access planning and coastal community planning. In the past two years, watershed planning to address coastal nonpoint pollution or balanced growth has also been emphasized. Since the last assessment, 63 percent of the funds awarded have been for planning that either included or focused on public access improvement.

Operation & Maintenance Programs- Moderate

- The ODNR Division of Parks and Recreation has regionalized their operations and maintenance program. There are now 26 regions statewide and the operations and maintenance is accomplished through the sharing of staffs. This change, along with budget issues, has resulted in reduced maintenance levels at many facilities, including those located in the coastal region.

Funding Sources or Techniques- Moderate

- The federally funded Coastal Management Assistance Grant program is a competitive matching grant program administered by the ODNR Office of Coastal Management with Section 306 and 306A funds from NOAA. The grants program provides approximately \$250,000 annually to local government entities for planning, public access, acquisition, educational and research projects. Public access has been improved directly through four construction projects that provided accessible fishing stations in Sandusky, an overlook and stairway access to a beach in Mentor-on-the-Lake, public and emergency access to a beach in Avon Lake, and an accessible walkway/ramp to the "Lakewalk" area in Lakewood.

- The ODNR Division of Watercraft is developing the 5AQ fund for the Recreational Marine Loan Program. This is a program designed to assist in the development of private sector marinas. The marinas must be available to the public. This will be a new source of funds to increase public boating access. The Division anticipates starting the program in the spring of 2006.

- To be eligible for funding under the Coastal and Estuarine Land Conservation Program, projects must provide for access to the general public or other public benefit, as appropriate and consistent with resource protection of the project lands. Since 2002, Ohio has received nearly \$17 million from this program through congressionally designated awards. These dollars have been used for ODNR projects such as the North Bass Island and Middle Bass Island acquisitions, and local projects such as East Sandusky Bay, Grand River, Kelleys Island, Mentor Marsh, Maumee River, Lake Erie Shoreline and Flats East acquisitions.

- In 2001 Ohio Governor Bob Taft signed House Bill No. 3 that authorized the state to sell bonds in order to create the Clean Ohio Program. The Clean Ohio Program provides \$400 million over four years for brownfields, open space and watershed conservation, farmland preservation and recreational trails. The Clean Ohio Trails Fund is administered by ODNR. Over 2.7 million dollars have been spent on eleven trail projects in the nine Coastal Management Area counties to build bike paths, multi-use trails and pedestrian bridges that have improved access to resources in the coastal region. The Clean Ohio Open Space Fund has also been very significant in contributing to additional public access and land preservation in the coastal region. These funds have also contributed critical non-federal match for projects funded through the Coastal and Estuarine Land Conservation Program as well as the Great Lakes Coastal Restoration Grant Program.

Education and Outreach- Significant

- As stated above under Comprehensive Access Management, data collected by the ODNR Office of Coastal Management for the Lake Erie GIS has been used to develop the *Ohio Coastal Atlas* first edition, released in 2005, that included boating access maps and maps of ODNR and non-ODNR protected lands. Some but not all of the protected lands allow for public access. The first edition is available on the OCM website. A second edition of the atlas is being prepared for release in January, 2007. The second edition will devote an entire chapter to public access related information and maps. It will include outdoor recreation maps featuring areas such as campgrounds, public hunting areas,

trails, and ferry lines in the coastal area. It will also include maps that identify publicly accessible lakefront locations for fishing, beaches, campgrounds, and other uses. The second edition will be distributed throughout the coastal region and also be available on the OCM website. In addition, OCM unveiled a Coastal Internet Map Site (IMS) in September 2005 that enables users to create their own custom maps for the Lake Erie watershed. Data layers for boating facilities, state designated scenic rivers, and public fishing points are available on the IMS at this time with trails, publicly accessible shore, and Ohio Historical Society points scheduled to be added.

- The ODNR Division of Watercraft has developed GIS web applications for boating access and they have on-going web site improvements. New publications have been developed such as the Ohio Boat Launch Areas map to improve outreach on recreational boating opportunities. This publication can be requested through their website.

- The Land and Water Conservation Fund and NatureWorks grant programs, administered through the ODNR Division of Real Estate and Land Management have developed an on-line grant application that will serve to streamline the application process for their public access programs.

- The ODNR Division of Parks and Recreation has developed numerous publications and outreach initiatives. Publications include the Park Pals Activity Guide, Nature Things for Kids (a monthly Web feature), E-News from Ohio State Parks, and other new brochures on camping, getaway rentals, golfing and winter recreation that educate and inform the public about the facilities and resources available in Ohio, including along Lake Erie. The Division has also partnered with Pepsi to produce promotional radio tags. Ohio State Park displays with brochures have been installed at park lodges and at Ohio Department of Transportation tourist information centers.

- The Lake Erie Coastal Trail was designated as Ohio's fifth National Scenic Byway in September 2005 after having first obtained Ohio Scenic Byway status in April 2005. The more than 290 mile route closely follows the shore from Conneaut on Ohio/Pennsylvania border to downtown Toledo at the western end of Lake Erie. The byway mostly follows SR 2 and US 6 but also includes other local and state routes. The Lake Erie Coastal Trail is the second longest byway in Ohio. There are more than 250 Discovery Sites where travelers can experience the natural beauty, historical tales and outdoor recreation available along Ohio's Lake Erie shore. Lake Erie Coastal Ohio coordinated the effort to pursue state and then national scenic byway status. This effort was funded in part with Section 306 funds through a Coastal Management Assistance Grant. The grant also funded the development of public service announcements regarding Lake Erie which are intended to communicate positive messages about the lake and its resources.

Beach water quality monitoring and/or pollution source identification and remediation programs- Moderate

- There have not been any changes to the Beaches Environmental Assessment and Coastal Health Act of 2000 monitoring program implementation since the 2001 Section 309 Assessment.

- Beach monitoring research was conducted from 2001-2002 by the United States Geological Survey (USGS) in coordination with state and local agencies and academia. USGS has developed a method to predict bacteria levels at three Lake Erie beaches- Edgewater Park, Huntington Reservation, and Villa Angela. A computer model was developed that uses current weather and environmental conditions to forecast Escherichia coli (E. coli) bacteria concentrations. A customized model for each beach was developed that included factors such as wave height, number of birds on the beach at the time of sampling, lake-current direction, rainfall, turbidity, and streamflow of a nearby river. Further data

would be needed to continue testing and refining the models. Three reports from this study were released in 2002 and are available on the web at <http://oh.water.usgs.gov/beaches/>.

- The *Maumee Bay Bacteria Study* was conducted by the University of Toledo Lake Erie Center, the USGS, and the Toledo Metropolitan Area Council of Governments. The three-year study began in 2003 to improve understanding of the sources of E. coli bacteria impacting Maumee Bay, their movement, and survival. A significant driving force behind the study was the limited public use of the Lake Erie beaches at Maumee Bay State Park due to unsafe bacteria levels. Through this study, E. coli hot spots have been identified and investigated and data analyzed. The results of the study will be used to reduce bacteria sources and therefore improve the safety of Lake Erie beaches and increase public use.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 strategy.

There has been moderate to significant progress made in many of the management categories including new public access sites and facilities and comprehensive access management planning. This progress is being accomplished through coastal management program activities with Section 306 and 306A funds and various agencies and networked partners.

A non-acquisition issue related to public access is local government waterfront access planning. This issue is being addressed in part through the Coastal Management Assistance Grant Program administered by the ODNR Office of Coastal Management using Section 306 funds. Waterfront and community planning have been priorities for the Coastal Management Assistance Grant Program during this assessment period. Projects such as the Lake County Coastal Priority Projects Feasibility Study, the Vermilion Waterfront Feasibility Study, and the Sandusky Parks and Recreation Comprehensive Master Plan have enabled local waterfront planning on county-wide and community scales. In addition, projects such as the Feasibility Study for Public Access: Dike 14, Cleveland, Ohio, the Rehabilitation Study for the Former US Coast Guard Cleveland Harbor Station, and the Sheffield Lake Proposed Boat Ramp Sedimentation Study have enabled site specific planning. Local waterfront planning is also being undertaken by communities such as the City of Cleveland and the City of Toledo with non-CZMA funding.

No major gaps in addressing the programmatic objectives for this enhancement area have been identified.

2. What priority was this area previously and what priority is it now for developing a 309 strategy and allocating 309 funding and why?

| <u>Last Assessment</u> | | <u>This Assessment</u> | |
|------------------------|---|------------------------|---|
| High | | High | |
| Medium | X | Medium | X |
| Low | | Low | |

Public access remains a high priority to address. However, as stated above, moderate to significant progress has been made indicating that the OCMP is on course using CZMA core funding together with other non-CZMA funded initiatives. Therefore, in assessing the need for Section 309 funding, Public Access remains a medium priority. Actual acquisition is the most pressing and costly need, and that type of activity is not eligible for Section 309 funds.

Performance Measures

NOAA is encouraging and supporting state coastal program participation in the National Coastal Management Performance Measurement System (NCMPMS) in part by allowing the use of Section 309 funds towards meeting performance measurement goals. The Performance Measurement System consists of six performance measurement categories: Public Access; Government Coordination & Decision Making; Coastal Habitat; Coastal Water Quality; Coastal Hazards; and Coastal Dependent Uses & Community Development.

Approximately \$9,000 of Section 309 funds will be used per year during FY 2006 through 2008 to address the public access performance measure. In FY 2006, efforts will be focused on developing and implementing tracking mechanisms within the Office of Coastal Management and coordinating with other agencies to obtain the required information. A bi-annual survey will be developed and conducted in FY 2007 to aid in the continuous tracking of required information. Based on the survey results, tracking mechanisms will be revised and new data will be incorporated into the performance measure reporting in FY 2008. In addition, a summary document will be produced in FY 2008 highlighting coastal program accomplishments as documented through the NCMPMS.

Coastal Hazards

Section 309 Programmatic Objectives

- I. Direct future public and private development and redevelopment away from hazardous areas, including the high hazard areas delineated as FEMA V-zones and areas vulnerable to inundation from sea and Great Lakes level rise.
- II. Preserve and restore the protective functions of natural shorelines features such as beaches, dunes, and wetlands.
- III. Prevent or minimize threats to existing populations and property from both episodic and chronic coastal hazards.

Coastal Hazards Characterization

1. Characterize the general level of risk in your state from the following coastal hazards:

| Hazard | High Risk | Medium Risk | Low Risk |
|--|-----------|-------------|----------|
| Hurricanes/Typhoons | | | X |
| Storm Surge* | | X | |
| Flooding* | X | | |
| Shoreline Erosion (episodic or chronic)* | X | | |
| Sea Level Rise* | | | |
| Great Lakes level fluctuation* | X | | |
| Subsidence* | | | X |
| Geological hazards (including earthquakes and tsunamis)* | | | X |
| Other (specify) | | | |

*Question/category is included in the National Coastal Management Performance Measurement System (NCMPMS).

2. If the level of risk or state of knowledge about any of these hazards has changed since the last assessment, please explain. Also, identify any ongoing or planned efforts to develop quantitative measures for this issue area.

The decline in lake levels since 1998 has reduced flooding due to high water levels and in many areas has brought temporary relief from shore erosion. As water levels have not been significantly high during the reporting period, the Storm Surge risk related to wind set up events has been changed from High to Medium. However, along sand-starved reaches downdrift of harbors and heavily armored shores, erosion of unprotected property and downcutting in the nearshore continue.

As a result, in 1998 ODNR contracted with a private consultant to prepare a needs assessment for a Lake Erie Erosion Management Plan. This contract resulted in the production of a Conceptual Design Report (CDR) for a Lake Erie Shore Erosion Management Plan (LESEMP). The CDR outlines a multi-phase approach to developing a LESEMP, with an initial focus on acquiring capabilities and infrastructure within ODNR to collect data on the coast and coastal areas, collecting and reviewing available coastal information from within ODNR, and seeking other data that may provide useful in developing the LESEMP from other coastal partners. This project has been coordinated with other

previous and ongoing efforts by ODNR, including the Lake Erie GIS project, the Ohio Coastal Atlas, and the Coastal Geology Atlas.

The next step in developing the LESEMP is to synthesize the information gathered through these efforts, locate information gaps that exist, draw conclusions based upon the information, and incorporate those conclusions into an erosion management plan that provides the foundation for solutions to coastal erosion and flooding based on scientific research, the needs of coastal communities and property owners, and the need to protect and restore critical ecological resources. More discussion of the LESEMP can be found under the Coastal Hazards strategy section.

Since the last assessment, Section 309 funding has been used by the ODNR Division of Geological Survey for two sand monitoring-related projects. One project involved sand monitoring at a nearshore dredge material disposal area at Painesville Township Park, while the other project generated information on sand movement at a nearshore disposal area at Conneaut. The goal of these projects was to scientifically collect evidence as to whether dredged sand deposited in nearshore areas moves shoreward to nourish the beach and what disposal depth was most effective for sand movement in the nearshore area. A lack of sand resources continues to be of significant concern in Ohio. This affects human activities in the form of residential property erosion and lack of recreational beach areas as well as beach/dune habitat issues.

3. Summarize the risks from inappropriate development in the state, e.g., life and property at risk, publicly funded infrastructure at risk, resources at risk.

Risks are incurred in areas subject to lake-based erosion and flooding. Risks to property include loss of upland areas and destruction of structures due to the undermining of foundations and subsidence. Because of those risks, Ohio developed a coastal erosion area (CEA) permit program, although structures that existed prior to CEA designation were not required to obtain a permit. Data compiled by ODNR's Division of Geological Survey, Lake Erie Geology Group in 1998, revealed that approximately 30 percent of lakefront parcels are in designated coastal erosion areas (CEAs). The data from this study shows the approximate number of parcels and percent of lakeshore within CEAs. Data are arranged geographically by county from east to west.

| <u>County</u> | <u>Number of Parcels</u> | <u>% Lakeshore</u> |
|----------------|------------------------------|--------------------|
| Ashtabula | 500 | 22.4 |
| Lake | 590 | 26.4 |
| Cuyahoga | 107 | 4.8 |
| Lorain | 325 | 14.5 |
| Erie | 235 | 10.5 |
| Erie Islands | 57 | 2.6 |
| Sandusky | 14 | 0.6 |
| Ottawa | 190 | 8.5 |
| Ottawa Islands | 177 | 7.9 |
| Lucas | 39 | 1.7 |

While the areas subject to flooding are reasonably well known, the timing and occurrence of such flooding along the lake is highly unpredictable.

Publicly funded infrastructure (roads, etc.) is also at risk, primarily from lake-related erosion in areas where recession rates are highest. Despite erosion risks, more than 85 percent of Ohio's shore is already developed. The policy of the OCMP with regard to managing erosion hazards is to "encourage

strategic retreat where natural functions of bluffs, dunes, and coastal barriers can be maintained effectively and selective fortification to protect existing development vulnerable to long-term rapid erosion.” (OCMP Document, Policy 1 – Lake Erie Coastal Erosion Area Management, Part II 5-8)

Threatened and endangered resources are at risk where beach/dune complexes are de-stabilized or lost. The following species are especially vulnerable where beach/dune complexes exist and where they protect sensitive wetland communities:

FEDERALLY LISTED

Peregrine Falcon - Federally monitored
 Piping Plover - Federally Endangered
 Bald Eagle - Federally Threatened
 Lake Erie Water Snake - Federally Threatened

STATE LISTED

American Bittern - Endangered
 Bald Eagle - Endangered
 Black-crowned Night-Heron - Threatened
 Black Tern - Endangered
 Common Tern - Endangered
 Engelmann's Spikerush - Endangered
 Least Bittern - Threatened
 Little Blue Heron – Special Interest
 Peregrine Falcon - Endangered
 Piping Plover - Endangered
 Osprey - Endangered
 Snowy Egret - Endangered
 Beach Wormwood - Endangered
 Bushy Cinquefoil - Endangered
 Lake Erie Water Snake - Endangered
 Small-flowered Evening-primrose - Threatened
 Oakes' Evening Primrose - Threatened
 Floating Pondweed - Potentially Threatened
 Low Umbrella-sedge - Potentially Threatened
 Purple Sand Grass - Potentially Threatened
 Sea-rocket - Potentially Threatened
 Seaside Spurge - Potentially Threatened
 Schweinitz's Umbrella-sedge - Potentially Threatened
 Blanding's Turtle - Species of Concern
 Fox Snake - Species of Concern
 Ovate Spikerush – Endangered
 Olney's Three-square – Endangered
 Tuckerman's Panic Grass – Endangered
 Coastal Little Bluestem – Endangered
 Inland Beach Pea – Threatened
 American Beach Grass – Threatened
 Leafy Tussock Sedge – Potentially Threatened
 Alpine Rush – Potentially Threatened

Two areas of coastal beach/dune complexes (Sheldon Marsh and Headlands Dunes State Nature Preserves) were identified by the U.S. Fish & Wildlife Service in its restoration proposals for the piping plover.

Management Characterization

1. Indicate significant changes to the state's hazards protection programs since the last assessment.

| Mechanism | Changes Since Last Assessment |
|--|--|
| Building setbacks/restrictions* | None |
| Methodologies for determining setbacks | None |
| Repair/rebuilding restrictions | None |
| Restriction of hard shoreline protection structures | None |
| Promotion of alternative shoreline stabilization methodologies | ODNR is working with the USACE under WRDA Section 227 on a proposed alternative stabilization method at Sheldon Marsh State Nature Preserve. ODNR is also working on developing a Coastal Design Manual to be used by design professionals when preparing proposals for projects along Lake Erie. |
| Renovation of shoreline protection structures | None |
| Beach/dune protection | None |
| Permit compliance | ODNR is developing a Regulatory GIS database. |
| Inlet management plans | None |
| Special Area Management Plans | Mentor Marsh Area Special Area Management Plan completed |
| Local hazards mitigation planning | None |
| Local post-disaster redevelopment plans | None |
| Real estate sales disclosure requirements | No Change: Currently required (since 1998) for properties with a Coastal Erosion Area Designation |
| Restrictions on publicly funded infrastructure | None |
| Public Education and Outreach | OCM COPE Plan |
| Mapping/GIS/tracking of hazard areas* | Remapping of Coastal Erosion Areas to be completed by 2008 |

* Question/category is included in the National Coastal Management Performance Measurement System (NCMPMS).

2. For categories with changes:

Summarize the change

Specify whether it was a 309 or other CZM driven change and specify funding source

Characterize the effect of the changes in terms of both program outputs and outcomes

Promotion of alternative shoreline stabilization methodologies

- Under Section 227 of the U.S. Water Resources and Development Act of 1996, ODNR and the U.S. Army Corps of Engineers sought and obtained approval for a demonstration project at Sheldon Marsh State Nature Preserve to investigate innovative alternative shore stabilization methods. This barrier beach and wetland preserve is one of the few remaining coastal wetlands along Lake Erie. The objective of the project is to protect the barrier beach with innovative, unobtrusive technologies that stabilize the shore and retain the preserve's natural setting, biologic habitats, and ecological functionality. The concept is an armor stone block wide-crested nearshore reef matrix.

Led by the U.S. Army Engineer Research and Development Center, the Section 227 program objectives are to provide state-of-the-art coastal shore protection. Its emphasis is on evaluation of innovative or nontraditional approaches to help prevent coastal erosion and to improve shore sediment retention.

Applying the results of a physical model study that was completed in November 2003, a three-row staggered submerged breakwater system was recommended as being the most practical alternative for the demonstration project. This design was discussed with the ODNR in January 2004. A final set of model tests was completed in July 2004 to optimize the proposed design. The final alternative, to be implemented and monitored under the Section 227 Coastal Demonstration Program, will provide direct benefits to a Section 1135 Feasibility Study. The design of the project has been funded by federal sources under Section 227. Federal appropriations for the construction and monitoring of the project are also being sought under the Section 227 authority.

- The Coastal Design Manual is being developed by ODNR to clarify the information that needs to be provided with a Coastal Permits and Lease Application and identify the criteria to be relied upon for the review of applications. The manual will include such items as references to design equations, technical manuals, computer programs, data sources, and design processes. The manual will also include examples of how the design information for each structure should be provided with each application, as well as site specific information needed to properly evaluate each structure and its impacts. The project is being funded with CZM dollars and state matching funds.

Permit Compliance

- A Regulatory GIS Database is being developed to manage Office of Coastal Management regulatory data and enhance the administration of the Shore Structure Permit, Coastal Erosion Area Permit, Submerged Land Lease, and Federal Consistency programs. The database will eliminate multiple regulatory tables, which currently exist, and combine all regulatory data into one application that is geographically referenced. This Database will lead to greater efficiency in regulatory program administration and therefore enhance the OCMP's ability to obtain compliance with regulatory requirements.

Special Area Management Plans

- The Mentor Marsh Area Special Area Management Plan (SAMP) was completed in June 2004. The study area for the SAMP included the Mentor Marsh watershed, a portion of Fairport Harbor, and the Coastal Erosion Area to the western most boundary of the Eastlake power plant. This boundary was chosen because this area has the greatest influence on the coastal processes affecting the marsh and the beach ecosystem. Throughout the various SAMP development phases, described in the Special Area Management Planning enhancement area section, coastal hazards issues were identified as significant issues. Detailed implementation plans were developed for two strategies that focused on shore management and nearshore issues. The first strategy seeks to address insufficient sand supply through the establishment of sand bypass and beach nourishment requirements in Lake County and by discouraging the placement of fill material over beach and nearshore sand. The second strategy is focused on activities landward of the bluff edge and encourages land use planning, shore setbacks, control of dumping on bluffs and shore, and support for enforcement of existing state coastal regulations.

Public Education and Outreach

- The OCM Coastal Outreach and Public Education (COPE) Plan was developed in 2004 and includes five main objectives. The first objective is to increase internal and external understanding about Ohio's ecosystem and the region's relationship to prosperous coastal communities. Action 9 of this objective calls for the creation of coastal hazards education materials for various age groups and levels. Objective 5 seeks to improve education materials, outreach and training regarding coastal regulations and environmental laws. It lists five action items related to coastal hazards: 1) provide revised coastal guidance materials to reflect legislative changes to coastal regulations and make materials more user friendly; 2) work with the public and local communities to increase the understanding of coastal regulations; 3) encourage engineers designing coastal structures to participate in coastal engineering training activities; 4) establish Lake Erie Shore Erosion Management Plan; 5) coordinate with coastal partners to ensure coastal regulations and environmental laws outlined in the OCMMP are properly enforced. For a variety of reasons, coastal hazards education materials were not developed during this reporting period. Progress on these outreach and education objectives is expected during the upcoming planning period through the completion of the Lake Erie Shore Erosion Management Plan and the Coastal Design Manual, and through the development of outreach materials related to the Coastal Erosion Area remapping effort.

Mapping/GIS/tracking of hazard areas

- As outlined in Ohio Revised Code Section 1506-06 (E), at least once every ten years, ODNR shall review and may revise the identification of Lake Erie coastal erosion areas, taking into account any recent naturally or artificially induced changes affecting anticipated recession. The review and revision shall be done in the same manner as that provided for in the original preliminary and final identification completed in 1998. The review of the coastal erosion areas identified in 1998 has been initiated, and is expected to be completed by 2008. The project is being undertaken by the ODNR Division of Geological Survey. The project is being funded with CZM dollars and state matching funds.

3. Discuss significant impediments to meeting the 309 programmatic objectives, (e.g. lack of data, lack of technology, lack of funding, legal defensibility, inadequate policies. etc.)

Published information exists on proper coastal engineering design processes and standards for developing coastal projects. However, this information is not readily available in a concise, Ohio-

specific format to help guide people who are designing coastal projects. This has resulted in improper designs as well as delays in the project review process.

Coordination between the many entities involved in the development and authorization of coastal projects has improved as a result of a cooperative approach by the US Army Corps of Engineers, Ohio EPA, ODNR, and local government entities during the reporting period. Standard operating procedures for coordination between the state and federal agencies on coastal projects are being developed, and a joint review process for all coastal applications is being considered. All of the advances in coordination between the public agencies will need to continue moving forward to ensure that projects are properly designed and installed along the coast.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 strategy.

Public understanding and acceptance of the need for sound sand management practices is improving, but remains a gap that the OCMP seeks to bridge with more effective education and outreach. The Lake Erie Shore Erosion Management Plan and the Coastal Design Manual should assist with education and outreach by helping property owners understand the impact of their decisions upon sand resources. A lack of necessary staff to complete the Lake Erie Shore Erosion Management Plan and Coastal Design Manual impeded progress in this area during the reporting period.

2. What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?

| <u>Last Assessment</u> | | <u>This Assessment</u> | |
|------------------------|---|------------------------|---|
| High | | High | X |
| Medium | X | Medium | |
| Low | | Low | |

While ongoing and episodic erosion are still considered high risk phenomena, the management means are, for the most part, in place to address them. Two exceptions to this remain in the area of littoral sand management and permit compliance.

Littoral sand management will be addressed through ongoing sand management studies being done with Section 306 funds. Sand resources may also be studied as part of the Lake Erie Shore Erosion Management Plan.

NOAA conducted a Section 312 review of the OCMP in November 2003 and issued its final findings in February 2005. That evaluation cited the need for additional resources or program changes in the following area: monitoring and enforcement of the OCMP authorities of Submerged Land Leases, Shore Structure Permits, and Coastal Erosion Area Permits. The OCMP is developing a plan to address the issue, which has a direct bearing on the coastal hazards category.

In summary, the overall Coastal Hazards enhancement area has been changed to a high priority; but permit compliance is specifically identified as very important. Therefore, permit compliance ranks very high as an important resource protection mechanism and ODNR is seeking to improve the effectiveness of the OCMP in this area.

Strategy

Description of Changes

- The Office of Coastal Management (OCM) has plans in place to develop a *Lake Erie Shore Erosion Management Plan* (LESEMP). The objective of the LESEMP is to provide a plan that will aid local communities and individual property owners in addressing Lake-based erosion and flooding concerns, while resulting in the restoration of the shore and nearshore habitats and resources along Ohio's Lake Erie Coast.

The goal is to prepare a shore erosion management plan that is integrated with all levels of stakeholders. The plan will identify partnerships between federal, state and local governments and identify opportunities for funding so the projects can be implemented comprehensively. The plan will utilize information available from existing and future erosion studies and master plans and will include comparable efforts being undertaken by other federal, state and local agencies. The plan will also continue to be integrated with the Lake Erie GIS project, which will support the development and implementation of the overall shore erosion management plan, and portions will eventually be included in updates to the Ohio Coastal Atlas.

The LESEMP will be used by the Office of Coastal Management to support policy development that will focus on protecting and restoring valuable coastal resources and property. Specific issues to be looked at as part of this plan may include sand resources, beach preservation, types of structural and non-structural solutions to erosion problems, historical performance and monitoring of shore structures, effects of armoring the shore, engineering design guidance, and public education and outreach.

- A *Coastal Design Manual* will be developed to clarify the information that needs to be provided with a Coastal Permits and Lease Application and identify the criteria to be relied upon for the review of applications. The Manual will include such items as references to design equations, technical manuals, computer programs, data sources, and design processes. The Manual will include examples of how the design information for each structure should be provided with each application, as well as site specific information needed to properly evaluate each structure and its impacts. The Manual will reduce the amount of time Office of Coastal Management staff will need to work with consultants on a project-by-project basis to acquire the necessary information to determine a project's effectiveness and/or completely alter a project's design.

Anticipated Effect of Changes

- The LESEMP will result in program changes through adoption of formal guidelines and development of policy. Meaningful improvement in coastal resource management will also be accomplished through public education and funding incentives.

The Office of Coastal Management will also use the guidance document to support policy updates and/or development that will focus on protecting and restoring valuable coastal resources and property. Issues such as sand resources, cumulative and secondary impacts of structures, beach preservation/restoration and engineering design guidance will be considered. The policy will be used for making decisions under the Shore Structure Permitting and Coastal Erosion Area regulatory authorities and to enhance/strengthen non-enforceable program policies.

- The *Coastal Design Manual* will serve as a complement to and will be distributed with the Coastal Permits and Lease Application. Property owners, design consultants and contractors will have a better

understanding of the methodologies to be used when designing a coastal structure, which should lead to better proposals that are more likely to be approved in a shorter period of time. In conjunction with the Lake Erie Shore Erosion Management Plan, the Manual will be a published document that will back OCM regulatory decisions and policy changes regarding shoreline construction, the appropriate methods and appropriate projects for particular reaches of shore. It is the intention of OCM to work with consultants during the development of the Manual so they will be aware of any forthcoming changes in the application process and policy regarding coastal engineering projects.

Appropriateness of Changes

- The LESEMP is highly appropriate given the nature of Ohio's Lake Erie shore. Sand beaches that fronted most reaches of Lake Erie in Ohio have disappeared due to erosion and been replaced by erosion control structures built to protect urban development. Despite the presence of these structures, erosion continues to be a serious problem. This problem is often aggravated by adverse impacts associated with the structures, such as increased erosion of the nearshore, beaches and/or bluffs and loss of beach-building resources. Although these impacts exist, these structures have become an integral part of the Ohio lakeshore. Proper design of new erosion protection structures is critical, as well as the consideration of the benefits of natural barriers and combinations of structural and nonstructural measures and wise land use. Natural barriers include nonstructural erosion control measures designed to mimic, enhance or restore natural stabilization systems.

- The *Coastal Design Manual* is also very appropriate in that it serves to address findings in the most recent Section 312 NOAA review that cited the need for improved monitoring and enforcement of the coastal permits and lease program. The Manual will contain all the necessary information needed for a consultant to develop and submit complete and comprehensive applications. A more streamlined application will yield a decrease in the amount of time needed for technical reviews and increase the amount of time regulatory staff can spend on enforcement and monitoring. In addition, the Manual can be used as an educational tool to show Lake Erie stakeholders the importance of coastal engineering, producing an effective project and monitoring the results for future decision making. The Manual will allow OCM to educate professional engineers unfamiliar with coastal engineering on the best methods available to properly design a project along a coast. Typically, the more engineers involved will lead to more diverse and innovative ideas. The end result will be suitable designs for typical projects, but may also lead to different but effective projects that Ohio may not have seen in the past.

General Work Plan

- A draft project charter has been created for the LESEMP project and is anticipated to be completed by August 2006, when formal work on the project will begin. The Office of Coastal Management (OCM) has been selected as one of six coastal states to receive a National Oceanic and Atmospheric Administration (NOAA) Fellow for 2005-2007. A fellow could not be matched with OCM in 2005; however a match was made in spring 2006 with a fellow that is suitable for OCM's needs. The individual will assist in the development of the Lake Erie Shore Erosion Management Plan. During fiscal years 2006 to 2007, Section 306 funds will be used to fund OCM staff and the coastal fellow to perform outreach and public education, research existing information, conduct a gap analysis, and by early fiscal year 2008, develop a model guidance document for a determined reach of shore where sufficient existing information is available. The Final Guidance Document, including all reaches of Ohio's Lake Erie shore, estimated completion date has not been determined. This date is dependent on the outcome of the *Identification of Additional Studies/Projects* phase of the project. Once further studies/projects necessary to complete the project are identified, tasks and timeframes for the remainder of the project will be planned. The timeframes will be dependent on funding availability for

the outlined additional studies/projects. However, Section 309 funds will be used to assist in the development of the Final Guidance Document in fiscal years 2008 through 2010.

- The *Coastal Design Manual* will be developed during FY 2006 and FY 2007 in conjunction with the development of a new joint coastal permit and lease application. A consultant will be hired to develop the Manual using Section 309 funds and will work under the direction of OCM staff supported by Section 309 funds for this project. Tasks to be accomplished include the completion of the project scope and charter, an outline of the sections to be included in the Manual, research for each section of the Manual, development of the text and graphics, and production of the Manual. The Manual will undergo both internal and external reviews prior to final production and distribution.

Cost Estimate

- The LESEMP is expected to cost approximately \$93,000 in Section 309 funds for staff time over fiscal years 2008 to 2010. These funds will be supplemented by Section 306 funds. Staff time in FY 2006 and FY 2007 will be paid with Section 306 funds. Additionally, NOAA will pay approximately 80 percent of the coastal fellow's \$32,000 annual salary plus benefits through the fellowship program. State match in the amount of \$7,500 for each year has been allocated.

- Creation of the *Coastal Design Manual* will be accomplished over two years. In FY 2006, \$63,964 of Section 309 funds will be used to initiate a consultant contract and pay for Office of Coastal Management staff to oversee development of the Manual. In FY 2007, \$48,000 of Section 309 funds will be used to complete the consultant contract and pay for OCM staff administration of the project. The manual will be distributed online and with coastal permit and lease application packages.

Likelihood of Success

The likelihood of success for both projects is relatively high, given the fact that a significant amount of preparation and planning has been conducted for each of the initiatives. The Office of Coastal Management has already begun preliminary work on both of the changes proposed in this section.

Fiscal and Technical Needs

- The LESEMP will be accomplished in stages through a combination of funding. Research of existing data and a gap analysis will be completed in the first phase utilizing the coastal fellow and OCM staff funded under Section 306. Completion of the final plan will be accomplished using Section 309 funds and Section 306 funds as available. Technical assistance needed to complete the plan will be identified during the first phase.

- Although existing OCM staff has most of the expertise necessary to develop the Coastal Design Manual, limited hours are available due to other project workloads. A consultant will be hired to complete the Manual under the direction of OCM staff. The U.S. Army Corps of Engineers will also be involved in the development of the Coastal Design Manual.

Performance Measure

NOAA is encouraging and supporting state coastal program participation in the National Coastal Management Performance Measurement System (NCMPMS) in part by allowing the use of Section 309 funds towards meeting performance measurement goals. The Performance Measurement System consists of six performance measurement categories: Public Access; Government Coordination &

Decision Making; Coastal Habitat; Coastal Water Quality; Coastal Hazards; and Coastal Dependent Uses & Community Development.

Approximately \$9,000 of Section 309 funds will be used per year during FY 2006 through FY 2008 to address the coastal hazards performance measure. In FY 2006, efforts will be focused on developing and implementing tracking mechanisms within the Office of Coastal Management and coordinating with other agencies to obtain the required information. A bi-annual survey will be developed and conducted in FY 2007 to aid in the continuous tracking of required information. Based on the survey results, tracking mechanisms will be revised and new data will be incorporated into the performance measure reporting in FY 2008. In addition, a summary document will be produced in FY 2008 highlighting coastal program accomplishments as documented through the NCMPPMS.

Ocean/Great Lakes Resources

Section 309 Programmatic Objectives

- I. Develop and enhance regulatory, planning, and intra-governmental coordination mechanisms to provide meaningful state participation in ocean and Great Lakes resource management and decision-making processes.
- II. Where necessary and appropriate, develop a comprehensive ocean and Great Lakes resource management plan that provides for the balanced use and development of ocean and Great Lakes resources, coordination of existing authorities, and minimization of use conflicts. These plans should consider, where appropriate, the effects of activities and uses on threatened and endangered species and their critical habitats. The designation of specific marine protected areas should be considered.

Resource Characterization

1. In the table below characterize ocean and/or Great Lakes resources and uses of state concern, and specify existing and future threats or use conflicts.

| Resource or Use | Threat or Conflict | Degree of Threat | Anticipated Threat or Conflict (Potential Future Threats) |
|----------------------|---|------------------|--|
| Water Quantity | Diversions outside basin | Low | Unsustainable water withdrawals if Annex 2001 is not ratified by State Legislatures and U.S. Congress |
| Water Quality | Open lake disposal of Toledo Harbor sediments | Medium | Ecosystem impacts from turbidity and contaminants if open Lake disposal of Toledo Harbor sediments continues |
| Sand | Insufficient amounts and disruption of littoral processes | High | Continued trapping of sand and covering over of sand by shore structures |
| Coastal Habitat | Absence of overarching plans and coordination | Medium | Loss of coastal habitat and economic value; and missed opportunities for preservation |
| Native Species | Introduction and proliferation of invasives | High | Displacement of native species and degradation of native ecosystems |
| Land/Water Interface | Erosion of bluffs | High | Negative economic impacts from loss of property and infrastructure |

2. Describe any changes in the resources or relative threat to the resources since the last assessment.

Regarding water quantity, on November 10, 2005, the Great Lakes governors' and premiers' staffs finalized a proposal to implement Annex 2001. The finalized Annex Implementing Agreements will help improve the health and economic vitality of the Great Lakes and will protect the Great Lakes for future generations. The Governors and Premiers all signed the agreement at the Council of Great Lakes Governors' Leadership Summit on December 13, 2005, in Milwaukee, Wisconsin. The new agreements will improve and protect the health and economic vitality of the Great Lakes ecosystem for future generations. Thousands of citizens and organizations helped create these agreements, and the

Governors and Premiers are committed to continuing this open process with public involvement. The Annex must still be approved by each Great Lakes state's legislature and by the U.S. Congress.

Nearshore dredge disposal at Toledo Harbor continues to be an issue of concern to many parties. However, several encouraging developments have taken place over the past few years. One is that Ohio EPA has encouraged the U.S. Army Corps of Engineers to phase out open lake disposal over the next decade. This has come as a result of conditions placed in Section 401 Water Quality Certifications issued by Ohio EPA to the U.S. Army Corps of Engineers. The Maumee Bay habitat restoration unit, a concept to help eliminate open lake disposal and create additional habitat, came as a result of increased cooperation among ODNR, Ohio EPA, and the U.S. Army Corps of Engineers.

No major changes have occurred with respect to sand resources since the last assessment, although Section 309 funding was used by the ODNR Division of Geological Survey for two sand monitoring-related projects. These projects involved sand monitoring at nearshore dredge material disposal sites to assess the viability of such placement in mitigating the effects of littoral process disruption by shore structures. A lack of sand resources continues to be of significant concern in Ohio. This affects both habitat issues (i.e. lack of beach/dune habitat) and human activities (i.e. erosion of residential property and lack of recreational beach areas).

Coastal habitat issues have not significantly changed since the last assessment. However, efforts have been undertaken by the Office of Coastal Management to map, identify, and otherwise understand the coastal habitats during that time period. Recently, OCM has created and published the first edition of the *Ohio Coastal Atlas*, which maps many aspects of Ohio's coastal habitats. Additionally, OCM has partnered with other divisions of the Ohio Department of Natural Resources to create a *Coastal Internet Maps Site* system that is free and available to the public. This site allows users to create their own land use/habitat maps using the many data layers available through the system.

Invasive species remain a source of significant concern in Ohio. The proliferation of zebra and quagga mussels, round gobies, and giant reed demonstrated the destruction that can be caused by invasives. A recent concern has been the potential introduction into the Great Lakes Basin of several Asian carp species, for which an electric barrier was placed in the Chicago Sanitary and Ship Canal during the reporting period. Some efforts have been made to prevent widespread introduction of these species into Lake Erie, but the ultimate extent of their effects remains unknown. Far greater efforts covering a wide array of methods must be made to prevent invasive species introduction and the continued displacement of native species. While invasive species remain a significant source of concern in Ohio, the Ohio Department of Natural Resources' Divisions of Natural Areas and Preserves, Parks and Recreation, and Wildlife are working to address this issue at the state level. Regional efforts are underway by the Great Lakes Panel on Aquatic Nuisance Species that was convened in 1991 in response to section 1203 of the Non-indigenous Aquatic Nuisance Prevention and Control Act of 1990 (P.L. 101-646) and by the Invasive Species Committee of the Great Lakes Basin Ecosystem Team of the U.S. Fish and Wildlife Service.

Regarding the land/water interface, applications for permits to build shore structures have continued to be submitted at a steady rate while water levels have stood at a relatively average height.

Management Characterization

1. Identify significant state ocean and/or Great Lakes management programs and initiatives developed since the last assessment:

| Category | Programs and Initiatives Developed since last assessment |
|---|---|
| Statewide comprehensive ocean/Great Lakes management statute | None |
| Statewide comprehensive ocean/Great Lakes management plan or system of Marine Protected Areas | <i>Coastal Research Advisory Group</i> |
| Single purpose statutes related to ocean/Great Lakes resources | <i>Annex 2001</i> (to the Great Lakes Charter) has been signed by Great Lakes governors |
| Statewide ocean/Great Lakes resources planning/working groups | Reactivation of the Ohio Coastal Management Program's <i>Integrated Management Team</i> and <i>Policies & Programs Coordinating Committee</i> ; Ohio Lake Erie Commission's <i>Balanced Growth Initiative</i> |
| Regional ocean/Great Lakes resources planning efforts | <i>Coastal and Estuarine Land Conservation Program Plans</i> are being developed by Ohio and the other Great Lakes states |
| Ocean/Great Lakes resources mapping or information system | <i>Ohio Coastal Atlas</i> and <i>Coastal Internet Map Server</i> developed by the Office of Coastal Management |
| Dredged material management planning | Development of a <i>Habitat Restoration Unit</i> concept for Toledo Harbor dredged sediments |
| Habitat research, assessment, monitoring | <i>Ohio Coastal Atlas</i> is intended to be used for habitat research by local decision makers; <i>Coastal Research Advisory Group</i> created by Office of Coastal Management; <i>Coastal Habitat Mapping Initiative</i> led by the Office of Coastal Management |
| Public education and outreach efforts | <i>Coastal County Forums</i> , <i>Coastal Outreach and Public Education Plan</i> implemented by the Office of Coastal Management; <i>Ohio Coastal Training Program</i> implemented through a multi-agency partnership |
| Other: Federal coordination efforts | The <i>Great Lakes Regional Collaboration</i> is a cooperative effort led by U.S. EPA to design and implement a strategy for the restoration, protection and sustainable use of the Great Lakes. |

2. For categories with changes:

Summarize the change

Specify whether it was a 309 or other CZM driven change and specify funding source

Characterize the effect of the changes in terms of both program outputs and outcomes

Statewide comprehensive ocean/Great Lakes management plan or system of Marine Protected Areas

- The Office of Coastal Management initiated the *Coastal Research Advisory Group* during the reporting period. The group includes executive staff from Ohio Sea Grant, the Ohio Lake Erie Commission Office, the Office of Coastal Management and Old Woman Creek National Estuarine Research Reserve. The goals of the group are to provide better coordination of research activities and to identify research priorities throughout Ohio's coastal area.

Single purpose statutes related to ocean/Great Lakes resources

- The *Annex 2001* is not necessarily a change; rather, it implements standards and environmental protections regarding potential diversions of Great Lakes water outside of the basin. There was no Section 309 funding provided for this project. However, CZM Section 306 funding was provided for this project and a supporting water quantity analysis project.

Statewide ocean/Great Lakes resources planning/working groups

- The *Integrated Management Team* (IMT) is described in Part II 4-22 of the federally approved Ohio Coastal Management Program Document. The stated purpose of the IMT is to assist in coordinating and executing coastal management responsibilities. The group originally began meeting in June, 1997, and the participants were staff members from various ODNR divisions. The Office of Coastal Management recognized a need for increased communication and coordination among ODNR divisions to facilitate more effective coastal management within the Department. To this end, the IMT was refocused in 2004 and meets quarterly. There was no Section 309 funding provided for the IMT, although it is a CZM-driven initiative.

- The purpose of the *Policies and Programs Coordinating Committee* (PPCC), as described in Part II 4-23 of the federally approved Ohio Coastal Management Program Document, is to ensure continuing communication among the agencies networked in the Ohio Coastal Management Program and to help coordinate the activities of the agencies. Similar to the IMT, the Office of Coastal Management has recently made an effort to refocus the PPCC. There was no Section 309 funding provided for the PPCC, but it is a CZM-driven initiative.

- Ohio's *Balanced Growth Initiative*, administered by the Ohio Lake Erie Commission, is a strategy to protect and restore Lake Erie and its watersheds to assure long-term economic competitiveness, ecological health, and quality of life. There was no Section 309 funding provided for this Initiative, but CZM funding may be provided for projects that will support the Initiative. CZM funding has also been provided for Ohio Lake Erie Commission staff to implement the Initiative.

Regional ocean/Great Lakes resources planning efforts

- The *Coastal and Estuarine Land Conservation Program* (CELCP) provides federal funding for projects that ensure conservation of these areas for the benefit of future generations. Ohio's eligibility for competitive CELCP funding is contingent upon the development of a plan for conservation of open spaces and natural areas. The Office of Coastal Management has created such a plan for Ohio. There was no Section 309 funding provided for the CELCP, but CZM funding was used for the creation and administration of the program.

Ocean/Great Lakes resources mapping or information system

- The first edition of the *Ohio Coastal Atlas* was complete and distributed during 2005. The Atlas contains maps of a wide variety of coastal resources. Based on feedback received on the first edition and internal goals, the second edition of the Atlas will contain significant additional information. It will be printed and available for distribution in January, 2007.

- The Office of Coastal Management and several network partners developed a *Coastal GIS Map Viewer and Internet Map Server* product to enable users to create their own custom maps for the Lake Erie watershed. This site was launched September 22, 2005 and is being enhanced to allow users to download additional data layers. Section 309 funding was used for both projects. Potential program changes will be identified after the second edition of the Ohio Coastal Atlas is created and after the Internet Map Site is at full capacity.

Dredged material management planning

- The Office of Coastal Management, along with other Ohio Department of Natural Resources divisions and offices such as Real Estate and Land Management, Wildlife, Geological Survey, and Legislative Services, has worked closely with the U.S. Army Corps of Engineers and Ohio Environmental Protection Agency to develop a *Habitat Restoration Unit(s)* in Maumee Bay. The Unit(s) would utilize dredged materials from the Toledo Harbor federal navigation channel and would provide for the beneficial use of the materials as coastal habitat rather than open-lake disposal of the materials, which has been the current practice. Pursuant to a Memorandum of Understanding signed by the Ohio Department of Natural Resources, Ohio EPA, and the U.S. Army Corps of Engineers, a specific project should be decided upon by July 31, 2008. To this point, 309 funding has not been used for this project.

Habitat research, assessment, monitoring

- The *Ohio Coastal Atlas*, referenced earlier, was designed in part as a tool for habitat research and assessment by local decision-makers and is a significant change in this category. Additionally, the Office of Coastal Management initiated the Coastal Research Advisory Group. The group includes executives from Ohio Sea Grant, the Ohio Lake Erie Commission Office, the Office of Coastal Management and Old Woman Creek National Estuarine Research Reserve. The goals of the group are to provide better coordination of research and to identify research priorities. Additionally, the Office of Coastal Management has recently initiated the Coastal Habitat Mapping Initiative and has been involved in efforts to update the National Wetlands Inventory, both of which are described further in the Wetlands enhancement category of this document.

Public education and outreach efforts

- The Office of Coastal Management implemented the *Coastal County Forum* program since the last assessment. In 2005, the Office planned and hosted a series of six forums with local decision makers from the nine counties with territory in Ohio's coastal zone. This first series of forums provided background on the Ohio Coastal Management Program, Office of Coastal Management and a few of the many partner agencies including Ohio Sea Grant, Ohio Lake Erie Commission and the *Ohio Coastal Training Program*. Old Woman Creek National Estuarine Research Reserve, the Office of Coastal Management and the Ohio Sea Grant College Program are working together to administer a comprehensive coastal management training program. The Ohio Coastal Training Program provides the best available science-based information, tools and techniques to people whose decisions directly

affect Ohio’s coastal resources. No Section 309 funding has been used for either effort, but the Forum program is a CZM-driven initiative.

Federal coordination efforts

- The Great Lakes Regional Collaboration is a cooperative effort led by U.S. EPA to design and implement a strategy for the restoration, protection and sustainable use of the Great Lakes. The Ohio Department of Natural Resources has been active in commenting on and providing recommendations for the collaboration. No Section 309 funding has been used for this effort, and the potential of federal funding for activities outlined in the collaboration continues to be a national issue.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

Great Lakes Resources have received a considerable amount of attention at the regional and national level over the past several years, particularly because of the interest generated by the *Annex 2001* and the *Great Lakes Regional Collaboration*. The Office of Coastal Management has made considerable progress in this area through the *Ohio Coastal Atlas* and the *Coastal GIS Map Viewer and Internet Map Server* product, but other tools are needed to address Ohio’s coastal resources. One such tool is an erosion management plan which is discussed in the Coastal Hazards section of this document. In addition, the economic value of coastal resources in Ohio has not been adequately identified. Such information would be a valuable tool which could provide important information for local land use decision-makers as they work to balance development and preservation needs.

2. What priority was this area previously and what priority is it now for developing a 309 strategy and designating 309 funding and why?

| <u>Last Assessment</u> | <u>This Assessment</u> |
|------------------------|------------------------|
| High | High X |
| Medium | Medium |
| Low | Low |

This area was not included in Ohio’s previous Section 309 Assessment but is a high priority for the Office of Coastal Management.

Strategy

Description of Change

The *Coastal Economy Project* will result in the compilation of existing research and the initiation of new research to characterize the coastal economy in Ohio. The project will be completed in two phases. The first phase will summarize economic data already collected through the National Ocean Economics Program. This will provide the OCMP with a “snapshot” of Ohio’s coastal economy. The first phase report will be considered by a steering committee to provide direction for a second phase, which will include new research that will measure the impact of Ohio’s coastal resources to the state’s economy. Once the relationship between coastal resources and the coastal economy is more clearly understood, it can be shared with local communities and planners to positively affect the economic well being of the coastal region. It is hoped that this understanding will lead to decision-making that reduces cumulative and secondary impacts and enhances existing coastal resources.

Anticipated Effects of Change

The *Coastal Economy Project* will provide an analysis of the current state of Ohio's coastal economy and will quantify the value of specific Great Lakes resources to Ohio's economy. This information can then be used to help guide local land use decisions by encouraging the consideration of the value of coastal resources in their decisions. The anticipated program change that would result from this project is the consideration of revisions to Ohio's CELCP Plan, which will likely include the value of specific Great Lakes resources in the prioritization of lands to be acquired through the program.

Appropriateness of Change

Understanding the economic value of coastal resources is vital to promoting healthy and vital ecosystems and prosperous coastal communities. Land use decisions are based on many factors and should include the economic value of specific resources.

General Work Plan

The *Coastal Economy Project* will impact both the state and local levels by providing important information on the relationship between coastal resources and their economic benefits to communities. This information will help inform land use decisions and lead to a reduction in cumulative and secondary impacts. Preparation for the first phase of the *Coastal Economy Project* is underway and should be completed by the end of FY 2007. Based on the economic summary produced in the first phase, the second phase will address gaps in information using original research efforts and result in a final analysis and summary document. The *Coastal Economy Project* is to be contracted out to an entity with experience and a reputation for excellence in the field of natural resource economics. A steering committee comprised of staff from various state, academic, and local entities is expected to provide the guidance needed for the contractor to supply a quality product in FY 2010. The results of both phases will be shared with local communities, planners, and organizations in the coastal region through training sessions/workshops in FY 2010. The training sessions/workshops will also include the information and mapping products that result from the Coastal Habitat Mapping Initiative outreach efforts described under the Wetlands section of this document and could be developed in coordination with the Ohio Coastal Training.

Cost Estimate

The first phase of the *Coastal Economy Project* is expected to be funded from Section 306 funds. Planning and funding for the second phase have not been finalized, but it is estimated to cost at least \$135,000 due to the original research and analysis that must be performed by an outside expert(s) which would be funded from Section 309. The training sessions/workshops will be funded with Section 306 funds.

Likelihood of Success

The likelihood of success for this project is relatively high, given the fact that a significant amount of preparation and planning has already been conducted for this initiative.

Fiscal and Technical Needs

The *Coastal Economy Project* will almost entirely rely on outside expertise, both from a contractor to provide the final product to the steering committee that will be made up of experts from throughout Ohio.

Wetlands

Section 309 Programmatic Objectives

- I. Protect and preserve existing levels of wetlands, as measured by acreage and functions, from direct, indirect and cumulative adverse impacts, by developing or improving regulatory programs.
- II. Increase acres and associated functions (e.g. fish and wildlife habitat, water quality protection, flood protection) of restored wetlands, including restoration and monitoring of habitat for threatened and endangered species.
- III. Utilize non-regulatory and innovative techniques to provide for the protection and acquisition of coastal wetlands.
- IV. Develop and improve wetlands creation programs.

Resource Characterization

1. Extent of coastal wetlands

| Wetlands Type* | Extent (acres & year of data)* | Trends (acres/year)* |
|----------------------------|---------------------------------------|----------------------|
| Tidal | Not applicable | Not applicable |
| Non-tidal/Freshwater | 33,000 acres in 2003 | Maintaining |
| Publicly Acquired Wetlands | At least 245 acres in 2004 | No data available |
| Restored Wetlands | At least 4707 acres between 1998-2003 | Increasing |
| Created Wetlands | No data available | No data available |
| Other _____ | | |

*Question/category is included in the National Coastal Management Performance Measurement System (NCMPMS).

2. If information is not available to fill in the above table, provide a qualitative description of wetlands status and trends based on the best available information. Also, identify any ongoing or planned efforts to develop quantitative measures for this issue area. Provide explanation for trends.

Middle Bass Island and North Bass Island

The acquisition of 124 acres on Middle Bass Island in 2000-2001 featured nearly one mile of Lake Erie shore, a harbor and marina, natural areas with endangered plant and wildlife species, wetlands and unique glacial groove formations. In 2004, an additional 17 acres was purchased, which included some wetlands.

In 2004, ODNR acquired 591 acres or 87% of North Bass Island in Lake Erie, to protect one of the last remaining undeveloped islands in the Great Lakes. The acquisition utilized state, U.S. Fish & Wildlife Service, and NOAA funds to purchase the land. The purchase includes nearly 2.5 miles of undeveloped shore, 58 acres of natural coastal wetlands, unique geological features, and numerous state and federal threatened and endangered species. The state plans to keep the island in its natural setting, offering low-impact recreation.

East Sandusky Bay Preserve MetroPark

This 1200-acre protected property is an extraordinary naturally functioning freshwater marsh located between Cleveland and Toledo in Erie County. The East Sandusky Bay is an important stopover point along one of the largest bird migratory routes in the eastern United States. In 2002, the Cleveland Museum of Natural History and The Nature Conservancy sold the 956-acre Putnam Marsh to the Trust for Public Land, which added an adjacent 73 acres. In the same year, ownership of the Marsh was turned over to Erie MetroParks. The Trust for Public Land transferred the two properties totaling 1,029 acres to become part of the 1200-acre East Sandusky Bay Preserve in 2003. In 2004, another 169 acres of freshwater wetlands were added to the Preserve. Funding for these acquisitions came from Federal, State and private sources including the Clean Ohio Conservation Fund, the Ohio Department of Natural Resources and NOAA's Coastal and Estuarine Land Conservation Program (CELCP).

Bass Lake

In 2003, Geauga County, the Trust for Public Land, the Geauga Park District and the Chagrin River Land Conservancy partnered to protect this unique landscape located at the headwaters of the scenic Chagrin River. The lake is not in Ohio's Coastal Management Area but is in the Lake Erie watershed. The 574 acres of pristine lake, wetland and woodland provide crucial habitat for a diversity of plants and animals. Funding was made possible through Ohio EPA's Water Resource Restoration Sponsor Program (WRRSP).

Aurora Wetlands

The Trust for Public Land, the City of Aurora and Chagrin River Land Conservancy protected 250 acres of green space including critical wetlands and natural area in February 2005. This project was funded, in part, by the Ohio EPA's WRRSP. The acquisition protects some of the most sensitive wetlands in the area. The wetlands are located outside of Ohio's Coastal Management Area but are in the Lake Erie watershed.

NOAA Coastal Change Analysis Program (C-CAP)

The C-CAP is a nationally standardized database for land cover and change information, developed using remotely sensed imagery, for the coastal regions of the U.S. The C-CAP mapping boundary was determined using the inland extent of estuarine drainage basins in portions of Lucas, Ottawa, Sandusky, and Lake Counties. Land cover and change data for Ohio was collected for the period 1996-2001 using Landsat imagery, with field investigators participating in field collection of verification points in 2001 and 2002. For the study areas in Ohio, the C-CAP showed a net decrease in wetlands of approximately 45 hectares.

Great Lakes Coastal Restoration Grants

These grants have enabled progress towards preserving shore habitat, protecting and restoring riparian corridors and increasing public access. Coastal watershed wetlands protected since the 2001 Assessment include:

- 15 acres of wetlands located in a 100-year floodplain in Ottawa county that preserve wildlife habitat and a natural area adjacent to property already publicly owned,
- 16 acres of sensitive wetlands and more than 2,600 linear feet of Cuyahoga River tributaries that were added to an adjacent preserve,

- 14.5 acres of Grand River floodplain wetlands in Lake County,
- approximately two acres of high quality wetlands included in a Geauga County stream acquisition project, and,
- 76 acres of riparian and wetland habitat along the Chagrin State Scenic River.

The Office of Coastal Management will seek to obtain data on wetlands status and trends as part of the Coastal Habitat Mapping Initiative and National Wetlands Inventory efforts and through working with Ohio Coastal Management Program partners and other agencies.

3. Characterize direct and indirect threats to coastal wetlands, both natural and man-made. For threats identified, provide the following information: scope of threat, recent trends, and impediments to addressing the threat.

Development/Fill – The coastal area’s lacustrine and palustrine wetlands are potentially threatened by development activities near or along the shore. However, it is extremely difficult to quantify the extent of associated losses since the last Assessment, because incremental losses, partial habitat alterations, and cumulative and secondary effects are difficult to measure. One indicator of wetland impacts for Ohio’s Coastal Management Area is public notices for Section 404 permit applications issued by the Buffalo District, U.S. Army Corps of Engineers. The majority of the public notices over the past several years related to wetland impacts in Ohio’s Lake Erie watershed are for private, rather than public, development. This indicates that there is a continuing trend of private filling and/or development of wetlands.

In response to a January, 2001 United States Supreme Court ruling that regulation of isolated wetlands is a state issue, rather than federal, Ohio Governor Bob Taft signed into law an isolated wetlands protection bill in July, 2001. This bill established a permanent permitting process for isolated wetlands that outlines three levels of review. The level of review depends on the type and size of the isolated wetland and results in either a general or individual State isolated wetland permit.

Wetland regulations are being implemented and mitigation is being required to address impacts. However, in state fiscal year 2004 well over half of the isolated wetland mitigation projects and over a quarter of the jurisdictional wetland mitigation projects in Lake Erie watersheds took place outside of the immediate watershed of impact. Local watershed groups and environmental organizations have expressed concern not only with the location of some mitigation as stated above but with the replacement quality of mitigation projects. In February 2006, the Ohio EPA issued draft wetland/stream mitigation rules for public comment. The draft rules are intended to improve the quality of and ability to evaluate mitigated wetlands and streams.

Erosion and Lake Levels – Although variable, lake levels generally have been normal or slightly below normal during the reporting period due to lower levels of precipitation in the upper Great Lakes Basin. The effect on coastal marshes has been significant. Lower water levels have been conducive to the increase of invasive aquatic plant species such as giant reed (*Phragmites australis*).

The most serious impediments to addressing this threat are the costs of artificial dikes, natural weather patterns and spiraling costs of controlling invasive species. These issues require implementation of new management methods.

Pollution – The primary threat from this factor is nonpoint source pollution. In 1988, the state’s Nonpoint Source Assessment and Management Plan identified hydrologic/habitat modification activities as the principal nonpoint source threat to wetlands in Ohio. Inadequate erosion control and storm water runoff control measures can result in the downstream siltation of aquatic habitats

including wetlands. Suburbanization of agricultural areas near coastal cities, along with its associated runoff, combined sewer overflow, and other nonpoint source pollutants is a major concern to coastal managers and urban planners.

The primary impediment to addressing this threat is numerous small independent activities that are resulting in nonpoint pollution impacts in adjacent wetlands and waterways. At present, these cumulative impacts have not been quantified.

Aquatic Nuisance or Exotic Species – Aquatic nuisance species, particularly purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*) and giant reed (*Phragmites australis*) continue to be extremely serious threats to coastal wetlands in the Lake Erie region. Purple loosestrife has invaded coastal marshes at an alarming rate over the past several years, and giant reed and reed canary grass are rapidly becoming more aggressive. All three plants have the ability to readily create monocultures in Lake Erie coastal wetlands, replacing beneficial native plant species and destroying habitat and food sources for marsh-dependent fish and wildlife. Carp and other exotic fish species continue to be a serious problem, contributing to turbidity; thereby adversely affecting the germination and growth of aquatic plants and interfering with the spawning success and competition for food resources of other fish species.

The trend over the past few years has been an increase in wetland degradation by exotic and nuisance species, although importation, possession and sale of purple loosestrife were banned in Ohio several years ago. Ohio has developed a statewide nonindigenous invasive species plan that also includes exotic animal species such as the zebra mussel (*Dreissena polymorpha*) and round goby (*Neogobius melanostomus*), and others.

The most significant impediment to controlling nuisance species is the extreme difficulty in preventing new introductions, considering the various means and routes of transport. Also, the three problematic plant species are not well controlled by mechanical means, and therefore chemical control, which could cause additional concerns, is required.

Management Characterization

1. Within each of the management categories below, identify changes since the last assessment.

| Management Category | Change since last assessment |
|---|---|
| Regulatory Program | None |
| Wetlands Protection Policies and Standards | Ohio Wetland Restoration and Mitigation Strategy Blueprint |
| Assessment Methodologies (health, function, extent) | None |
| Impact Analysis | None |
| Restoration / Enhancement Programs | Update to the Lake Erie Quality Index |
| SAMPs | Mentor Marsh Area Special Area Management Plan completed |
| Education/Outreach | Ohio Coastal Training Program and 1 st edition of Ohio Coastal Atlas |
| Wetlands Creation Programs | None |
| Mitigation Banking | None |
| Mapping/GIS/tracking systems | Updates to Ohio Natural Heritage Database |
| Acquisition Programs | Coastal and Estuarine Land Conservation Program (CELCP) |
| Publicly funded infrastructure restrictions | None |

2. For categories with changes provide the following information for each change:

Characterize the scope of the change
Describe recent trends
Identify impediments to addressing the change

Wetlands Protection Policies and Standards

- The Ohio EPA and ODNR have worked together to develop a model for the identification of priority areas throughout the state for the development of wetland mitigation and restoration. Additionally, Ohio EPA and ODNR undertook an initiative to identify high quality wetlands in Ohio that should be earmarked for protection. A GIS model utilizing stakeholder input and a structured planning process were developed. This model is available to make decisions on the location of wetland restoration and mitigation projects for private or public endeavors.

Restoration / Enhancement Programs

- In 1998, the Ohio Lake Erie Commission released the *Lake Erie Quality Index* that gathered available data measuring the status or quality of the Lake Erie ecosystem, established specific goals, and devised scoring systems to communicate the current condition of the lake to the citizens of Ohio. The resulting *Lake Erie Protection & Restoration Plan* proposed implementation of 84 strategic actions for improving the environment, recreational opportunities, and economy of the Lake Erie region and assigns each strategy to the respective State of Ohio agency that could best address these concerns. A

2004 version of the *Lake Erie Quality Index*, released by the Lake Erie Commission is an update of the 1998 Index.

The wetlands metric is based on efforts to reverse the trend of wetland loss within the Lake Erie marsh area. No complete inventories have been made to the total wetland acreage in the Lake Erie region since that time. However, it is known that from 1998-2003 Ducks Unlimited and ODNR have protected another 70 acres and restored/enhanced 3941 acres. Another 766 acres have been restored through the CRP and CREP programs. Although these numbers do not include all Lake Erie watershed wetland protection and restoration projects, they are enough to raise the rating for this metric from Fair in 1997 to Good in 2004.

Special Area Management Plans (SAMPs)

- The Mentor Marsh Area SAMP was completed in June 2004. The study area for the SAMP included the Mentor Marsh watershed, a portion of Fairport Harbor, and the Coastal Erosion Area to the western most boundary of the Eastlake power plant. This boundary was chosen because this area has the greatest influence on the coastal processes affecting the marsh and the beach ecosystem. Throughout the various SAMP development phases, described in the Special Area Management Planning enhancement area section, wetland issues were identified as significant issues. Detailed implementation plans were developed for three strategies related to wetlands. The first strategy addressed wetlands mitigation through the tracking of developments and permit requests and identifying willing cooperators for mitigation opportunities to keep wetland mitigation projects and dollars in the Mentor Marsh Watershed. The second strategy focused on flora diversity loss recommending that exotic species be monitored and addressed, existing flora be inventoried continually, habitat restoration occur for native plant communities, and target areas be monitored for success or failure. The third strategy focused on hydromodification and recommended public education about the marsh's hydrology and the related impacts and it proposed installation of a check valve between the marsh and the Grand River to prevent pollution from entering from the river and to regulate water flow.

Education/Outreach

- A new education and outreach effort since the last Section 309 Evaluation is the Ohio Coastal Training Program. This NOAA-sponsored National Estuarine Research Reserve initiative is headquartered at Old Woman Creek National Estuarine Research Reserve and is operated as a partnership between the Reserve, the Ohio Coastal Management Program and the Ohio Sea Grant Program. The Coastal Training Program offers accessible, science-based information and technical training about current Lake Erie coastal and watershed issues, including wetlands. The Coastal Training Program works closely with its partners to better serve the information needs of coastal decision-makers.

Mapping/GIS/Tracking

- The ODNR Division of Natural Areas & Preserves has converted the *Ohio Natural Heritage Database* to a GIS system that tracks the locations of rare species in wetlands. They are now using GPS equipment to map the locations of rare species and plant communities in wetlands and are utilizing GPS/GIS tools to map the extent of invasive species and the ecological management of invasive species in wetlands. The Division has also used GIS tools to identify and conduct site analysis on coastal wetlands. A portion of this work has been funded with Section 306 CZM funds.

Acquisition Programs

- The *Coastal and Estuarine Land Conservation Program* (CELCP) provides federal funding for projects that ensure conservation of these areas for the benefit of future generations, and that can be effectively managed and protected. Ohio's eligibility for competitive CELCP funding is contingent upon the development of a plan for conservation of open spaces and natural areas. The Office of Coastal Management has created such a plan for Ohio and has submitted it to NOAA for approval. There was no Section 309 funding provided for the CELCP, but CZM funding was used for the creation and administration of the program.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

Priority needs and major gaps in addressing the programmatic objectives for Wetlands include the lack of specific, detailed information about location, type and quality of terrestrial and wetland habitats, lack of digitized and updated National Wetlands Inventory data, and the need for additional wetland habitat in and along Lake Erie. While the private fill and development of wetlands continues within the Lake Erie Basin, such activities are regulated by federal and state agencies and mitigation is occurring as required by law. Draft changes to the state wetland regulations have been issued by the Ohio EPA for public comment. The changes are intended to improve the quality of and the ability to evaluate mitigated wetlands.

2. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

| <u>Last Assessment</u> | | <u>This Assessment</u> | |
|------------------------|---|------------------------|---|
| High | X | High | X |
| Medium | | Medium | |
| Low | | Low | |

The Wetlands area remains a high priority for the OCMP. Several factors have kept the priority high, including the OCMP's concern to protect and restore wetlands and the Office of Coastal Management's focus on habitat issues and ecosystem-based management.

Strategy

Description of Change

The Office of Coastal Management has proposed to address the issue of wetlands throughout the upcoming reporting period through its Coastal Habitat Mapping Initiative. In late 2005, the Office of Coastal Management facilitated two meetings with potential partners with the intention of finding out where coastal data resides, in what form it exists, and how the agencies could go about acquiring data sets in usable formats. Attendees at both meetings indicated a keen interest in pursuing better ways to acquire coastal habitat data, how to share it, and ways to utilize these data in coastal management, policy and regulatory decision-making. Three efforts that will contribute to this initiative have been identified: digitizing and update of the National Wetlands Inventory data for Ohio; habitat definition and research planning by the Lake Erie Millennium Network; and the Lake Erie Watershed Habitat GIS Coordination Task being conducted by the ODNR Division of Natural Areas and Preserves.

Information collected through the Coastal Habitat Mapping Initiative including the location, type and quality of significant habitat, including terrestrial habitat, will be used to produce a series of coastal habitat maps that include the updated National Wetlands Inventory, a GIS-based coastal habitat map created by the ODNR Division of Natural Areas and Preserves, and the results of the Lake Erie Millennium Network/habitat definition process. A secondary product of this initiative would be a map of potential project areas for Ohio's Coastal and Estuarine Land Conservation Program (CELCP) Plan.

An outreach effort will occur as a part of this initiative and will be conducted in conjunction with the Coastal Economy outreach effort (see Ocean/Great Lakes Resources Strategy section). In addition, the habitat maps will be made available through the Office of Coastal Management's coastal GIS map viewer and internet map server product. The availability of the habitat maps for use in local community and watershed planning will be highlighted in Office publications such as brochures and newsletters, announced on the Ohio watershed listserv, and discussed at grant workshops for the Coastal and Estuarine Land Conservation and Coastal Management Assistance grant programs and ongoing meetings with local officials and organizations.

Anticipated Effects of Changes

The Office of Coastal Management has identified several internal uses for specific and detailed coastal habitat data, including its use in revising acquisition priority areas for Ohio's CELCP Plan, evaluating some types of Coastal Management Assistance Grant applications, and potentially for regulatory reviews. In addition, the data would be useful to a number of other stakeholders who operate in the Coastal Management Area. Providing such technical assistance to coastal stakeholders is consistent with the goals of the Ohio Coastal Management Program. The digitization and updating of National Wetlands Inventory data will greatly enhance the Lake Erie GIS project that the Office of Coastal Management has undertaken. Ultimately, the total efforts by the Office of Coastal Management to obtain and manage current, accurate data are intended to support an ecosystem-based approach to coastal management in Ohio.

The coastal and wetland habitat data and associated maps and the resulting additions to both the Division of Natural Areas and Preserves' Natural Heritage Database and the Office of Coastal Management's Lake Erie GIS will produce enhancements to OCMP Policies #12 Wetlands, #13 Natural Areas and Features, #14 Rare and Endangered Species, #18 Local Lakeshore Development, and #21 Lakeshore Recreation and Access. In addition, the Lake Erie Watershed Habitat GIS Coordination Task being conducted by the ODNR Division of Natural Areas and Preserves will result in revisions to that Division's coastal land acquisition program priorities and management program. The Division of Natural Areas and Preserves periodically revises a document entitled "Priority Acquisitions: Unprotected Natural Areas in Ohio of State and/or National Significance". This document guides land acquisition for the Division. Based on the results of the coastal habitat maps and data, the Division intends to change the Priority Acquisition List for the Lake Erie Watershed. Specifically, the Division plans to identify at least ten new high quality natural areas to add to the Acquisition list and to protect at least two sites using fee simple acquisition or conservation easements by 2012.

Appropriateness of Changes

The proposed change has support from a variety of agencies and experts and has been identified as a realistic and effective method of dealing with wetlands issues. As mentioned above, a series of meetings has taken place to build consensus on the Coastal Habitat Mapping Initiative and the digitizing and updating of National Wetlands Inventory data.

General Work Plan

Work on the Coastal Habitat Mapping Initiative has been underway since late 2005. The Office of Coastal Management is participating as a partner in the effort to digitize and update the National Wetlands Inventory data for Ohio, which will generate and provide data on wetlands within and beyond the limits of the Coastal Management Area and the Lake Erie watershed. Using Section 306 funds, the Office of Coastal Management is providing financial support towards the update for those counties that contain a portion of the Coastal Management Area. The update, which has been contracted out to Ducks Unlimited through the ODNR Division of Wildlife, will also provide some wetland extent trend information. The National Wetlands Inventory digitization and update for the coastal counties is expected to be completed by FY 2009.

The Lake Erie Millennium Network was formed in 1999 to focus management needs and coordinate research that will provide key information leading to answers and understanding of the Lake Erie ecosystem. Office of Coastal Management staff have been participating in this group's efforts to identify key characteristics of habitat for the purpose of standardizing descriptions across agencies to facilitate the collection of habitat data in a more readily mapped format. The Office of Coastal Management will continue participation in this group's efforts over the next few years utilizing Section 306 funds and will work to incorporate the results into the coastal habitat maps.

To gain a better understanding of the terrestrial habitat types that exist in Ohio's coastal region, the Office of Coastal Management is providing Section 309 funding to the ODNR Division of Natural Areas and Preserves (DNAP). DNAP staff will create a GIS layer of ecosystems of the designated Coastal Management Area in Ohio. Staff will use the Division's plant community classification system to map habitats as plant community types (i.e. beech maple forest, oak forest, emergent marsh, beach dune community). The resulting GIS layer will comprehensively describe all of the habitats in the coastal area. Cultural vegetation and urban/suburban areas will also be delineated. This work will be accomplished during FY 2006. During Fiscal Years 2007 through 2010, Section 309 funds will be provided to DNAP to conduct rare plant surveys and update rare species and plant community data in the Natural Heritage Database for the Lake Erie watershed. DNAP will also collect and enter data from collaborators, including county park districts, contract employees, state agencies, private consultants, and the general public. Accurate, precise and current data will enhance the integrity of the Natural Heritage Database so that it can be used as a conservation planning tool and instrument for environmental review and serve as a critical tool for government agencies and private conservation organizations in prioritizing conservation acquisitions.

The Office of Coastal Management will utilize Section 306 funds throughout the next five years to coordinate the Coastal Habitat Mapping Initiative and acquire and compile the data referenced above into mapping that can be utilized for publication in various media such as the Coastal GIS Map Viewer and internet map server product, a model Priority Areas map for a future revision of Ohio's CELCP Plan, and other public information documents. Outreach efforts will take place in FY 2010 in conjunction with the meetings/workshops planned for the Coastal Economy strategy described under the Ocean/Great Lakes Resources section of this document.

Cost Estimate

Digitizing and updating the National Wetlands Inventory for those counties that contain a portion of the Coastal Management Area will be funded utilizing Section 306. The Office of Coastal Management's involvement in the Lake Erie Millennium Network and in the coordination and mapping of acquired Coastal Habitat Mapping Initiative data will also be funded utilizing Section 306. Section 309 funds will be used to fund DNAP in the amount of \$60,053 in FY 2006 and approximately

\$60,000 each year in fiscal years 2007 through 2010. Outreach efforts will be funded with Section 306 and possibly other non-Section 309 funds.

Likelihood of Success

The Office of Coastal Management is confident in the success of the Coastal Habitat Mapping Initiative. Strong multi-organizational partnerships have been formed so that the needs and priorities of each organization are met.

Fiscal and Technical Needs

Through the multi-organizational partnerships referenced above, a significant amount of expertise exists within the organizations involved. Any additional work will be addressed by the Office of Coastal Management as Section 306 funding and staffing allows.

Performance Measures

NOAA is encouraging and supporting state coastal program participation in the National Coastal Management Performance Measurement System (NCMPMS) in part by allowing the use of Section 309 funds towards meeting performance measurement goals. The Performance Measurement System consists of six performance measurement categories: Public Access; Government Coordination & Decision Making; Coastal Habitat; Coastal Water Quality; Coastal Hazards; and Coastal Dependent Uses & Community Development.

Approximately \$9,000 of Section 309 funds will be used per year during FY 2006 through FY 2008 to address the coastal habitat performance measure. In FY 2006, efforts will be focused on developing and implementing tracking mechanisms within the Office of Coastal Management and coordinating with other agencies to obtain the required information. A bi-annual survey will be developed and conducted in FY 2007 to aid in the continuous tracking of required information. FY 2007 funding may also be directed to other agencies if necessary to develop collection/reporting mechanisms for information such as wetland mitigation data. Based on the survey results, tracking mechanisms will be revised and new data will be incorporated into the performance measure reporting in FY 2008. In addition, a summary document will be produced in FY 2008 highlighting coastal program accomplishments as documented through the NCMPMS.

Cumulative and Secondary Impacts

Section 309 Programmatic Objectives

- I. Develop, revise or enhance procedures or policies to provide cumulative and secondary impact controls.

Resource Characterization

1. Identify areas in the coastal zone where rapid growth or changes in land use require improved management of cumulative and secondary impacts (CSI). Provide the following information for each area:
 - type of growth or change in land use (i.e., residential, industrial, etc.)
 - rate of growth or change in land use
 - types of CSIs

Many of Ohio's lakefront areas have undergone a transition from small town, resort cottage, rural and agricultural uses to urban, suburban and resort land uses in recent decades. Exceptions are (1) the already fully urbanized cities of Cleveland and Toledo; and (2) the Maumee and Portage River areas, where land uses remain largely rural and include large publicly managed wetlands and wildlife areas.

Ottawa County, which includes the Lake Erie Islands other than Kelleys Island, had a 2.4% increase in population from 1990 to 2000. The population is estimated to have increased from 2000 to 2004 but at the lesser rate of 1%. Residential building permits per year have remained fairly constant. Cumulative and secondary impacts to coastal waters and resources in Ottawa County result primarily from nonpoint source pollutants during construction and from post-construction runoff of developed areas.

Lake County has also continued to see an increase in population, largely in township areas, over the past four years. The number of residential building permits has slightly increased each year since 2001 including both single and multi-unit buildings. As a result of increased development, impermeable surfaces increase along with the runoff associated with urban and suburban development.

The Lake Erie Islands' appeal as a more remote and tranquil area for recreation and escape from the mainland is the primary attraction that continues to spur growth in this region. Land use changes are primarily toward high season second home, resort complex and marina development.

Threatened and endangered species are of particular interest in the Lake Erie Islands region, and cumulative and secondary impacts of development can directly threaten these populations and also fragment their habitat. The rocky shores and alternating alvar and wetlands ecosystems of the islands and the Marblehead peninsula are prime habitat for the Federally Threatened Lake Erie Water Snake. The state endangered osprey and bald eagle are also regularly sighted in this region. Unique alvars and quarry areas also are home to a number of threatened and endangered plant species, such as the Federally Threatened Lakeside Daisy, the Ohio threatened Balsam Squaw-weed, and the endangered Northern Bog Violet.

Erie County saw a moderate population increase from 1990-2000. However, there has been a slight downward trend over the past four years. In addition, the incorporated urban centers have experienced population declines while unincorporated township areas have seen increases. This general trend of migration out of urban centers and into unincorporated areas is prevalent in much of the coastal region.

In 2000, 24.4% of Ohio's population lived in the eight coastal counties, plus Wood County, that comprise 9% of Ohio's land area. That population percentage dropped to an estimated 23.9% in 2004 and the percentage of Ohioans living in the eight coastal counties, plus Wood County, is projected to decrease to 23.4% by 2010. While the overall coastal population is not expected to increase, migration out of urban centers and into unincorporated areas continues and likewise the impacts associated with sprawl. Uncoordinated growth and land consumption are characteristics of sprawl that result in cumulative and secondary impacts to our waterways and to Lake Erie.

Both Lake and Erie counties include designated critical habitat identified for purposes of piping plover recovery. These are the shore areas in the vicinity of Sawmill Creek Resort, Sheldon Marsh State Nature Preserve, the Cedar Point Amusement Park causeway (Erie County), and the Headlands Dunes area in Lake County. The designation of these critical habitats does not affect private property, but does require that federal agencies review activities they fund, authorize, or carry out, to assess the likely effects of the activities on critical habitat.

Secondary impacts are also associated with the development of infrastructure. For example, disposal of excess excavated materials from water and sewer line projects, development, and dredging affect wetlands and nearshore habitat. Accelerated development in areas served by new infrastructure increases cumulative impacts throughout the coastal area.

Cumulative and secondary impacts on coastal resources are essentially the same throughout the coastal area. They include sedimentation and the pollutants carried by the sediments from construction sites; lawn, road and other impervious surface runoff; and hydrologic and habitat modifications associated with marina, resort, and other nearshore development.

- Identify areas in the coastal zone, by type or location, which possess sensitive coastal resources (e.g., wetlands, waterbodies, fish and wildlife habitats, threatened and endangered species and their critical habitats) and require a greater degree of protection from the cumulative or secondary impacts of growth and development.

| Area | CSI Threats/Sensitive Coastal Resources |
|---|---|
| Old Woman Creek NERR | Nonpoint source pollution, habitat fragmentation from suburbanization, exotic invasive species |
| Mentor Marsh State Nature Preserve and Mentor Lagoons | Nonpoint source pollution, habitat degradation, suburban development, exotic invasive species, industrial activities and residual effects of previous environmental violations at the Lagoons |
| Lake Erie Islands | Residential/commercial development, marina and resort complex development, aesthetic and historical quality of life impairments, habitat fragmentation, impacts to listed species, including the Lake Erie Water Snake (federally threatened species) |
| Sheldon Marsh State Nature Preserve | Threats similar to all those above |
| Arcola Creek Watershed, Lake County | Accelerating development, flooding, sensitive wetlands, freshwater estuary, multiplicity of stakeholders and interests, significant cold-water fish nursery habitat |
| Lakefront areas | Residential development, nonpoint source pollution, cumulative watershed loss, disruption of natural littoral processes, loss of beaches |
| Embayments such as Maumee Bay and Sandusky Bay | Heavy sediment load and nonpoint pollution, dredging, port activities, impacts to the Lake Erie Water Snake nearshore and off-shore of the Marblehead Peninsula |
| Urban river mouths | Heavy sediment load and nonpoint pollution, dredging, port activities |
| Coastal area wetlands | Nonpoint pollution, habitat fragmentation, suburbanization, dredge and fill of hydrologically linked lands, dikes preventing natural water flow |
| Critical fish habitat | Sediment and nonpoint source loading, dredging and filling, hydromodification |

Management Characterization

- Identify significant changes in the state’s ability to address CSI since the last assessment (e.g., new regulations, guidance, manuals, etc.). Provide the following information for each change:

Characterize the scope of the change
Describe recent trends

Identify impediments to addressing the change
 Identify successes in improved management

Section 309 Activities

- The OCOMP has made some progress since the 2001 Assessment. As indicated in the 2001 Assessment, ODNR and Ohio EPA's ability to assess, predict and enforce regulatory programs that consider cumulative and secondary impacts was severely hampered. Needs for accurate and complete database management and coordination, impacts monitoring, GIS systems, and other information required to evaluate CSIs in permitting and administrative actions were far greater than originally expected. As a result, ODNR and Ohio EPA pursued coordinated database access, development and use of models and tracking land use changes at the parcel level, development of additional baseline biotic integrity data, and identification of stream functions and parameters necessary to improve watersheds. Some progress was made, as described below, in coordinating database access between the agencies and the focus was shifted to the local level using the Chagrin River watershed as a pilot geographic area for the development of baseline information to be used in assessing cumulative and secondary impacts.

The Ohio EPA received Section 309 funds that have enabled an enhanced GIS for Section 401 enforcement. Historical Lake Erie 401 project information was entered; a process for developing shape files for 401 areas of impacts and mitigation was created; spatial databases for wetland, stream and lake impacts and mitigation feature class were established; other work to refine and enhance the GIS with other existing database information was also accomplished. The original goal was to make the 401 GIS available online to other agencies with regulatory responsibilities. This goal has not been realized due in part to data security issues. Another delay has been the slow development of the U.S. Army Corps of Engineers' GIS that will contain their permitting information. This permitting information was expected to be available by 2003, but the Corps' GIS is not complete at this time. The Ohio EPA also pursued the goal of drafting a cumulative impact assessment paper and developing a cumulative and secondary impact assessment tool. However, they determined that sufficient information was not available to conduct an accurate cumulative impact assessment for the Lake Erie watershed Section 401 projects due to the number of impacts that occur outside of the Section 401 arena such as U.S. Army Corps of Engineers' Nationwide Permits. Similarly, the cumulative and secondary impact assessment tool was not completed once it became evident that a scientific way to assess these impacts would require knowledge of and possibly control of multiple factors where Ohio EPA either lacked control or was not involved.

- The Chagrin River Watershed Partners were funded to do the following: (1) assess long-term hydrologic regime trends of the Chagrin River Watershed using USGS gage data, (2) conduct a baseline study of four headwater streams to assess changes in channel morphology over time, (3) develop a Chagrin River watershed GIS including an analysis of current and historic wetland resources, (4) conduct sampling of 60 headwater streams in the Upper Main Branch of the Chagrin River to determine the impacts of land use change on headwater stream functions, (5) analyze current levels of impervious cover and expected impervious cover based on existing zoning and then use that information to analyze the impact of various site design practices on minimizing the impact of the impervious cover on storm water volume and velocity, (6) develop an easy to use booklet of items to guide and empower local landowners to better understand the structure and function of the Chagrin River watershed and ways to minimize their water quality impacts and produce a template that can be adapted by other watershed groups in the Lake Erie region, (7) host forums to identify barriers to the implementation of alternative site design practices such as low impact development techniques and conservation development, (8) evaluate the effectiveness of riparian and wetland setback zoning in the Chagrin River watershed, (9) update parking requirements to minimize impervious cover, and (10)

examine alternative sewage treatment systems to facilitate implementation of conservation design in unsewered areas. These studies have enabled the assessment of cumulative and secondary impacts of land use on water resources in the Chagrin River watershed and have supported local communities in the adoption and implementation of riparian and wetland setbacks, conservation design, and low impact development. The products and expertise resulting from these projects is also available to communities and watershed organizations throughout the Lake Erie Basin.

- The Arcola Creek Watershed Study and Plan was another Section 309 project that addressed cumulative and secondary impacts at the local level. Funding was provided to ODNR's Division of Soil and Water Conservation to contract with the Lake Soil and Water Conservation District. Arcola Creek is one of the finest resources that remain natural in Ohio's Lake Erie coastal region. The creek encompasses one of only two significant freshwater estuaries in Ohio and serves both as steelhead trout habitat and as a nursery for other Lake Erie fishes. The estuary also encompasses an outstanding natural wetland area that is a haven for native plant and wildlife species, some of which are listed as threatened and endangered in Ohio. Public outreach and stream habitat data collection were a major focus of this planning effort and have resulted in a raised awareness of issues such as water quality, riparian protection, and stream channel integrity. In addition to the baseline information collected in preparation of the Plan, a document was produced for local decision makers to help assess the impacts of current and future development projects, including cumulative and secondary impacts. The inventoried information was included along with a review of current programs, impacts of current zoning, suggested management units (subwatersheds) based on water quality/zoning, and a review of the information the Soil and Water District would be providing over the next several years.

- The ODNR Division of Soil and Water Conservation received Section 309 funds to contract with the Water Quality Lab at Heidelberg College to analyze the amount of cropland affected and the extent of impacts to coastal waters attributable to irrigation water pollution. The study determined that while irrigated agriculture is not currently at a level of water withdrawal or level of return flow that would have a discernable impact on Lake Erie water quality, nurseries, as a group, are a much larger consumer of irrigation water than the crop production group. Also, nurseries report a much lower percentage of return flow than crop production (2% vs. 30%). As a result of this study, nursery irrigation was identified as an area that needed to be addressed in order to receive approval of the final agricultural management measure in the 6217 Coastal Nonpoint Pollution Control Program Plan (CNPCPP). Section 306 funds were awarded to the ODNR Division of Soil and Water for the Irrigation Water Management Project and approval of the CNPCPP irrigation water management measure was obtained.

Non-Section 309 Activities

- The OCMP and others have been actively working to assist local comprehensive planning and sustainable development initiatives through a number of means. The OCMP has prioritized such efforts through its Coastal Management Assistance Grant (CMAG) program. The grants program provides approximately \$250,000 annually to local government entities for planning, public access, acquisition, educational and research projects. Priority for the past several years has been on waterfront/public access planning and coastal community planning. In the past two years, watershed planning to address coastal nonpoint pollution and balanced growth has also been emphasized. Through the development of watershed plans that address coastal nonpoint pollution and balanced growth issues, it is expected that the sources of cumulative and secondary impacts will be identified and plans developed to address them.

- The Ohio EPA and ODNR's Division of Soil and Water Conservation have cooperated to financially and technically support local watershed groups through the Watershed Coordinator Grants Program.

The watershed coordinator grants program was initiated in response to growing recognition that water quality goals will not be realized until nonpoint pollution sources are identified and addressed. Community-based watershed action plans will aid in addressing cumulative and secondary impacts as pollution sources and land use impacts are evaluated and solutions are identified.

- The Division of Soil and Water Conservation and Ohio EPA developed the Coastal Nonpoint Pollution Control Program (CNPCP) during 1998 and 1999. The document was submitted to NOAA and U. S. EPA in 2000 and conditionally approved in 2002. Both the CNPCP and the statewide Nonpoint Source Program Upgrade identify urban stormwater pollution and development-related hydromodification as significant problems for water resources in Ohio and the Lake Erie Basin. In 2005, the entire Marina and Recreational Boating Chapter and the last agricultural management measure were approved leaving 16 management measures to be addressed including urban stormwater and development-related hydromodification. One way these management measures are being addressed is through the development of state endorsed Watershed Action Plans. The Watershed Coordinator grants mentioned above facilitate the development of these plans.

- The OCMP provided CZMA Section 306 funding to the ODNR Division of Soil and Water Conservation (DSWC) to contract with two Soil and Water Conservation Districts to hire Stormwater Specialists for a four-year period. The Stormwater Specialists were trained in stream hydrology, stormwater management, and overall watershed restoration principles and practices. These specialists provide technical assistance to and help build capacity of local units of government in stormwater management. The specialists also assist Ohio EPA in implementing NPDES Phase II Stormwater Programs and urban management measures of the Coastal Nonpoint Pollution Control Program.

- The *Lake Erie Protection & Restoration Plan* (2000) outlined many existing problems that diminish the health of Lake Erie. The Plan concludes, “the development of northern Ohio often occurred without fully understanding or anticipating the impact this development would have on the natural and social environment.” In 2004, a Balanced Growth Blue Ribbon Task Force advised the Ohio Lake Erie Commission on how to “develop strategies that will balance the protection of Lake Erie with continued economic growth.” The Balanced Growth Task Force recommendations call for the creation of a voluntary, locally driven planning framework for coordinated, regional decision-making. Included in this framework is the creation of watershed Balanced Growth Plans. Watershed Balanced Growth Plans will complement existing watershed planning (Ohio EPA/ODNR Watershed Action Plans) by adding the important dimension of land use planning and identifying Priority Conservation Areas and Priority Development Areas. Pilot projects were selected in 2005 to demonstrate possible organizational options, planning approaches, and applicability of Watershed Balanced Growth Plans to different watersheds. The pilot projects should be completed in 2008. The OCMP is supporting the balanced growth initiative by providing Section 306 funds to the Ohio Lake Erie Commission office for the creation of a state incentives strategy, education of the general public about balanced growth issues, and assistance for the watershed pilot projects. In addition, the Office of Coastal Management is providing assistance through technical staff support.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy (i.e., inadequate authority, data gaps, inadequate analytical methods, lack of public acceptance, etc.)

As indicated previously, some progress has been made on Ohio EPA’s 401 GIS database to enable the tracking of state permits. However, the sharing of this database has not been fully realized. In addition, inadequate analytical methods have hindered progress in developing a means to incorporate

consideration of cumulative and secondary impacts during state permit reviews. Improved coordination among state agencies is needed to promote more comprehensive recommendations in the permitting process. Data gaps exist at both the local and state levels in order to assess and eventually control cumulative and secondary impacts. Additional information is also needed regarding wetlands, coastal habitats and land use change.

The level of funding available through the Section 309 program is viewed as suitable to make incremental changes in database improvement and coordination, gather needed data, and to assist local planning efforts.

2. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

| <u>Last Assessment</u> | | <u>This Assessment</u> | |
|------------------------|---|------------------------|---|
| High | X | High | X |
| Medium | | Medium | |
| Low | | Low | |

Ohio’s coastal area has been and continues to be developed and suburbanized. These activities result in increasing nonpoint pollution, loss of habitat and recreational opportunities, fragmentation of riparian and other corridors, and even the gradual loss of the Lake Erie viewshed to the public. These impacts can be largely attributed to urban sprawl.

It is expected that expanding the capacity of state and local government agencies to quantify and incorporate consideration of cumulative and secondary impacts through planning and permitting will increase their ability to ameliorate these impacts. Several factors are key to making this progress: (1) advancing state and local decision makers’ knowledge and understanding regarding baseline and desired biological and geomorphological integrity; (2) increasing the performance and integration of a variety of information databases, GIS and land use impacts modeling; (3) fostering local governments’ sustainable community efforts through technical assistance, education, and funding; and (4) improved monitoring and enforcement to follow through on permit conditions. At present, the ODNR Office of Coastal Management intends to address the issue of expanding the capacity of local government agencies through its Section 306 funding and Coastal Management Assistance Grant Program and through working with the Balanced Growth Initiative being led by the Ohio Lake Erie Commission office. This issue will be evaluated at a later time to determine if action is needed utilizing Section 309 funds.

Increased water quality and biological diversity should result from such improved voluntary planning activities and regulatory functions that incorporate more precise information. At the same time, it is expected that higher quality of life values would be sustained that normally accrue from protection of the resource that draws residents and visitors alike. Understandably, this is a long-term goal, and these effects will not be realized immediately.

Strategy

Description of Changes

There are two primary initiatives that the ODNR Office of Coastal Management intends to pursue using a combination of Section 306 and 309 funding over the next five years.

- The first initiative, currently underway, is a *Combined Permit Application* and coordinated review process that addresses the requirements of ODNR, the Ohio EPA and the US Army Corps of Engineers. Applicants for projects built along Ohio's Lake Erie shore will have one application form to apply for all licenses, permits, and/or leases required by ODNR, Ohio EPA, and the US Army Corps of Engineers. The combined permit application is expected to be completed in 2006 and will result in a more streamlined review process. Besides creating a more streamlined process for applicants, it is anticipated that the *Combined Permit Application* will be accompanied by a more coordinated review process by the three agencies. Simultaneous submittal of applications will help this process by assuring each agency that they are looking at the same plans as the other agencies. Additionally, greater coordination will take place among the agencies so that recommendations to applicants by each agency will be as compatible as possible to the other agencies' recommendations. This increased coordination among regulatory agencies will help the applicant through more consistency among recommendations/decisions made by each agency and will enhance coastal resources through more effective regulatory programs.

- The second initiative, also underway, is the *Regulatory GIS Database* to manage Office of Coastal Management regulatory data and enhance the administration of the Shore Structure Permit, Coastal Erosion Area Permit, Submerged Land Lease, and Federal Consistency programs. The database will eliminate multiple regulatory tables, which currently exist, and combine all regulatory data into one application that is geographically referenced. The fact that the database will be geographically referenced will enable better analysis of CSI.

Anticipated Effect of Change

- The *Combined Permit Application* will result in a more streamlined review process that will benefit applicants and encourage their participation in the regulatory process. Increased coordination among the agencies on individual permit reviews will also result in more comprehensive and less divergent recommendations by regulatory agencies. The improved process should encourage greater compliance by applicants, thereby reducing cumulative and secondary impacts that might otherwise exist. A potential result of the proposed change, in combination with other efforts listed in this assessment, is enhancements to OCMP enforceable Policies # 1 – Lake Erie Coastal Erosion Area Management, # 2 – Shore Erosion Control, # 6 – Water Quality, and/or # 16 – Public Trust Lands. Changes to these policies would result if any of the regulatory authorizations referenced in the policies are updated to more fully address cumulative and secondary impacts.

- The *Regulatory GIS Database* will lead to greater efficiency in regulatory program administration and the addition of geographic referencing for regulatory activities. Together, these two factors will greatly enhance the OCMP's ability to identify areas that may be significant sources of CSIs.

Improved capability to consider cumulative and secondary impacts of individual activities that require state or federal permits should allow for increased ability to ameliorate these impacts, most likely through the inclusion of permit conditions. Such information can be used by planners and developers to better understand the full implications of various approaches to specific "build" options. Education and communication regarding the benefits of "greener" development is an important educational tool that could be used to assist local communities in supporting such development. Additionally, consistent use among agencies and divisions of compatible standards should result in greater predictability in decision-making.

Appropriateness of Change

Continued coordination among ODNR, the Ohio EPA, and the US Army Corps of Engineers will address the state/federal permitting and enforcement level. Continued work with local watershed groups and planners will advance direct application of planning tools resulting from previous 309 funded initiatives to ameliorate cumulative and secondary impacts at the local watershed level. It will also provide a framework within which to share information such as the economic value of coastal resources and build capacity throughout the Lake Erie region.

General Work Plan (Fiscal Years 2006 – 2010)

The ODNR Office of Coastal Management will focus the majority of its efforts with CSI at the state/federal level. The *Combined Permit Application* will be implemented and increased coordination in the regulatory review process will occur during FY 2006. Activities related to the coordinated review process will also take place in FY 2007. The *Regulatory GIS Database* will be developed and implemented during FY 2006. The majority of the *Regulatory GIS Database* work will be funded through Section 306 funds.

To the extent possible given funding allotments, financial support of the ongoing efforts described under the Management Characterization section above is also anticipated over the coming five fiscal years. Priorities will be assessed on a yearly basis and reflected in annual grant applications for CZM funding.

Cost Estimate

The *Combined Permit Application* and related coordination are expected to require a moderate amount of additional funding for staff time and printing of the documents. Printing costs are estimated at \$10,000, and staff time is expected to cost approximately \$20,000 during the assessment period. The Regulatory GIS database is expected to be funded outside of Section 309.

Likelihood of Success

A significant amount of success is likely, due to the commitment by the Office of Coastal Management to improve regulatory coordination and regulatory process. Further, the Ohio Lake Erie Commission has committed to developing a Land Use Metric to assess and address resource and water quality impacts from land use changes. Additionally, coordination with ongoing programs such as the Watershed Coordinator Program, the Brownfields Redevelopment Program, and Coastal Nonpoint Pollution Control Program development will help sustain the effort and provide synergistic benefits. There is widespread commitment among virtually all agencies, local governments and organizations to improved protection of our Lake Erie waters and associated resources. As described earlier, the Lake Erie Quality Index indicated that a Land Use metric is under development, and efforts to address Cumulative and Secondary Impacts are one means of supporting that effort.

Fiscal and Technical Needs

No outside technical assistance is required for the combined permit application other than a contractor to print the final documents. However, the other regulatory agencies involved in the project will continue to be consulted on a regular basis regarding the application document and the coordinated review process. The other project in this section is being completed by an outside contractor with significant guidance and oversight by the OCMP.

Performance Measures

NOAA is encouraging and supporting state coastal program participation in the National Coastal Management Performance Measurement System (NCMPMS) in part by allowing the use of Section 309 funds towards meeting performance measurement goals. The Performance Measurement System consists of six performance measurement categories: Public Access; Government Coordination & Decision Making; Coastal Habitat; Coastal Water Quality; Coastal Hazards; and Coastal Dependent Uses & Community Development.

Approximately \$9,000 of Section 309 funds will be used per year during fiscal years 2006 through 2008 to address the coastal water quality performance measure. In FY 2006, efforts will be focused on developing and implementing tracking mechanisms within the Office of Coastal Management and coordinating with other agencies to obtain the required information. A bi-annual survey will be developed and conducted in FY 2007 to aid in the continuous tracking of required information. Based on the survey results, tracking mechanisms will be revised and new data will be incorporated into the performance measure reporting in FY 2008. In addition, a summary document will be produced in FY 2008 highlighting coastal program accomplishments as documented through the NCMPMS.

Marine Debris

Section 309 Programmatic Objectives

- I. Develop or revise programs that reduce the amount of marine and/or lake debris in the coastal zone.

Marine/Lake Debris Characterization

1. In the table below, characterize the extent of marine/lake debris and its impact on the coastal zone.

| Source | Impact (Significant/Moderate/Insignificant) | Type of Impact (Aesthetic, resource damage, etc). |
|--|---|---|
| Recreational Fishing and Boating | Moderate | Aesthetic, resource damage, water quality impairment, damage to boats and engines |
| Commercial fishing | Insignificant | Aesthetic, resource damage, damage to equipment |
| Beachgoers | Moderate to significant, by site | Aesthetic, resource damage, public health |
| Medical, sewage | Insignificant | Aesthetic, resource damage, public health |
| Tributaries (Storm-driven erosion / flow / Dislodging) | Moderate to significant, by site and frequency/severity of storm events | Aesthetic, resource damage, public health, economic, public safety |

2. If any of the sources above or their impacts has changed since the last Assessment, please explain.

Data obtained through the 309 Assessment process did not reveal significant changes in the sources or impacts listed above.

Operational, galley

This source category was included in the previous 309 Assessment. However, no data was available on this debris source and therefore it has been removed in this assessment.

3. Do you have beach clean-up data? If so, how do you use this information?

Yes. This information is not used directly by the Office of Coastal Management, but other agencies in the state are utilizing these data for various statistical and educational purposes. Some examples are:

- Participation in the annual Coast Weeks events, organized by the Ohio Lake Erie Commission, has continued and increased since the previous assessment. Over the past three years combined, more than 1200 volunteers covered about 75 miles of beaches, tributaries and streams in the Lake Erie coastal area. The amount of trash and litter collected was in excess of 31,000 pounds.

- Old Woman Creek National Estuarine Research Reserve has participated in Coast Weeks activities each year since the last assessment (storm drain stenciling in coastal communities, programming for public schools, adopt-a-highway volunteers, etc.).
- In September of 2002, 2003 and 2004; between 500 and 900 volunteers cleaned a total of 140+miles of shore and waterways in the Lake Erie watershed, as part of the International Coastal Cleanup (ICC). Nearly 47,000 pounds of debris were cleaned up.

Data collected from coastal, beach and underwater cleanups along Lake Erie from 2002-2005 from Coast Weeks, International Coastal Cleanup events and other litter cleanup efforts by the Ohio Department of Natural Resources indicate that food wrappers and containers and cigarette and cigar butts were ranked either number one or two in the top ten items collected during five events. Percentage-wise, in all cases, shoreline and recreational activities accounted for more than 67 percent of all items collected. Based on this information, land-based sources of litter are the main sources of marine debris in Ohio, if the number of items is the only criteria.

Management Characterization

1. For the categories below, identify significant state ocean/Great Lakes management programs and initiatives developed since the last Assessment:

| Category | Programs and Initiatives since last Assessment |
|--|---|
| State/local program requiring recycling | None |
| State/local program to reduce littering/marine debris | Coast Weeks; Clean Boater Program; ODNR Division of Watercraft fact sheets; ODNR Division of Recycling and Litter Prevention; International Coastal Cleanup |
| State/local program to reduce wasteful packaging | None |
| State/local program managing fishing gear | None |
| Marine debris concerns incorporated into harbor, port, marina and coastal solid waste management plans | Ohio Clean Marinas Program |
| Education and outreach programs | Coast Weeks; Clean Boater Program; ODNR Division of Watercraft fact sheets; ODNR Division of Recycling and Litter Prevention; International Coastal Cleanup |

2. For the changes identified above provide a brief description of the change:
 - Characterize the scope of the change
 - Describe recent trends
 - Identify impediments to addressing the change
 - Identify successes

State/local program to reduce littering/marine debris and Education and outreach programs

- As referenced earlier in this section, participation in the annual Coast Weeks program has continued and increased since the last assessment.

- The Ohio Clean Boater Program was initiated in 2004 by the Ohio Sea Grant College Program as a partnership with the ODNR Division of Soil and Water Conservation, Division of Watercraft, and Office of Coastal Management; the Ohio Department of Health; Ohio EPA; Ohio Department of Commerce, State Fire Marshall Division; U.S. Coast Guard; U.S. Army Corps of Engineers; Lake Erie Marine Trades Association, Greater Cleveland Boating Association, local health departments, local fire marshals, and marina and yacht club owners and managers. The Clean Boater Program is a component of the Ohio Clean Marinas Program described below. The basic goal of the Program is to improve environmental stewardship by making marinas and boaters more aware of environmental laws, rules and jurisdictions, and to get as many boaters as possible to follow best boater practices and to be designated as "Clean Boaters". "Clean Boaters" pledge to follow Best Boater Practices (BBPs) to keep oil, sewage, toxic boat cleaning and maintenance products, plastics, cigarette butts and other trash, fishing gear, and invasive species out of the water. This program does not receive CZM funding.

- ODNR Division of Recycling and Litter Prevention has initiated several new programs or improved upon existing ones since the last assessment: a scrap tire grant program; "Windows on Waste" activities for grade school children; "Luck Ladybug" litter prevention project w/activity book for children; "Recycle Mania", a school recycling program in which 46,000 students have collected 852 tons of material.

- The ODNR Division of Watercraft has developed a brochure and web-based fact sheet which includes marine debris.

- As referenced earlier in this section, the International Coastal Cleanup has been very successful in Ohio during the assessment period.

Marine debris concerns incorporated into marina programs, etc.

- The Ohio Clean Marinas Program, initially developed in 2003 and fully implemented in 2005, is a proactive partnership of NOAA, ODNR Division of Soil & Water Conservation, Ohio Sea Grant, and the Lake Marine Trades Association designed to encourage marinas and boaters to use simple, innovative solutions to keep Ohio's coastal and inland waterway resources clean. The basic goal of the Program is to improve environmental stewardship by making marinas and boaters more aware of environmental laws, rules and jurisdictions, and to get as many marinas as possible to follow best management practices and to be designated as "Clean marinas." As of July, 2006, twelve marinas have been certified as Ohio Clean Marinas. This program has received Section 306 CZM funding.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

There continue to be debris issues in urban areas that are attributed to beachgoers. However, organic debris from stream banks in the watershed resulting from the natural erosion process constitutes the majority of debris washing up onto the beaches and into embayments. Beach clean-up programs and recycling initiatives are active in addressing human generated debris. It is expected that organic debris

will be reduced as a result of initiatives through the Ohio EPA, ODNR Division of Soil and Water Conservation, and US Department of Agriculture to address stormwater and other nonpoint pollution sources at both the watershed and individual parcel level. Therefore, the OCMP has not identified any major gaps in addressing the programmatic objectives for this enhancement area.

2. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

| <u>Last Assessment</u> | | <u>This Assessment</u> | |
|------------------------|---|------------------------|---|
| High | | High | |
| Medium | X | Medium | |
| Low | | Low | X |

This enhancement area was previously a medium priority and has been changed to a low priority. The reason for this change is due to the success of the beach clean-up programs and recycling initiatives mentioned previously, the organic debris reductions expected as a result of various initiatives addressing stormwater and nonpoint pollution, as well as the continued expansion and resulting benefits of the newly created Ohio Clean Marinas and Clean Boater Programs.

Special Area Management Planning

Section 309 Programmatic Objectives

- I. Develop and implement special area management planning in coastal areas applying the following criteria:
- Areas with significant coastal resources (e.g., threatened and endangered species and their critical habitats, wetlands, waterbodies, fish and wildlife habitat) that are being severely affected by cumulative or secondary impacts;
 - Areas where a multiplicity of local, state, and federal authorities hinder effective coordination and cooperation in addressing coastal development on an ecosystem basis;
 - Areas with a history of long-standing disputes between various levels of government over coastal resources that has resulted in protracted negotiations over the acceptability of proposed uses;
 - There is a strong commitment at all levels of government to enter into a collaborative planning process to produce enforceable plans;
 - A strong state or regional entity exists which is willing and able to sponsor the planning program.

Resource Characterization

1. Using the criteria listed above; identify areas of the coast subject to use conflicts that can be addressed through special area management planning (SAMP).

| Area | Major Conflicts |
|--|---|
| Lake Erie Islands | Increasing residential and commercial development, marina and resort complex development, desire of residents to maintain quality of life amenities, pressure from mix of competing and sometimes incompatible land uses. Important habitat for federally threatened Lake Erie water snake. |
| Old Woman Creek Watershed and confluence area at Lake Erie including near shore waters and beach | Rapid development; loss of habitat; cumulative and secondary impacts of development, including degraded water quality and sedimentation; exotic species; wildlife habitat disruption; littoral system alterations |
| State Nature Preserves and Critical Fish Habitat | Hydromodification (both existing and potential resulting from development), nonpoint source pollution within the supporting watersheds and in some cases directly adjacent. Wetlands degradation, habitat fragmentation, dredging and littoral system disruption, exotic invasive species. |

Management Characterization

1. Identify areas of the coast that have or are being addressed by a special area plan since the last Assessment:

| Area | Status of Activities | Funding Source |
|--------|----------------------|----------------|
| Mentor | SAMP completed | 309 |

2. Identify any significant changes in the state’s SAMP program since the last Assessment (i.e., new regulations, guidance, Memorandums of Understanding, completed SAMPs, implementation activities, etc.). Provide the following information for each change:

- Characterize the scope of the change
- Describe recent trends
- Identify impediments to addressing the change
- Identify successes

The Mentor Marsh Area Special Area Management Plan was completed in June 2004. The study area was located in Lake County and encompassed over 32,200 acres including the Mentor Marsh watershed, a portion of Fairport Harbor, and the Coastal Erosion Area to the western most boundary of the Eastlake power plant. This boundary was chosen because this area has the greatest influence on the coastal processes affecting the marsh and the beach ecosystem.

The Ohio Coastal Management Program in coordination with the Marsh Area Regional Coalition (MARC) initiated the Mentor Marsh Area SAMP in 2000. The MARC, made up of local agencies and organizations, individuals, private companies and federal and state agencies, was established to assist with the multi-year planning effort. The purpose of the SAMP was to produce a comprehensive management plan to address growth management and natural resource protection in the study area.

There were three main phases in the development of the SAMP that resulted in three documents. The first phase included establishing a mission and vision for the MARC and goals for the SAMP. It also included an inventory of existing conditions that resulted in the first document, *Issues Characterization*, completed in August 2001. The second phase identified 86 strategies to address the issues that had been identified in the first phase. The *Strategy Document* was completed in August 2002. The third phase was the development of the *Mentor Marsh Area SAMP* document. Detailed implementation plans were developed for selected strategies under five critical themes that were identified in the *Issues Characterization*. The *Mentor Marsh Area SAMP* document was completed in June 2004.

The Mentor Marsh Area SAMP study area included areas outside of Ohio’s Coastal Management Area. The MARC considered expansion of the boundary; however, it was not pursued during the study due to concerns that it would interfere with the momentum needed to complete the multi-year planning process.

The Mentor Marsh Area SAMP process has, nonetheless, resulted in many benefits. Coordination of resource management and community revitalization efforts has been improved at various levels of government, in cooperation with nonprofit organizations, educational institutions and private enterprise. Potential public health and safety problems as the result of poor land use practices have been identified. A focus has been brought to restoration efforts on severely degraded and threatened biological communities. And, due to the SAMP documents developed through this planning process,

MARC members have had the data and rationale to support funding requests for projects that will begin to address issues in the Mentor Marsh area. The MARC has continued to meet with local volunteers, agencies, and governments taking over the responsibility for the ongoing management of the MARC. Ongoing management includes reviewing, assessing and updating the *Mentor Marsh Area SAMP* document on a periodic basis and establishing the MARC’s goals for the next three to five years.

One implementation plan under the Wetlands and Biodiversity strategy in the *Mentor Marsh Area SAMP* document is focused on hydromodification. The goal of this implementation plan is to re-establish a more natural flow regimen in the Mentor Marsh watershed. Supporting research on the marsh area hydrology has been identified as an implementation activity that is needed to help accomplish this goal. Using Section 309 funds, the Office of Coastal Management has contracted with The Ohio State University to characterize the surface water flow for the marsh including the construction of an 18-month hydroperiod for key points in the Mentor Marsh Basin through water level sampling.

There have been no other changes in Ohio’s SAMP program other than the completion of the Mentor Marsh Area SAMP.

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

There are no priority needs or major gaps to identify; however, if local decision-makers identify a need that could be addressed through the SAMP process and wish to pursue the idea, the Office of Coastal Management will work with them to the degree funds and staffing allow.

2. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

| <u>Last Assessment</u> | | <u>This Assessment</u> | |
|------------------------|---|------------------------|---|
| High | X | High | |
| Medium | | Medium | X |
| Low | | Low | |

Due to the completion of the Mentor Marsh Area SAMP, and lack of available funds, staffing, and local initiatives to begin another SAMP, this enhancement area priority has been changed from high to medium.

As stated in the previous assessment, the geographic areas identified in the preceding table continue to undergo considerable pressures, and there are potential conflicts and competition regarding resource use. These challenges have been well recognized at various levels of government for a number of years. The local, state and federal governments and stewardship organizations have worked to address these issues, but on a less comprehensive manner than the Special Area Management Planning process would afford.

There also has been continued pressure in the vicinity of several state nature preserves since the previous assessment. Additionally, critical fish habitat in the Lake Erie region is particularly vulnerable to impacts from hydromodification, dredging, nonpoint source pollution and other cumulative causes and sources. Such activity has pointed to a need to investigate and consider

application of heightened scrutiny and/or enhanced protective measures within these special areas and buffers surrounding them. Both State Nature Preserves and Critical Fish Habitats are identified as Special Management Areas in the OCMP Document published in March 1997, and are therefore appropriate for such enhanced protection. In addition, preserving and protecting coastal habitat is identified as a priority by the Office of Coastal Management and in the Lake Erie Protection and Restoration Plan.

Energy and Government Facility Siting

Section 309 Programmatic Objectives

- I. Enhance existing procedures and long range planning processes for considering the needs of energy-related and government facilities and activities of greater than local significance.
- II. Improve program policies and standards that affect the subject uses and activities so as to facilitate siting while maintaining current levels of coastal resource protection.

Management Characterization

1. Identify significant changes in the state’s ability to address the siting of energy and government facilities since the last Assessment (e.g., new regulations, guidance, manuals, etc.). Provide the following information for each change:

Characterize the scope of the change
 Describe recent trends
 Identify impediments to addressing the change
 Identify successes

There have not been any significant changes in the state’s ability to address the siting of energy and government facilities since the last Assessment.

Conclusion

1. Identify priority needs or major gaps in meeting the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

There are no major gaps in addressing energy and government facility siting processes, although the emerging wind energy industry in Ohio may provide some challenges regarding natural resources protection. The State of Ohio has well-established processes that require long-term energy demand forecasting and planning for facility siting. The basic intent of Ohio’s policies, which are described in Chapters 5 and 10 of the Ohio Coastal Management Program Document, is threefold: provision of reliable energy sources to the citizens of Ohio, maintenance of a healthy economic climate in the region, and insurance of prudent use of land resources and protection of coastal air and waters. Public participation and consideration of the national interest are both provided for in the siting of energy facilities.

2. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

| <u>Previous Assessment</u> | | <u>This Assessment</u> | |
|----------------------------|---|------------------------|---|
| High | | High | |
| Medium | | Medium | X |
| Low | X | Low | |

As shown above, this area was previously a Low priority but has been elevated to a Medium priority in this assessment. One reason for this change is related to a proposal to build a new coal-fired power plant on lakefront property in Conneaut. Office of Coastal Management staff attended an onsite meeting for this proposed project in 2004, although no new information regarding the potential

construction of a plant has been obtained by OCM since that time. As such, the potential construction of this plant alone does not warrant elevation of the priority from Low to Medium.

The principle reason for the change in priority has to do with the potential siting of wind turbines in and along Lake Erie. Since the last assessment, wind energy has received a considerable amount of attention in Ohio. The state's first commercial wind power farm was built in Bowling Green, with turbines erected in 2003 and 2004. Recently, the Great Lakes Science Center on Cleveland's lakefront has erected a wind turbine on its property. Since the science center property is located on submerged lands within the Lake Erie public trust territory, a modification to the science center's existing Submerged Land Lease that acknowledges the addition of the wind turbine was necessary. To learn more about the effects of the turbine on avian/bat resources, the Ohio Coastal Management Program has agreed to fund a study of this site and the resulting effects of the wind turbine. Elsewhere, several wind monitors have been installed to measure the wind speeds within Ohio's coastal area, and there has been at least one proposal to build a large-scale wind farm near the shoreline in the western basin of Lake Erie, which is a significant area for migratory birds.

Because of these projects, and due to a lot of discussion and interest in wind turbines in or along the Lake, the topic of energy facility siting has recently become much more prominent. To this end, the Ohio Wind Working Group, a consortium of many local, state, and federal government and non-government organizations throughout Ohio, has been researching issues and potential policies related to wind energy in the state. Information on the group can be found at <http://www.ohiowind.org>. At the request of the Ohio Wind Working Group, Geographic Information System wildlife data layers have been prepared to overlay on the Ohio wind map. These layers are intended to provide a coarse overview of areas in Ohio where potential wildlife and/or natural resource areas of concern are present and may be an issue relative to potential wind power developments. OCM is also interested in learning more about the effects of wind turbines on coastal resources. Studies are planned for the western basin of Lake Erie and potentially for other coastal areas. There are two anticipated types of these studies. One type would be project operations assessments on turbines that have already been erected. An example of this is the study of the recently erected turbine at the Great Lakes Science Center. The second type of study would be pre-project assessments for areas where turbines do not yet exist but are planned.

Strategy

Description of Change

Studies will be conducted that will research the effects of wind turbines on Ohio's coastal resources. The studies will focus primarily on avian/bat resources but may address other coastal resources as well. The studies may be modeled after the current avian/bat study that is being funded for the Great Lakes Science Center. Based on the results of the Great Lakes Science Center study, studies will be planned in other regions of Ohio's coastal area. Exact study locations have not been finalized, but it is anticipated that the western basin of Lake Erie may be studied, as that area contains internationally important stopover habitat for migratory birds, as well as nesting and foraging habitat for resident species. Additionally, both pre-project assessments and project operations assessments are anticipated to include guidelines from the ODNR Division of Wildlife. For pre-project assessment, these guidelines include:

- Information Review
- Habitat Mapping
- Raptor Nest Surveys
- General Avian Use Surveys
- Surveys for Threatened, Endangered and Other Sensitive Species

For project operations assessments, the Division of Wildlife's guidelines include:

- Information Review
- General Avian Use Surveys
- Surveys for Threatened, Endangered and Other Sensitive Species

Additional issues that may be addressed in both types of studies include research methodology, quality control/assurance, methods for data analysis and reporting, safety protocols for staff, and specific instructions for handling carcasses.

Anticipated Effect of Change

The primary enforceable policy of the Ohio Coastal Management Program related to the siting of wind turbines is Policy # 16 – Public Trust Lands. This policy is enforceable through Ohio's Submerged Land Lease authority. Other enforceable policies that could relate to wind turbine siting depending on the type of proposed project are Policies #6 – Water Quality, #12 – Wetlands, #26 – Preservation of Cultural Resources, #27 – Fisheries Management, #34 – Energy Facility Siting, and possibly other policies. Based on the Great Lakes Science Center's requirement for a Submerged Land Lease modification, it is anticipated that the most likely program change would involve revised rules and/or laws related to Submerged Land Leases, which would necessitate a change to Policy #16. While the exact change is not yet known, it would become more apparent as a result of the study currently being funded and the future studies that would be funded through Section 309 funds.

Appropriateness of Change

The proposed change is highly appropriate, given the recent surge in interest in wind turbine siting both in and near Ohio's coastal area. The current lack of research on Great Lakes wind turbines has become very apparent over the past year, and this information gap needs to be addressed at a rate that matches or exceeds the rate of development of wind power in Ohio.

General Work Plan (Fiscal Years 2006 – 2010)

The avian/bat study that is being funded for the Great Lakes Science Center will be accomplished in FY 2006 with Section 309 funds from the previous assessment period.

The proposed wind studies to be funded by Section 309 funds will take place over a four year period, beginning in FY 2007 and ending in FY 2010. The work plan includes two studies, each covering a two year period. Each study would focus on a different geographical area. The current plan is to conduct a pre-project assessment in the first year of each study and to conduct a project operations assessment during the second year. This will provide not only data on the effects of the wind turbines but also on the effectiveness of the pre-project assessments themselves.

Cost Estimate

Preliminary costs for the studies have been estimated at \$26,000 - \$35,000 per year. This includes the cost of a contractor to perform the studies but does not include any costs for significant outreach or publication efforts, which are expected to be funded from a different source(s).

Likelihood of Success

The likelihood of success is moderate to high, given the fact that the first avian/bat study is already being developed in conjunction with the Great Lakes Science Center, the ODNR Division of Wildlife, and the Office of Coastal Management. This study should provide a good foundation for the future studies, including lessons on the study itself and what elements could make for better studies in the future.

Fiscal and Technical Needs

The studies will be carried out by contractors with expertise in the field of avian resources and/or wind turbine issues. Additionally, it is likely that the ODNR Division of Wildlife will provide some guidance and insight into the contracts, final products, and recommendations into potential rule or law changes related to Submerged Land Leases.

Aquaculture

Section 309 Programmatic Objective

- I. Enhance existing procedures and long range planning processes for considering the siting of public and private marine aquaculture facilities in the coastal zone.
- II. Improve program policies and standards which affect aquaculture activities and uses so as to facilitate siting while ensuring the protection of coastal resources and waters.

Resource Characterization

1. Briefly describe the state's aquaculture activities (e.g., existing procedures, plans, program policies and standards).

Aquaculture is not a significant activity in Ohio's coastal management area. There are currently 130 commercial fish-raising permits in Ohio. Nine commercial fish propagators and two Ohio Department of Natural Resources (ODNR) fish hatchery facilities are within the Lake Erie watershed. Currently, there are no plans to locate additional ODNR fish hatcheries in the Lake Erie watershed.

The ODNR, Div. of Wildlife (DOW) is responsible for the oversight, program planning, setting policies and standards for the aquaculture industry in Ohio. DOW issues permits to bait dealers, fish transporters and wholesalers, and enforces policies aimed at protecting the resource (Lake Erie, rivers, streams and tributaries within the watershed, native fish species).

As referenced in the last Section 309 review, the ODNR still adheres to the Great Lakes Fishery Commission's Council of Lakes Committee (CLC)'s *Procedures for Consultation on Introductions in the Great Lakes Basin*, which provides notification procedures for introduction of new species into Lake Erie or its tributaries.

2. Briefly describe environmental concerns (e.g., water quality, protected areas, impacts on native stock and shell fish resources). Also, describe any use conflicts (e.g., navigational, aesthetic, incompatible uses, public access, recreation, and future threats (e.g., shoreline defense works, introduced species).

The most harmful environmental impact from aquaculture is the escape of nonnative species into the wild. The introduction of exotic species can result in serious threats to native fish species and their habitats. For this reason, and others, the ODNR is cautious about raising non-native species in the Lake Erie watershed.

Included in requirements by ODNR, propagators must incorporate at least 2 safeguards to prevent non-native fish species from getting into streams or Lake Erie (personal communication with ODOW. 12-13-05).

Another example of ODNR's environmental concerns is their website links to Ohio State University's Aquaculture Program that provides the latest information on fish culture methods, nutritional requirements, aquaculture system design and management, species selection and water quality management. The University's Agriculture Research & Development Center (OARDC) is currently focusing on:

- Improvements of fish brood stock, production techniques and improved aquaculture systems,

- Assessing impact of aquaculture training aimed to increase productivity and profitability of Ohio aquaculture operations, and
- Promoting environmental sustainability and good stewardship.

Management Characterization

1. Identify significant changes in the state’s ability to address the planning for and siting of aquaculture facilities since the last Assessment (new regulations, guidance, manuals, etc.). Provide the following information for each change:

- Characterize the scope of the change
- Describe recent trends
- Identify impediments to addressing the change
- Identify successes

As previously mentioned, ODNR’s Division of Wildlife has streamlined its aquaculture permit process; and, also maintains aquaculture permit and fish stocking web sites that provides a list of propagators in the state, along with tips on raising fish.

ODNR streamlined the aquaculture permitting process in 2004 by eliminating the Fish and Fish Food Propagators Permit and incorporating all aquaculture activities under either the Class A bait dealer and fish transportation permit or Class B combination permit (facility inspection, aquaculture farming, bait dealer and fish transportation permit).

Conclusion

1. Identify priority needs or major gaps in addressing the programmatic objectives for this enhancement area that could be addressed through a 309 Strategy.

There are presently no significant gaps in addressing the programmatic objectives for this enhancement area.

2. What priority was this area previously and what priority is it now for developing a 309 Strategy and designating 309 funding and why?

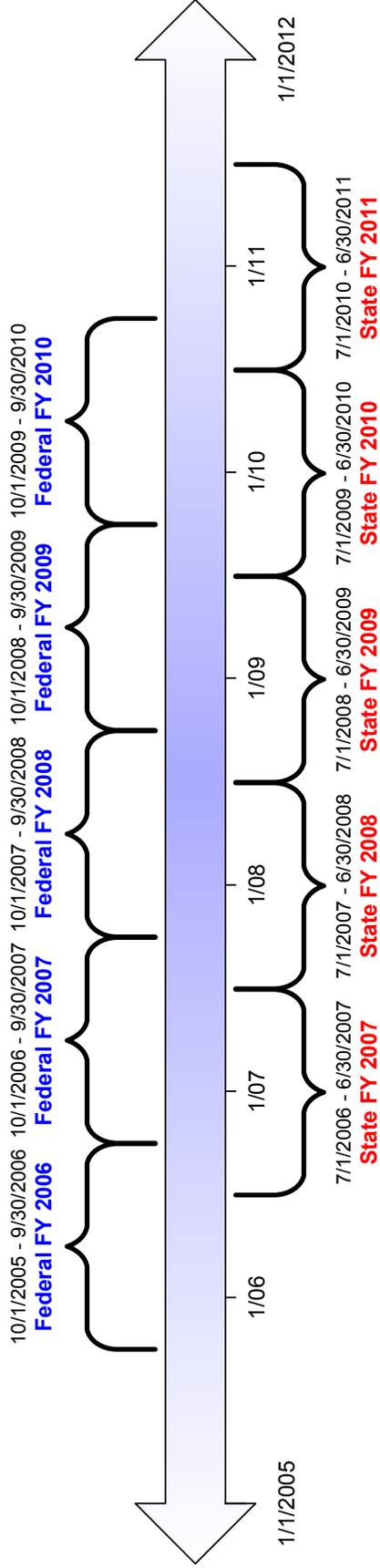
| <u>Last Assessment</u> | | <u>This Assessment</u> | |
|------------------------|---|------------------------|---|
| High | | High | |
| Medium | | Medium | |
| Low | X | Low | X |

Considering the relatively limited extent of the aquaculture industry in Ohio’s coastal area, coupled with ODNR’s ability to maintain adequate controls to regulate it, OCM has concluded that this remains a low priority for implementing enhancements or conducting new strategies.

APPENDIX A
Ohio Section 309 Coastal Enhancement Grants Program Strategies for Federal Fiscal Years 2006 - 2010
(Federal Fiscal Year – FFY State Fiscal Year – SFY)

| | FFY 2006/ SFY 2007 | FFY 2007/ SFY 2008 | FFY 2008/ SFY 2009 | FFY 2009/ SFY 2010 | FFY 2010/ SFY 2011 | Total |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|------------------|
| 1) Public Access | | | | | | |
| a. Performance Measure | \$8,983 | \$9,000 | \$9,000 | \$9,000 | | \$26,983 |
| Estimated Total/Public Access | \$8,983 | \$9,000 | \$9,000 | \$9,000 | | \$26,983 |
| 2) Coastal Hazards | | | | | | |
| a. Coastal Design Manual | \$63,964 | \$48,000 | | | | \$111,964 |
| b. Lake Erie Shore Erosion Management Plan | | | \$23,000 | \$35,000 | \$35,000 | \$93,000 |
| c. Performance Measure | \$9,000 | \$9,000 | \$9,000 | | | \$27,000 |
| Estimated Total/Coastal Hazards | \$72,964 | \$57,000 | \$32,000 | \$35,000 | \$35,000 | \$231,964 |
| 3) Ocean/Great Lakes Resources | | | | | | |
| a. Coastal Economy Project – Phase 2 | | | \$35,000 | \$50,000 | \$50,000 | \$135,000 |
| Estimated Total/Great Lakes Resources | | | \$35,000 | \$50,000 | \$50,000 | \$135,000 |
| 4) Wetlands | | | | | | |
| a. Coastal Habitat Mapping Initiative | \$60,053 | \$60,000 | \$60,000 | \$60,000 | \$60,000 | \$300,053 |
| b. Performance Measure | \$9,000 | \$9,000 | \$9,000 | | | \$27,000 |
| Estimated Total/Wetlands | \$69,053 | \$69,000 | \$69,000 | \$60,000 | \$60,000 | \$327,053 |
| 5) Cumulative and Secondary Impacts | | | | | | |
| a. Combined Permit Application | \$20,000 | \$10,000 | | | | \$30,000 |
| b. Performance Measure | \$9,000 | \$9,000 | \$9,000 | | | \$27,000 |
| Estimated Total/Cumulative & Secondary Impacts | \$29,000 | \$19,000 | \$9,000 | | | \$57,000 |
| 6) Energy and Government Facility Siting | | | | | | |
| a. Wind Energy Studies | | \$26,000 | \$26,000 | \$35,000 | \$35,000 | \$122,000 |
| Estimated Total/Energy & Government Facility Siting | | \$26,000 | \$26,000 | \$35,000 | \$35,000 | \$122,000 |
| Summary of Estimated Totals | | | | | | |
| Estimated Total/Public Access | \$8,983 | \$9,000 | \$9,000 | | | \$26,983 |
| Estimated Total/Coastal Hazards | \$72,964 | \$57,000 | \$32,000 | \$35,000 | \$35,000 | \$231,964 |
| Estimated Total/Great Lakes Resources | | | \$35,000 | \$50,000 | \$50,000 | \$135,000 |
| Estimated Total/Wetlands | \$69,053 | \$69,000 | \$69,000 | \$60,000 | \$60,000 | \$327,053 |
| Estimated Total/Cumulative and Secondary Impacts | \$29,000 | \$19,000 | \$9,000 | | | \$57,000 |
| Estimated Total/Energy and Government Facility Siting | | \$26,000 | \$26,000 | \$35,000 | \$35,000 | \$122,000 |
| TOTAL | \$180,000 | \$180,000 | \$180,000 | \$180,000 | \$180,000 | \$900,000 |

Federal/State Fiscal Year Comparison



APPENDIX B

Public Comments Received on the Ohio Coastal Management Program Draft Assessment and Multi-year Strategy 2006-2010 for the Section 309 Coastal Zone Enhancement Grants Program

RESPONSE 1)

From: Maggie Thurber [MThurber@co.lucas.oh.us]
Sent: Wednesday, March 15, 2006 12:18 PM
To: Alley, Yetty
Subject: Section 309 draft

Yetty - thanks for the draft. I've read through it and really don't have any comments except to say that it appears to be very thorough and detailed. Thanks!

Maggie Thurber
Lucas County Commissioner
CRAC member

RESPONSE 2)

From: Quinn, Mike
Sent: Monday, March 27, 2006 1:38 PM
To: Alley, Yetty
Subject: FW: Your review and comment is requested

Follow Up Flag: Follow up
Flag Status: Flagged

I asked Phil Miller to review this document and he has only one comment, as he mentions below in his e-mail response to me. I hope this helps and if there is anything else you require from our Division please do not hesitate to call. Thank you for the opportunity to comment.

Mike Quinn
Michael E. Quinn
Ohio Division of Watercraft
Acting Chief
614-265-6420

-----Original Message-----

From: Miller, Phil
Sent: Friday, March 24, 2006 12:25 PM
To: Quinn, Mike
Cc: McGarity, William
Subject: RE: Your review and comment is requested

Mike:

I have reviewed the Ohio Coastal Management Program, IMT's Multi-year Strategy 2006-2010 for the Section 309 Coastal Zone Enhancement Grants Program for the State of Ohio. I have made very minor corrections on page 10 regarding the funding amounts of our CBFG and RHEP Programs. Those are our only comments at this time.

Please let me know if you have any questions.

Thanks.
Phil

Cooperative Public Boating Facility Grant- Each year approximately \$3.3 million **\$3.6 million** is available statewide for the construction or improvement of public facilities for recreational boating on navigable waters within the state. Since 2001, fourteen projects totaling over \$3 million have been completed along Lake Erie through this grant program. In addition, \$500,000 **\$750,000** is available each year for recreational dredging projects on Lake Erie. Ten projects have been completed under this program since 2001 spending nearly \$1.4 million to improve recreational boating on Lake Erie.

RESPONSE 3)

From: Knight, Roger
Sent: Wednesday, March 29, 2006 2:25 PM
To: Alley, Yetty
Cc: Gray, Steve; Isbell, Gary
Subject: RE: Your review and comment is requested
Hi Yetty,

I have reviewed the document for DOW and offer only minor comments (**in red italics**) to the following sections on pages 6 and 56:

Page 6

5. Does the state have a Public Access Guide or website? How current is the publication or how frequently is the website updated?

The Lake Erie Fishing Guide is another publication that is available as a printed copy through the ODNR Division of Wildlife. It was last issued in June 2004.

Page 56:

Resource Characterization

1. Briefly describe the state's aquaculture activities (e.g., existing procedures, plans, program policies and standards).

As referenced in the last Section 309 review, the ODNR still adheres to the Great Lakes Fishery Commission's Council of Lakes Committee (CLC)'s *Procedures for Consultation on Introductions in the Great Lakes Basin*, which provides notification procedures for introduction of new species into Lake Erie or its tributaries.

Thanks for the opportunity to review.
Roger
Roger L. Knight
Lake Erie Fisheries Program Administrator
ODNR Division of Wildlife
Sandusky Fisheries Research Station
305 E. Shoreline Drive
Sandusky OH 44870
(419) 625-8062
(419) 625-6272 fax
roger.knight@dnr.state.oh.us

RESPONSE 4)

From: Emily.Miller@dot.state.oh.us
Sent: Monday, April 03, 2006 8:18 AM
To: Alley, Yetty
Subject: Re: Your review and comment is requested

Yetty Alley,

I have reviewed Section 309 Draft Assessment and I have no comments.

Thank you,
Emily Miller
Office of the Director and Assistant Directors
Ohio Department of Transportation
1980 West Broad Street
Columbus, Ohio 43223
614-466-8991 Fax 614-644-0587

RESPONSE 5)

From: Berg, Thomas
Sent: Wednesday, April 05, 2006 2:36 PM
To: Alley, Yetty
Subject: FW: Your review and comment is requested

[Yetty, Connie and Don made some amendments to the Section 309 comments. See below.](#)

[T. M. Berg](#)

REVIEW AND COMMENTS ON THE SECTION 309 DRAFT
ASSESSMENT AND MULTI-YEAR STRATEGY
BY
LAKE ERIE GEOLOGY GROUP
DIVISION OF GEOLOGICAL SURVEY

- TOC – Table of contents doesn't match headings in the report.
- p. 1 – List of 9 priority enhancement areas doesn't match report.
- p. 2 & 18 – Because erosion is natural process, "chronic" erosion should be "ongoing."
- p. 2 – What steps were taken to improve enforcement?
- p. 3 – Must provide reference for 313.5-mile shoreline calculation.
- p. 4 – High lake levels don't cause erosion.
- p. 4 – Open-lake disposal of sand and not dredging causes sand depletion in the littoral system.
- p. 4 – The wider beaches tend to be the public beaches updrift of harbor structures. It is the reaches of shore between harbor structures that tend to be depleted of sand resources.
- p. 5 – Fit all tables onto one page.
- p. 5 – Place * explanation as a table footnote for each table using *.
- p. 6 – Define "significant" and "moderate."
- p. 7 – ¶ #2—"ODNR" should be in parentheses.
- p. 7 – Purchasing land protects property from development, but it doesn't add to ecological diversity.
- p. 7 – It is not clear how OCM was involved in the projects listed in the entire report. It would be helpful to say if involvement was by providing 309 grant funding, office staff time, etc.
- p. 10 –Top paragraph was previously stated.

p.11 – How is the Section 309 grant associated with the bacteria study. Neither OCM, nor NOAA were mentioned in the USGS study’s authorship or funding acknowledgements.

p. 11 – Under point 1, does “this” mean Public Access?

p. 11 – Who is “we” in last paragraph? Is it OCM, ODNR, the State of Ohio, OCM and NOAA, or the individuals writing the report?

p. 12 – Either delete the text and use all X’s or use all text in the table columns.

p. 13 – Substitute “subaerial erosion” for “erosion.”

p. 13 – Remove “all the levels” and just say “stakeholders.”

p. 13 – Substitute “within the planning period” for “future.”

p. 14 – Substitute “Data from this study” for “The following table.”

p. 14 – Add “number of parcels” and “% lakeshore” in the table headings.

p. 14 – Note % shoreline in the table may not match OCM’s new shoreline mileage.

p.16 - What does the Corps 227 Study have to do with Section 309?

p. 16 – The Corps Buffalo District is the lead for the Section 227 project at Sheldon Marsh. ERDC performed modeling as requested by the Buffalo District.

p. 16 – Substitute “innovative alternative” for “alternative.”

p. 17– Sand by-passing has been required by ODNR for 30-years and by DGS for 15-years.[OGS has advocated sand bypassing and nearshore disposal for at least 30 years and ODNR adopted this policy. Since the mid 1980s OGS has voiced concerns about burying coastal sand resources (beach and nearshore sand) beneath fill material. deg]

p. 19 – “Improve?” – by what means?

p. 22 - Prior to harbor structures, dunes weren’t prevalent along the Lake Erie south shore, except for Western Basin barrier beaches and Bay Point and Cedar Point spits.

p. 25 – Either list all involved Divisions or just list ODNR.

p. 25 – The atlas is a **tool**, but it doesn’t **do** habitat research, assessment, and monitoring.

p. 31 – Are “Nearshore development activities” submerged lands structures or upland areas near the lake?

p. 31 – When lake levels fall, wetlands migrate lakeward not landward. [The paragraph preceding the discussion about wetland migration reads “lake levels generally have been normal or slightly below normal ...and the effect on coastal marshes has been significant.” This leads the reader to link low lake levels and “the unavailability of undeveloped land over which wetlands could retreat inland and expand...” In a natural system, wetlands migrate **lakeward** during falling lake levels and **landward** during rising lake levels. deg]

p. 31 – Change “wetland loss within the marsh area” to “wetland loss from the Lake Plain Physiographic Region”.

p. 31 – When referring to the Great Lakes “basin” (§ #5), the word “basin” should be capitalized; that should be done throughout the document.

p. 36 – The Ohio EPA and ODNR-REALM are the lead on the HRU initiative. Therefore the characterization here is misleading.

p. 38 – The Resource Characterization Section needs to be reorganized and rewritten before comments can be given. Please provide.

p. 39 - The use of the phrase “the vicinity of (location)” conflicts with the statement “does not affect private property.”

Entire document: Hyphens should be used in unit modifiers. Examples—p. 41, ¶ #2: “...various site-design practices...” and “...storm-water volume and velocity...”

Comments/questions provided by Don Guy & Connie Livchak, 4/3/06
A few grammatical comments added by Tom Berg, 4/4/06