Ohio Coastal Management Program Assessment and Multi-Year Strategy 2011-2015

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

Prepared by the Ohio Department of Natural Resources
Office of Coastal Management

www.ohiodnr.com/coastal

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I. 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.

Section 309 of the Coastal Zone Management Act (CZMA), as amended in 1990 and 1996, establishes a voluntary coastal zone enhancement grant program for State and Territory Coastal Management Programs (CMPs). The purpose of the voluntary grant program is to encourage CMPs to develop and implement program changes in one or more of the nine enhancement areas set by statute. The enhancement program funding is allocated in two ways: (1) weighted formula and (2) Projects of Special Merit (PSM). Unlike other CMP funding, matching funds are not required.

To be eligible for Section 309 funds, a CMP must assess its coastal program and develop a strategy for enhancing priority areas. The nine priority enhancement areas set by statute are:

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

States and territories must update their Section 309 Assessments every five years based on a template and set of questions developed by the NOAA Office of Ocean and Coastal Resource Management (OCRM) in consultation with states and territories. The Assessment should determine the extent to which problems and opportunities exist with regard to each of the enhancement area objectives and the effectiveness of existing efforts to address those problems. The Assessment should provide the factual basis for OCRM and CMPs to determine priority needs for program enhancement. The assessment of each enhancement area is formatted as follows: Section 309 Enhancement Objective; Resource Characterization; Management Characterization; Priority Needs and Information Gaps; and Enhancement Area Prioritization.

The Strategy should identify program changes and implementation activities needed to address enhancement area objectives indentified as a high or medium priority in the Assessment. The Strategy must be based on the needs identified in the Assessment and should cover the 5-year period from federal FY2011-FY2015. Enhancement area strategies can address more than one enhancement area and must include estimated costs, a schedule, and a general work plan listing necessary steps for achieving the program changes and implementation activities.

Section 309 grant funds may not be used to fund Section 306A-type projects such as acquisition or low-cost construction. Section 309 grant funds may be used to fund activities that lead to 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 change implementation activities must meet the following general requirements: (1) advance the objectives of a priority 309 enhancement area; (2) relate to at least one 309 program change identified in an approved strategy; and (3) demonstrate cost effectiveness and technical soundness. Section 309 funds may be used to implement a program change for up to two grant years from program change completion.

In addition, CMPs are encouraged to incorporate consideration of threatened and endangered species within their Assessments and Strategies and how they can improve management of any special marine and coastal 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, Coastal Hazards, Cumulative and Secondary Impacts, Great Lakes Resources, and Energy & Government Facility Siting.

The focus for the five-year period from federal FY 2011 to federal FY 2015 will be on:

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

Four strategies have been developed that will address these six enhancement areas. A 5-year budget summary for the four strategies is included at the end of the Strategy section of this document.

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 and the Integrated Management Team for review and comment.

Ohio's 309 Assessment and Strategies document was made available for public review from August 16, 2010 through September 17, 2010. (33 days) As part of the public review process, public notice was given in seven coastal area general circulation newspapers. Approximately 28 members of the Policies and Programs Coordinating Committee (inter-agency network) and the Coastal Resources Advisory Council were sent an email request for review and comment with a link to the Draft Assessment and Multi-year Strategy document. A state-wide news release was also issued on August 19, 2010.

In addition, the following announcement (with attached file for downloading the entire document) was posted on the Office of Coastal Management web site on August 16, 2010.

Draft Assessment and Multi-year Strategy
2011-2015

for the Section 309
Coastal Zone Enhancement Grants Program

Download the .pdf document

Comments must be postmarked or emailed by September 17, 2010 and sent to: Yetty Alley, ODNR Office of Coastal Management, 105 West Shoreline Drive, Sandusky, Ohio 44870 or yetty.alley@dnr.state.oh.us.

The Ohio Department of Natural Resources has made available for public review and comment the following document: Draft Assessment and Multi-year Strategy 2011-2015 for the Section 309 Coastal Zone Enhancement Grants Program for the State of Ohio, in accordance with Section 309 of the federal Coastal Zone Management Act (CZMA), as amended in 1990 and 1996.

Section 309 of the CZMA requires states to assess their programs in nine enhancement areas. 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/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 identify program changes and implementation activities needed to address enhancement area objectives identified in the Assessment over the next five fiscal years.

Ohio's document (updated from Ohio's 2005 assessment) identifies four strategies that have been developed to address six of these enhancement areas. The six enhancement areas addressed are: Wetlands, Coastal Hazards, Public Access, Cumulative and Secondary Impacts, Great Lakes Resources, and Energy & Government Facility Siting.

Print a PDF version of the Draft Assessment and Multi-year Strategy 2011-2015 for the Section 309 Coastal Zone Enhancement Grants Program.

Or, obtain a copy by calling 1-888-OHIOCMP.

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

II. Summary of Completed Section 309 Efforts

The State of Ohio's focus for the past five years of the Section 309 program has been on six strategies to address the following priority enhancement areas: Wetlands, Coastal Hazards, Cumulative and Secondary Impacts, Great Lakes Resources, and Energy & Government Facility Siting. Significant strides have been made toward accomplishing the strategies and advancing the 309 enhancement objectives.

Wetlands

Several needs and gaps in addressing the programmatic objectives for Wetlands were identified in the previous assessment including the lack of detailed information about the location, type and quality of terrestrial and wetland habitats. The Coastal Habitat Mapping Initiative was created to address those needs and gaps and consisted of three primary efforts. The first effort involved the digitizing and update of the National Wetlands Inventory data for Ohio. The update was accomplished through a contract with Ducks Unlimited through the ODNR Division of Wildlife with multiple funding sources, including Section 306 funds. The second effort was focused on the standardization of habitat descriptions across agencies to facilitate the collection of habitat data in a more readily mapped format and was to be based on the work of the Lake Erie Millennium Network. The Network's progress towards the habitat description standardization goal has been slow but it continues as does the Office of Coastal Management's Section 306-funded participation in the Network. The third effort was the Lake Erie Watershed Habitat GIS Coordination task. This task was accomplished through the ODNR Division of Natural Areas and Preserves (DNAP) and was funded through the 309 program. DNAP used their plant community classification system to create a GIS layer that comprehensively maps out all of the habitats within the coastal management area. Rare plant surveys were also conducted along with updates to other rare species and plant community data as part of this task. While the revision of DNAP's Priority Acquisition List for the Lake Erie Watershed is an original intended outcome of the task that may not be realized, the information resulting from the task has been used to develop a map of potential project areas for Ohio's Coastal and Estuarine Land Conservation Program Plan.

Coastal Hazards

In the previous assessment, public understanding and acceptance of the need for sound sand management practices was identified as a gap that needed to be addressed through education and outreach. Two strategies were identified to help fill that gap and result in published documents that back Office of Coastal Management regulatory decisions and policy changes regarding shoreline construction and the appropriate methods and projects for particular reaches of shore.

Coastal Design Manual (CDM)

A 90% draft of the CDM first edition has been completed and is currently under internal review. The CDM first edition focuses on the design process including a summary of required existing site condition information, basic coastal engineering and surveying methods and design examples for

revetments and seawalls. The intent of the CDM is to provide technical guidelines for professionals to use in the design of structures along the shore of Lake Erie. One expected outcome is that the application process for ODNR Coastal Permits and Leases will be facilitated by the use of these design processes.

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. Ashtabula County was selected as Region 1 for the LESEMP and the process of data gathering and analysis has been completed. The final editing and distribution of the Region 1 plan is underway and the initiation of work for Region 2 has begun. In-house staff is leading plan development efforts instead of using a consultant and Section 306 together with other state funds have been used instead of 309 funds to accomplish the planning process.

Cumulative and Secondary Impacts
The strategy to address this enhancement area focused on two initiatives. The first initiative was the pursuit of a Combined Permit Application and coordinated review process that would address the requirements of ODNR, the Ohio EPA and the US Army Corps of Engineers. Initial progress was made on this initiative, but the project stalled due in part to a delay while waiting for the outcome of Ohio EPA 401 Water Quality Certification rule changes. The combined permit along with better coordination of regulatory reviews was discussed at a recent multi-agency regulatory coordination meeting held by the Office of Coastal Management. Interest still exists in pursuing a combined permit and better regulatory review coordination, and OCM will be continuing a dialogue with regulatory partners to see if progress can be made on these initiatives.

The second initiative was for the development of a Regulatory GIS Database that would eliminate multiple regulatory tables being used and combine all regulatory data into one application that is geographically referenced. A Regulatory GIS Database has been developed with Section 306 funds and is being piloted and fine tuned.

Great Lakes Resources
Ohio was the sixth state to ratify the Great Lakes- St. Lawrence River Basin Water Resources Compact (Compact). With the 2008 ratification, the State of Ohio initiated efforts to begin implementing aspects of the Compact. In 2009, Ohio's 309 Strategy was amended to include an additional project in order to assist with the Compact implementation. Tasks being undertaken through the Compact implementation project include: providing staff support for the Ohio Compact Advisory Board for drafting a report to the General Assembly and Governor; drafting rules and legislation for the Compact implementation; developing processes and procedures in conjunction with the seven other Great Lakes States for collecting and recording water withdrawal and consumptive use data within the Great Lakes Basin; developing processes and procedures for reviewing applications for the exceptions to the prohibition on diversions; and working with the Ohio Office of Coastal Management to update Policy 39- Water Diversion, 40- Lake Erie Water Levels, and 41- Water Management. This task is scheduled for completion in December 2010.

Energy and Government Facility Siting

There has been a significant increase in efforts to pursue the development of wind energy facilities on and near Lake Erie due in part to the interest and financial assistance of the state and federal government and passage of the Ohio alternative energy portfolio standard in 2008. At the time of the previous 309 assessment, it was expected that post-construction studies at the Great Lakes Science Center and pre-construction studies potentially at sites in the western basin of Lake Erie would be conducted during the assessment period. These studies were not feasible for various reasons. However, progress was made towards the improvement of policies and standards to facilitate the siting of wind energy facilities while maintaining coastal resource protection. A Voluntary Cooperation Agreement was developed by the Ohio Department of Natural Resources (ODNR) as a means of coordinating wind energy projects with wind energy developers. In conjunction with the voluntary agreement, pre- and post-construction monitoring protocols for on-shore wind energy facilities were also developed by the ODNR Division of Wildlife. The monitoring protocols are standardized procedures being used with wind energy developers that will minimize wind/wildlife interactions while enabling the development of a renewable energy resource. Both the voluntary agreement and the monitoring protocols are 309-driven initiatives.

III. Assessment

Wetlands

Section 309 Enhancement Objective
Protection, restoration, or enhancement of the existing coastal wetlands base, or creation of new coastal wetlands

Resource Characterization
Purpose: To determine the extent to which problems and opportunities exist with regard to the enhancement objective.

1. Please indicate the extent, status, and trends of wetlands in the coastal zone using the following table:

Wetlands type	**Estimated historic extent** (acres)	**Current extent** (acres)	**Trends in acres lost since 2006** (Net acres gained & lost)	**Acres gained through voluntary mechanisms since 2006**	**Acres gained through mitigation since 2006**	**Year and source(s) of Data**
Tidal (Great Lakes) vegetated	368 (CMA)	521 (CMA)	Not Available	Not Available	Not Available	2009 Updated National Wetlands Inventory of Ohio by Ducks Unlimited (circa 2006-2007) Original NWI (circa 1975-1990)
Tidal (Great Lakes) non-vegetated	59,267 (CMA)	76,264 (CMA)	Not Available	Not Available	Not Available	
Non-tidal/ freshwater	27,879 (CMA)	34,735 (CMA)	Not Available	Not Available	Not Available	
Other (please specify)	--	--	--	--	--	

2. If information is not available to fill in the above table, provide a qualitative description of information requested, including wetlands status and trends, based on the best available information.

National Wetlands Inventory (NWI) data (circa 1975-1990) was used to estimate the historic extent of wetlands in the coastal zone or coastal management area (CMA). Data from the 2009

Updated National Wetlands Inventory of Ohio (circa 2006-2007) was used to estimate the current extent of wetlands in the CMA. Tidal wetlands were identified by using the NWI classifications of lacustrine (not including those identified as diked, excavated or spoil) and riverine- lower perennial (not including intermittent). Based on this data, which included classifications that were used to distinguish vegetated/non-vegetated, the estimated historic extent of tidal vegetated wetlands totaled 368 acres, tidal non-vegetated wetlands totaled 59,267 acres, and non-tidal wetlands totaled 27,879. The current extent of wetlands in the CMA is as follows: tidal vegetated - 521 acres, tidal non-vegetated - 76,264 acres, and non-tidal- 34,735 acres.

According to the 2009 NWI, approximately 7,000 acres in the coastal counties have been converted from wetland to another use since the NWI circa 1975-1990. The 2009 NWI report indicated that statewide, the majority of the converted wetlands were due to agricultural purposes (50%) with development being the second largest percentage (46%). In addition, "the geographic distribution of the wetland conversion is concentrated in the northeast and border counties in the northwest parts of the state."

Approximately 16,265 acres of wetlands have been added to the inventory for coastal counties since the original NWI. The 2009 NWI included the following explanation regarding wetlands that were not included in the original NWI. "It is important to note that wetlands identified in the update that were not in the original, are not necessarily newly created wetlands. In many cases, the scale of the imagery used in the update (2005) was better than what was used in the original classification. Therefore, many of the newly identified wetlands are small and would not necessarily have been seen in the original classification. The average size of the added wetlands was 1.7 acres, which is below the minimum size (2-3 acres) of the original NWI mapping scale."

3. Provide a brief explanation for trends.

   Based on the acres converted and the acres added, there appears to be a net gain in wetland acres throughout the coastal counties. However, the 2009 NWI suggested the use of extreme caution when using the data to determine net wetland change. In addition to the differences in scale between the two inventories already mentioned, the report points out that "wetland change does not consider wetland type in the analysis." It is possible that a county's data could show a net gain in total wetlands of 5,000 acres which sounds good, but if it was the result of losing 10,000 acres of emergent wetlands and gaining 15,000 of open water (i.e. backyard ponds) then it would not necessarily be considered good from a habitat value standpoint.

   Data on acres added and converted for the CMA was not available and therefore it was not possible to estimate the net gain in wetland acres.

   Tracking systems are not currently in place to gather the information requested regarding acres gained through voluntary mechanisms or mitigation at either the CMA or county scale.

4. Identify ongoing or planned efforts to develop monitoring programs or quantitative measures for this enhancement area.

Prior to the 2009 effort, the NWI was last updated in the 1970's and 1980's. This undertaking is very time consuming and expensive. It is not likely that Ducks Unlimited or the supporting state and federal agencies will take on another inventory update effort within this or the next 309 five-year period.

However, the 2009 NWI data set can be used to monitor current and future wetland trends if a mechanism is developed to collect data on ongoing mitigation, restoration or preservation activities.

5. Use the following table to characterize direct and indirect threats to coastal wetlands, both natural and man-made. If necessary, additional narrative can be provided below to describe threats.

Type of threat	**Severity of impacts** (H,M,L)	**Geographic scope of impacts** (extensive or limited)	**Irreversibility** (H,M,L)
Development/Fill	H	Extensive	H
Alteration of hydrology	H	Extensive	M
Erosion	M	Extensive	L
Pollution	M	Extensive	L
Channelization	H	Limited	M
Nuisance or exotic species	H	Extensive	H
Freshwater input	N/A		
Sea level rise/Great Lake level change	H	Extensive	H
Other- Salt	M	Limited to Mentor Marsh	L

6. **(CM)** Indicate whether the Coastal Management Program (CMP) has a mapped inventory of the following habitat types in the coastal zone and the approximate time since it was developed or significantly updated

Habitat type	**CMP has mapped inventory** (Y or N)	**Date completed or substantially updated**
Tidal (Great Lakes) Wetlands	Y (National Wetlands Inventory (GIS and report), inventoried by Ducks Unlimited. See: http://www.ducks.org/Conservation/GLARO/3752/GISNWIUpdate.html)	State-wide update completed 2009
Beach and Dune	Y (Coastal Vegetation GIS (includes habitat types, including beaches and dunes in CMA only), by ODNR Division of Natural Areas and Preserves)	Completed 2006

Habitat type	**CMP has mapped inventory** (Y or N)	**Date completed or substantially updated**
Nearshore Other (please specify)	Y (ODNR Division of Geological Survey data)	2004
Other (Please Specify)	N/A	N/A

7. **(CM)** Use the table below to report information related coastal habitat restoration and protection. The purpose of this contextual measure is to describe trends in the restoration and protection of coastal habitat conducted by the State using non-CZM funds or non Coastal and Estuarine Land Conservation Program (CELCP) funds. If data is not available to report for this contextual measure, please describe below actions the CMP is taking to develop a mechanism to collect the requested data.

Contextual measure	**Cumulative acres for 2004-2010**
Number of acres of coastal habitat restored using non-CZM or non-Coastal and Estuarine Land Conservation Program (CELCP) funds	Data is not available
Number of acres of coastal habitat protected through acquisition or easement using non-CZM or non-CELCP funds	Data is not available

There are several privately funded wetland mitigation banks i~~o~~n the Lake Erie watershed. These are usually large restoration or preservation projects where the site is constructed and then "credits" are sold as needed to compensate for impacts that are permitted within a given watershed. Since 2004 there have been 2,630 acres of approved or pending wetland mitigation banks created and monitored by the Army Corps of Engineers Buffalo District (http://www.lrb.usace.army.mil/regulatory/reg.htm).

There are also several programs that provide funding for a variety of natural resource protection, enhancement and restoration projects, including wetlands:

- Clean Ohio "Green Fund" administered by the Ohio Public Works Commission (http://www.clean.ohio.gov/GreenSpaceConservation/Default.htm)

- Ohio EPA Division of Environmental and Financial Assistance Water Resource Restoration Sponsor Program (WRRSP) offers low interest loans to communities to "counter the loss of ecological function and biological diversity that jeopardizes the health of Ohio's water resources. This program funds both preservation and restoration of aquatic habitat to accomplish this goal." (http://www.epa.state.oh.us/defa/09wrrsp.aspx)

- Ohio EPA Division of Surface Water Non-Point Source Pollution program 319 grants. The focus is mostly on stream projects but sometimes there is a wetland component. (http://www.epa.ohio.gov/dsw/nps/319Program.aspx)

- Natural Resources Conservation Service Wetland Reserve Program. The Wetland Reserve Program (WRP) is a voluntary conservation program that offers landowners the means and opportunity to protect, restore, and enhance wetlands on their property through perpetual easements, 30-year easements or Land Treatment Contracts. The USDA Natural Resources Conservation Service (NRCS) manages the program as well as provides technical and financial support to help landowners who participate in WRP. **(**http://www.oh.nrcs.usda.gov/programs/wrp/wetlands_reserve_program.html)

- ODNR Wetland Restoration Program funding is available to cover 50 percent of restoration costs, up to $750 per acre restored, for landowners willing maintain the site for up to 10 years. A longer maintenance agreement of 20 years will pay 100 percent of costs, up to $1,500 per acre restored. In some cases, this program may be used in conjunction with federal conservation programs offered through the USDA Farm Bill. This program is financed from money received from the sale of Ohio Wetland Stamps and Ducks Unlimited MARSH funds. (http://www.dnr.state.oh.us/wildlife/Home/resources/mgtplans/wetlandrestoration/tabid/5810/Default.aspx)

As stated previously, a mechanism does not exist to collect information from the various agencies and organizations that fund or regulate restoration or protection of coastal habitat. The Ohio Coastal Management Program is proposing a strategy to develop a mechanism that will, at a minimum, enable the collection of data from entities that issue permits for wetland restoration, mitigation, and creation within the coastal management area. This data can then be used to fulfill a large portion of the data requested for this wetlands contextual measure.

Management Characterization

Purpose: To determine the effectiveness of management efforts to address those problems described in the above section for the enhancement objective.

1. For each of the wetland management categories below, indicate if the approach is employed by the state or territory and if significant changes have occurred since the last assessment:

Management categories	**Employed by state/territory** (Y or N)	**Significant changes since last assessment** (Y or N)
Wetland regulatory program implementation, policies, and standards	Y	N
Wetland protection policies and standards	Y	N
Wetland assessment methodologies (health, function, extent)	Y	N
Wetland restoration or enhancement programs	Y	No (Clean Ohio was re-authorized in 2008.)

Management categories	**Employed by state/territory** (Y or N)	**Significant changes since last assessment** (Y or N)
Wetland policies related public infrastructure funding	N	N
Wetland mitigation programs and policies	Y	N
Wetland creation programs and policies	Y	N
Wetland acquisition programs	Y	No (Clean Ohio was re-authorized in 2008.)
Wetland mapping, GIS, and tracking systems	Y	Y
Special Area Management Plans	Y	N
Wetland research and monitoring	Y	Y
Wetland education and outreach	Y	N
Other (please specify)		

2. For management categories with significant changes since the last assessment provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference rather than duplicate the information.
    a) Characterize significant changes since the last assessment;
    b) Specify if it was a 309 or other CZM-driven change (specify funding source) or if it was driven by non-CZM efforts; and
    c) Characterize the outcomes and effectiveness of the changes.

<u>Wetland regulatory program implementation, policies, and standards- No significant change</u>
Clean Water Act Section 404 Permits and Section 401 Water Quality Certifications required for Waters of the US. Additionally, Ohio has an Isolated Wetland Permit program for all wetlands not regulated by the Army Corps of Engineers.

<u>Wetland protection policies and standards- No significant change</u>
Current Ohio wetland rules were promulgated in 1998 (OAC 3745-1-50 to 54). Draft updates to these rules have been available since 2006, but the approval process for the proposed changes is currently on hold.

<u>Wetland assessment methodologies (health, function, extent) - No significant change</u>
Ohio EPA uses the Ohio Rapid Assessment Method (ORAM) for wetlands as its main analysis tool for determining the appropriate wetland antidegredation category. Other, more intensive (Level III) tools have also been developed and are in use for monitoring of natural and mitigation wetlands. These are the Vegetation Index of Biotic Integrity (VIBI) and the Amphibian Index of Biotic Integrity (AmphIBI). U.S. EPA will be evaluating wetland conditions on a national basis in 2011, and the assessment methodology for this project is currently under development.

<u>Wetland restoration or enhancement programs- No significant change</u>
ODNR Wetland Restoration Program, Natural Resources Conservation Service Wetland Reserve Program, Ohio EPA Division of Surface Water Non-Point Source Pollution program 319 grants, Ohio EPA Division of Environmental and Financial Assistance Water Resource Restoration Sponsor Program (WRRSP), and Clean Ohio “Green Fund”

Wetland mitigation programs and policies- No significant change
Ohio EPA (Section 401 and Isolated Wetland permits) and the U.S. Army Corps of Engineers (Section 404 permits) require compensatory mitigation for all permitted impacts to wetlands.

Wetland creation programs and policies- No significant change
U.S. Army Corps of Engineers (Section 404 permits) requires compensatory mitigation for all permitted impacts to wetlands.

Wetland acquisition programs- No significant change
ODNR Wetland Restoration Program, Natural Resources Conservation Service Wetland Reserve Program, CELCP, and Clean Ohio "Green Fund"

Wetland mapping, GIS, and tracking systems- Significant change
The National Wetland Inventory was updated in late 2009 by Ducks Unlimited using 2006/2007 high resolution aerial photography. The updated NWI will enable better management and tracking of wetland resources that are now more accurately identified. While the change was not 309 driven, CZM funds were made available to assist with the data collection and analysis. A large portion of the update funding was provided by ODNR-Division of Wildlife.

Special Area Management Plans (Plans) - No significant change
No Plans have been started or completed since the last assessment.

Wetland research and monitoring- Significant change
The Ohio EPA Wetland Ecology Group has an active research program. Recent work has focused on urban wetlands, mitigation wetlands, and a detailed study of the Cuyahoga and Big Run (of the Scioto River) watersheds. Completed reports can be accessed at the following site: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection_reports.aspx. Decision-makers in the studied watersheds now have access to detailed information on the location and quality of wetlands and the main stressors for those wetlands that can be used to help guide land use decisions and restoration planning.

Wetland education and outreach- No significant change
The Office of Coastal Management has expanded its education and outreach efforts over the last five years to include many different ventures ranging from presentations to local and civic groups to development of fact sheets and WebPages to serve the educational needs of Ohio's coastal constituents. While some educational tools are audience specific, others are intended to serve the general public. A few key items developed recently include:

The Ohio Coastal Atlas Project suite of resources was developed to provide coastal decision makers, professionals, educators, interest groups and the general public with information about Lake Erie and its watershed. The Office of Coastal Management began developing the Ohio Coastal Atlas products in 2004. The Ohio Coastal Atlas Project consists of four components:

- The 240-page printed Second Edition is illustrated with maps, text, figures and photographs featuring geographic resource data for the Lake Erie region's cultural, physical, biological and natural phenomena.

- The DVD Edition, comprised of high-resolution PDF files formatted for computer use, contains all of the information found in the Second Edition plus additional maps and content.
- The online Interactive Atlas Map Viewer allows users to create and customize maps with GIS data layers found in the printed and digital atlases. The Viewer also permits users to download GIS data and access metadata**.**
- The Coastal Map Library is a repository of prepared, static maps from the atlas and other sources available to download as high-resolution PDF files. Designated Coastal Management Area Maps are found here.

NOAA-funded agencies in Ohio have partnered to develop a unified education and outreach plan for Lake Erie and its watershed. The partners committed to this effort include: the Office of Coastal Management (OCM), Old Woman Creek (OWC) National Estuarine Research Reserve, and the Ohio Sea Grant College Program (OSG). Although not directly funded by NOAA, the Ohio Lake Erie Commission (OLEC) is also a dedicated partner.

3. **(CM)** Indicate whether the CMP has a habitat restoration plan for the following coastal habitats and the approximate time since the plan was developed or significantly updated.

Habitat type	**CMP has a restoration plan** (Y or N)	**Date completed or substantially updated**
Tidal (Great Lake) Wetlands	N	--
Beach and Dune	N	--
Nearshore	N	--
Other (please specify)	N/A	N/A

<u>Priority Needs and Information Gaps</u>

Using the table below, identify major gaps or needs (regulatory, policy, data, training, capacity, communication and outreach) in addressing each of the enhancement area objectives that could be addressed through the Coastal Management Program and partners (not limited to those items to be addressed through the Section 309 Strategy). If necessary, additional narrative can be provided below to describe major gaps or needs.

Gap or need description	**Select type of gap or need** (regulatory, policy, data, training, capacity, communication & outreach)	**Level of priority (H, M, L)**
Gap- There is no single entity or mechanism in place that tracks and compiles data on the wetland creation, restoration and preservation activities of all the federal, state, and private programs that deal with wetland regulation, mitigation, restoration and acquisition.	data	M
Gap- The CMP does not have a wetlands restoration plan.	data/capacity/communication & outreach	M

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal zone (including, but not limited to, CZMA funding)?

High _____
Medium __X__
Low _____

Briefly explain the level of priority given for this enhancement area.

This enhancement area has been identified as a medium priority because quality wetlands in relative abundance are a critical element for healthy watersheds and coastal areas.

2. Will the CMP develop one or more strategies for this enhancement area?

Yes __X___
No _____

Briefly explain why a strategy will or will not be developed for this enhancement area.

There are numerous programs, organizations and funding sources from the federal to local levels that focus on wetlands and much positive work is being done towards wetland restoration and preservation. To capture and communicate the cumulative benefit and impact of the organizations and programs, wetland gains and losses need to be assessed in a comprehensive manner on a regular basis.

Also, in order for the CMP to be more targeted in its promotion of wetland preservation and restoration through its grant programs and to provide assistance to communities and organizations, a wetland restoration plan needs to be developed.

Coastal Hazards

Section 309 Enhancement Objective
Prevent or significantly reduce threats to life and property by eliminating development and redevelopment in high-hazard areas, managing development in other hazard areas, and anticipating and managing the effects of potential sea level rise and Great Lakes level change

Resource Characterization
Purpose: To determine the extent to which problems and opportunities exist with regard to the enhancement objective.

1. Characterize the level of risk in the coastal zone from the following coastal hazards:

   (Risk is defined as: "the estimated impact that a hazard would have on people, services, facilities and structures in a community; the likelihood of a hazard event resulting in an adverse condition that causes injury or damage." *Understanding Your Risks: Identifying Hazards and Estimating Losses. FEMA 386-2. August 2001*)

Type of hazard	**General level of risk** (H,M,L)	**Geographic Scope of Risk (Coast-wide, Sub-region)**
Flooding	H	Coast-wide; western basin low-lying areas at greatest risk of inundation
Coastal storms, including associated storm surge	M	Coast-wide
Geological hazards (e.g., tsunamis, earthquakes)	L	Coast-wide
Shoreline erosion (including bluff and dune erosion)	H	Coast-wide
Sea level rise and other climate change impacts	N/A	Coast-wide
Great Lake level change and other climate change impacts	H	Coast-wide
Land subsidence	L	Coast-wide
Other (please specify)		

2. For hazards identified as a high level of risk, please explain why it is considered a high level risk. For example, has a risk assessment been conducted, either through the State or Territory Hazard Mitigation Plan or elsewhere?

Flooding
Flooding, particularly within the low-lying regions of western Ohio, has been noted throughout history. Strong northeastern storms or prolonged winds from the northeast temporarily increase

lake levels, causing flooding and inundation along the coast and inland for some distance. Throughout the entire coast, rain, snow, and the spring runoff can lead to flooding and erosion.

According to the NOAA National Climate Data Center, the annual mean total precipitation throughout the coast of Ohio is 30-40 inches per year. While this is not an extreme amount of precipitation over the course of an entire year, it can be a staggering amount of rain when coupled with the current climate change predictions for the Great Lakes region. Ohio, like the rest of the Midwest, is predicted to see longer and more frequent periods of drought coupled with episodic intense precipitation events. In other words, while the amount of precipitation over the course of the year may decrease or remain relatively constant, Ohio's 30-40 inches of precipitation may fall during fewer, more intense events rather than during numerous small events spread more evenly throughout the year. This will likely lead to severe upland flooding coast-wide, with greater effects felt along the western low-lying areas.

The effects of snow and its associated spring thaw runoff can lead to short-term episodic flooding, particularly in areas subject to lake-effect snow events. The annual mean total snowfall for the western counties along Ohio's coast is 24-36 inches. Moving eastward there is a marked increase in the annual mean total snowfall amounts, with the Cleveland area receiving 36-48 inches, the eastern/snowbelt counties receiving 48-72 inches, and a small pocket in the Lake/Ashtabula/Geauga counties area receiving more than 72 inches. Similar to total precipitation, snowfall events may begin to be more periodic and intense, with increasing amounts of snow per event. The spring thaw and runoff can lead to flooding if the temperatures shift drastically or if the ground has not warmed enough to allow for runoff infiltration. Flooding of inland areas is a concern when ice jams occur along the tributaries to Lake Erie. Ice jams often occur in the spring time as the ice melts partially causing ice to float into one narrower area of the river, backing up the flow of water. Thus far, climate change predictions are only calling for the thaw-runoff process to begin earlier in the year, which affects the timing but not the amount of runoff. It is foreseeable that flooding will still be a concern during the spring thaw, so long as the snow fall amounts continue to be in the ranges expressed above.

Shoreline Erosion

Erosion of Ohio's Lake Erie shore has been a noted issue for decades, with anecdotal and substantiated evidence of erosion such as maps and surveys dating from the early 19th century. The Division of Geological Survey within the Ohio Department of Natural Resources documented some of the effects of erosion over the past half century, prompting the development of reports on lake-based erosion within all eight coastal counties in the late 1970s and early 1980s. These reports highlight conditions along the coast with specific emphasis on the types of erosion within certain areas and the need for protecting the shore from future erosive events.

In the 1990s the Ohio Legislature recognized the growing need for the State to assist property owners in their battles with lake-based erosion. Through the enactment of Ohio Revised Code 1521.29 (currently revised to 1506.47), the State called for the creation of "a plan for the management of shore erosion in the state along Lake Erie, its bays, and associated inlets, revise the plan whenever it can be made more effective, and make the plan available for public inspection". Furthermore, the state is called upon to provide technical assistance to property owners and officials as it relates to the control of erosion.

Also, in order to promote wise land use, Ohio Revised Code Sections 1506.06 and 1506.07 require the identification of Lake Erie coastal erosion areas and rules governing the erection, construction, and redevelopment of permanent structures within these areas. Scientific data and records are used to analyze recession of the Lake Erie shore and forecast erosion rates. Approximately one-third of the Ohio shoreline was designated as a coastal erosion area in the initial mapping effort in 1998. This proportion may change as a result of the 2010 mapping update that is being finalized. Furthermore, the State of Ohio Hazard Mitigation Plan states that all of the Local Hazard Mitigation Plans for the counties that border Lake Erie, except Sandusky and Lucas counties, have indicated that coastal erosion is a recognized hazard and ranked it either fourth or fifth for their county.

Great Lake level change and other climate change impacts

In recent years, modeling and research into the potential impacts of climate change on the Great Lakes region has shown that as temperatures increase, there will most likely be a net proportionate increase in evaporation of water from the lakes. In turn, the higher evaporation rates may lead to decreased lake levels.

The effects of decreased lake levels will be felt within all sectors, with the greatest impacts felt within the shipping, recreational boating, and fishing industries. As lake levels decrease, there will be an increase in the need for dredging of rivers and harbors to allow for adequate vessel draft; otherwise, commercial vessels will carry less cargo, reducing the economic inputs of those products, while increasing the costs of shipment. Recreational boaters will also witness less draft within marinas and in the nearshore areas, predominantly within the western basin and along the island areas. Similarly, lower lake levels will lead to warmer lake waters, increasing number and duration of anoxia events (dead zones), and changing nearshore habitat. Many of the current species of fish within Lake Erie will be affected by the changes to the lake, resulting in lower stocks of native species. There is also a predicted increase in nonnative species that are more adapted to the changing lake conditions (i.e. prefer warmer waters).

3. If the level of risk or state of knowledge of risk for any of these hazards has changed since the last assessment, please explain.

Great Lake level change and other climate change impacts

In recent years, more information regarding predicted changes to the Great Lakes region in response to climate change has been released by scientific entities. Modeling lake levels, changes in day and night time temperatures, and changes in species presence and populations have been at the forefront of climate change research. In June of 2009, the United States Global Change Research Program (USGCRP) released a report covering the changes predicted to occur within the United States if climate changes slightly or drastically. The report is divided into regions, with Ohio included within the Midwest Region.

According to the USGCRP report an increase in day and night time temperatures, coupled with less ice cover in the winter, will lead to greater evaporation from the Great Lakes and thus a lowering of the lakes will occur. Future lake levels are predicted to decrease by as much as 2 feet by the end of the century. Lower lake levels will alter beaches and lake to shore distances, impact coastal ecosystems such as wetlands, and increase the demand for dredging within rivers

and ports. Warmer temperatures in the summer months will lead to less frequent precipitation events causing long periods of drought conditions. Coupled with the droughts are the predictions for more intense episodic rain fall events during the winter and spring. The drought-flood conditions will lead to less ground water infiltration as the soils will not be able to handle the intense rainfalls. Surface erosion at the top of the bluff and along the bluff face may occur as a result of the intense rainfall events.

Additional effects of a changing climate will impact the travel and tourism industry, fisheries, transportation, health and welfare, agriculture, and energy. In general, all sectors will be affected by changes to climate, with some of the changes already being noticed during the more frequent flooding and drought events.

4. Identify any ongoing or planned efforts to develop quantitative measures of risk for these hazards.

LESEMP

Since the last Section 309 Assessment, the Lake Erie Shore Erosion Management Plan (LESEMP) has continued to progress and evolve. The objective of the LESEMP is to provide technical assistance and guidance to local communities and property owners in addressing lake-based erosion issues. To achieve this end, the LESEMP project partners have already accomplished the following: researched and prepared summaries on the other US coastal states' erosion management programs as a means of acquiring "lessons learned"; conducted a Local Community Needs Assessment to determine the needs of property owners and public officials related to erosion information and how to best reach these two target audiences; held a series of meetings with public officials from the model reach, including county-level officials and officials from all seven municipalities along the lake; and held two series of meetings with the public from the municipalities within the model reach.

Early efforts on the LESEMP involved a great deal of data acquisition and analysis. The LESEMP has now moved into a development and implementation phase, whereby the model region of Ashtabula County has been selected and recommendations for reaches within this county have been developed. Ashtabula County was parsed into reaches for the purposes of creating recommendations; each reach is essentially a management unit within the county. The recommendations for the reaches are based on the physical setting of each reach- i.e. bluff composition, nearshore substrate, beach presence. The final products developed as part of the LESEMP will be available via the OCM website and as printed materials available at meetings and technical assistance visits.

CEA

The Coastal Erosion Area, originally mapped in 1998, was remapped and released for public review in early 2010. At least once every ten years ODNR must review and may revise the Coastal Erosion Area designations per Ohio Revised Code Section 1506-06 (E). The mapping is useful in determining areas along the coast where higher erosion rates are likely over the next 30 years if no additional erosion control measures are installed. Finalization of the 2010 mapping is anticipated to occur in early 2011.

Ohio EPA- Climate Change

The Ohio Environmental Protection Agency (OEPA) is actively working on several initiatives related to climate change. In 2007, The Climate Registry was formed- a consortium of over 30 states developing uniform metrics to measure and report on greenhouse gas emissions. The objective of the Registry is a uniform tracking system that will provide a better estimate of greenhouse gas emissions.

The OEPA has also created an internal climate change task force charged with monitoring federal and state developments in this area, including reviewing bills currently before the US Congress and determining the implications of each on Ohio. The task force consists of a variety of OEPA personnel.

NOAA/Sea Grant/OWC NERR Project on Capacity Building for Climate Change Adaptation

A collaborative project is underway between the NOAA Great Lakes Regional Collaboration Team, Great Lakes Sea Grant Network, and Old Woman Creek National Estuarine Research Reserve in concert with the Great Lakes & Saint Lawrence Cities Initiative to build capacity among Great Lakes coastal communities to address climate change impacts. The focus of the two-phase project is a needs assessment that will ultimately be used to design climate change adaptation training for Great Lakes coastal community decision-makers and professionals. One issue area that is being assessed through this project is Hazard Resilience and Disaster Preparedness.

Alternative Energy Portfolio Standards

On May 1, 2008, Ohio Governor Ted Strickland signed substitute Senate Bill 221 into law, effectively mandating that by 2025 twenty-five percent of energy sold within Ohio be from an alternative energy source. At least half of that energy must be from a renewable source of energy such as wind or solar power. For the purposes of the hazards discussion, offshore wind power facilities may be the next competing use within Lake Erie. While wind power is a renewable resource and reduces the states production of greenhouse gasses, developers will need to consider the current and predicted lake conditions. Of greatest concern will likely be changing lake levels and icing of the structures. The predictions of less lake ice and lower lake levels appear to be favorable for future development of offshore wind facilities.

Great Lakes-St. Lawrence River Basin Water Resources Compact

The Great Lakes-St. Lawrence River Basin Water Resources Compact (Compact) is explained in detail within the Great Lakes Resources section of this document and will only be mentioned here as it relates to national climate change. It is predicted that as climate change occurs water resources will become more scarce throughout the country and more so within the areas of the southwest. As a preemptive measure to halt water diversions out of the Great Lakes Basin as a means of meeting these future water needs, the states within the Great Lakes created the Compact to implement water conservation measures at the state and regional level. For more information regarding the Compact, please see the Great Lakes Resources Section.

5. **(CM)** Use the table below to identify the number of communities in the coastal zone that have a mapped inventory of areas affected by the following coastal hazards. If data is not

available to report for this contextual measure, please describe below actions the CMP is taking to develop a mechanism to collect the requested data.

Type of hazard	**Number of communities that have a mapped inventory**	**Date completed or substantially updated**
Flooding	All; 9 counties, 43 municipalities County — Municipality Ashtabula — 4 Cuyahoga — 7 Erie — 4 Lake — 11 Lorain — 5 Lucas — 4 Ottawa — 4 Sandusky — 1 Wood — 3	various
Storm surge	0	N/A
Geological hazards (including Earthquakes, tsunamis)	Statewide ODNR Division of Geological Survey earthquake map covers the 9 coastal counties that include 43 municipalities. (see flooding list above)	2007
Shoreline erosion (including bluff and dune erosion)	Statewide (CEA) 8 counties, 54 municipalities County — Municipality/Jurisdiction Mapped Ashtabula — 7 Cuyahoga — 6 Erie — 8 Lake — 12 Lorain — 4 Lucas — 4 Ottawa — 11 Sandusky — 2	2010
Sea level rise	N/A	N/A
Great lake level fluctuation	0	N/A
Land subsidence	0	N/A
Other (please specify)	N/A	N/A

The CMP communicates with communities through its existing programs and knows that for the types of hazards listed where a response of 0 communities was indicated, the communities don't have mapped inventories of the hazards indicated and no further action is planned/required.

Management Characterization

Purpose: To determine the effectiveness of management efforts to address those problems described in the above section for the enhancement objective.

1. For each of the management categories below, indicate if the approach is employed by the state or territory and if significant changes have occurred since the last assessment:

Management categories	**Employed by state/territory** (Y or N)	**Significant changes since last assessment** (Y or N)
Building setbacks/ restrictions	Y (CEA)	N
Methodologies for determining setbacks	Y	N
Repair/rebuilding restrictions	N	N
Restriction of hard shoreline protection structures	N	N
Promotion of alternative shoreline stabilization methodologies	Y	Y
Renovation of shoreline protection structures	N	N
Beach/dune protection (other than setbacks)	N	N
Permit compliance	Y	Y
Sediment management plans	Y	Y (category not in last 309)
Repetitive flood loss policies, (e.g., relocation, buyouts)	N	N (category not in last 309)
Local hazards mitigation planning	N	N
Local post-disaster redevelopment plans	N	N
Real estate sales disclosure requirements	Y (CEA)	N
Restrictions on publicly funded infrastructure	N	N
Climate change planning and adaptation strategies	N	N (category not in last 309)
Special Area Management Plans	Y	N
Hazards research and monitoring	Y (CEA)	Y
Hazards education and outreach	Y	Y
Other (please specify)		

2. For management categories with significant changes since the last assessment provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference rather than duplicate the information.
   a) Characterize significant changes since the last assessment;
   b) Specify if it was a 309 or other CZM-driven change (specify funding source) or if it was driven by non-CZM efforts; and
   c) Characterize the outcomes and effectiveness of the changes.

Promotion of Alternative Shoreline Stabilization Methods- Significant change
A shoreline stabilization project at Sheldon Marsh State Nature Preserve under the U.S. Army Corps of Engineers' Section 227 authority (Water Resources Development Act or WRDA) was described in Ohio's previous Section 309 Assessment. Currently, a project at Sheldon Marsh, near Huron, is being considered under WRDA Section 1135. The Corps of Engineers is completing the feasibility phase of the project. Shoreline stabilization options have been narrowed to approximately three different plans with ODNR's preferred plan making extensive use of beach nourishment and dune creation, including the planting of native vegetation.

LESEMP
A significant component of the LESEMP is the promotion of erosion control measures that are well-suited for a given stretch of shore. While structural solutions dominate the Ohio shore and will likely be necessary in certain areas, the LESEMP promotes an entire suite of options, including alternative solutions such as planting vegetation or re-grading a bluff. Thus far, property owners seem to be quite receptive to the LESEMP products, especially along the high bluff areas of the eastern Ohio shore. Many of these properties require drainage within the bluff, a component to erosion mitigation that many property owners had yet to consider. Work on LESEMP activities has been funded through Section 306.

Permit Compliance- Significant change
A fair and thorough compliance monitoring/enforcement program is necessary for OCM to effectively administer the coastal regulatory programs and balance the use of the resource, the rights of the littoral property owners, and the rights of the public. OCM has identified key elements that are being developed and implemented to create a successful compliance monitoring / enforcement program. These elements are as follows:

1. Response to complaints and performance of site inspections
2. Outreach to Property Owners, Engineers, Contractors, Local Officials, State / Federal Agencies
3. Ohio Administrative Code rules to outline compliance and enforcement procedures
4. Compliance Monitoring and Enforcement Procedures Document
5. Public Acceptance of Compliance Monitoring and Enforcement
6. OCM Organizational Changes
7. Addition of OCM Staff and Resources
8. Prioritization for Compliance and Enforcement
9. Support Systems

The tasks currently being undertaken include proposed Ohio Administrative Code rules and initiatives such as the Lake Erie Shore Erosion Management Plan, Coastal Design Manual and updated Coastal Regulatory Database show the commitment of ODNR to address the development of a successful compliance monitoring / enforcement program through multiple approaches.

Regulatory Database
The Office of Coastal Management has partnered with the ODNR Office of Information Technology to develop a comprehensive regulatory database to track respective regulatory

authorizations on a project-by-project basis. The database provides sub-folders for each authorization type administered by the Office of Coastal Management, including Coastal Erosion Area Permits, CZMA Federal Consistency, Shore Structure Permits, and Submerged Lands Leases. This tool also provides for standardized addresses and identification of project sites by latitude/longitude coordinates, both of which are intended to facilitate the future development of a geographically referenced, online mapping product. This publicly available tool will allow individuals to search for authorizations in a spatial environment. The database is also intended to provide for more accurate tracking of projects and compliance issues. Section 306 funds were used in the development of the database.

Coastal Design Manual
OCM is currently in the process of developing a Coastal Design Manual (CDM) that will provide design criteria for typical structures found along the Lake Erie shore. The intent of the CDM is to provide technical guidelines for professionals to use in the design of structures along the shore of Lake Erie. One expected outcome is that the application process for ODNR Coastal Permits and Leases will be facilitated. A 90% draft of the manual has been completed and is currently under internal review. Development of the manual has been funded in part with 309 and Section 306 funds.

Sediment management plans- Significant change
Please see the 'Regional sediment or dredge material management plan (DMMP)' discussion in the Great Lakes Resources section of this assessment under item 2 of the Management Characterization.

Hazards Research and Monitoring- Significant change
As referenced below, Ohio's Coastal Erosion Area (CEA) Maps are being updated in 2010. The CEA Permits administered by the Office of Coastal Management are applicable to the geographic areas designated by these maps. Therefore, while the CEA Permit has not changed since the previous Section 309 Assessment, the areas in which permits may be required has changed. The CEA mapping has been funded in part through Section 306.

Hazards Education and Outreach- Significant change

LESEMP
Critical to the success of the LESEMP is a robust outreach and education plan. Thus far, formal meetings with officials and property owners have been coupled with one-on-one technical assistance phone calls and site visits. The recommendations for each reach within Ashtabula County have been developed and released to the public in a series of public meetings held in June 2010. The recommendations documents will also be utilized for technical assistance inquiries and as general information on the OCM website. Additionally, a LESEMP-specific web page has been developed within the OCM website under the "Programs" tab on the main page. The specific page contains an overview of the plan, links to specific chapters contained within the plan document, and maps identifying the various reaches of shore addressed within the plan. The web page will continue to be updated as the LESEMP unfolds and addresses additional counties.

Coastal Erosion Area Mapping
As part of the release of the preliminary 2010 Coastal Erosion Area Maps, web pages dedicated to the mapping and Coastal Erosion Area fact sheets were created. Educational materials were mailed to approximately 3,000 lakefront property owners and nine (9) public meetings were held to discuss erosion along Lake Erie and the preliminary 2010 Coastal Erosion Area Maps.

Lake Erie Partnership- Fact Sheets
NOAA-funded agencies in Ohio have partnered to develop a unified education and outreach plan for Lake Erie and its watershed. The partners committed to this effort include: the Office of Coastal Management (OCM), Old Woman Creek (OWC) National Estuarine Research Reserve, and the Ohio Sea Grant College Program (OSG). Although not directly funded by NOAA, the Ohio Lake Erie Commission (OLEC) is also a dedicated partner in this effort. One of the first initiatives of the Lake Erie Partnership is the development of uniform fact sheets, with the first sheet covering the topic of coastal hazards. The model fact sheet explores the issues surrounding excess ground and surface water while identifying methods that a property owner could implement to reduce the erosion potential at their property.

3. **(CM)** Use the appropriate table below to report the number of communities in the coastal zone that use setbacks, buffers, or land use policies to direct development away from areas vulnerable to coastal hazards. If data is not available to report for this contextual measure, please describe below actions the CMP is taking to develop a mechanism to collect the requested data.

   For CMPs that use numerically based setback or buffers to direct development away from hazardous areas report the following:

Contextual measure	**Number of communities**
Number of communities in the coastal zone required by state law or policy to implement setbacks, buffers, or other land use policies to direct development away from hazardous areas.	Under CEA program: 8 counties, 45 cities, towns or townships County — Municipality/Jurisdiction Mapped Ashtabula — 7 Cuyahoga — 5 Erie — 7 Lake — 9 Lorain — 4 Lucas — 3 Ottawa — 8 Sandusky — 2
Number of communities in the coastal zone that have setback, buffer, or other land use policies to direct develop away from hazardous areas that are more stringent than state mandated standards or that have policies where no state standards exist.	0

For CMPs that do not use state-established numerical setbacks or buffers to direct development away from hazardous areas, report the following:

Contextual measure	Number of communities
Number of communities in the coastal zone that are required to develop and implement land use policies to direct development away from hazardous areas that are approved by the state through local comprehensive management plans.	N/A
Number of communities that have approved state comprehensive management plans that contain land use policies to direct development away from hazardous areas.	N/A

Priority Needs and Information Gaps

Using the table below, identify major gaps or needs (regulatory, policy, data, training, capacity, communication and outreach) in addressing each of the enhancement area objectives that could be addressed through the CMP and partners (not limited to those items to be addressed through the Section 309 Strategy). If necessary, additional narrative can be provided below to describe major gaps or needs.

Gap or need description	**Type of gap or need** (regulatory, policy, data, training, capacity, communication & outreach)	**Level of priority** (H,M,L)
Need- Continued development of LESEMP reaches	Data, capacity, communication & outreach	H
Gap- Adequate sand resource and federal erosion control structure impact information	Data	M
Need- Continued coordination with Corps of Engineers on sand management issues	Policy	M

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal zone (including, but not limited to, CZMA funding)?

High __X_
Medium _____
Low _____

Briefly explain the level of priority given for this enhancement area.

The enhancement area of Coastal Hazards remains a high priority for the Ohio Coastal Management Program. Great strides have been taken over the last assessment period towards

increasing public understanding and acceptance of the need for sound sand management practices. However, much work remains to inform and engage all the affected communities within the coastal zone. Additional coordination with the Corps of Engineers is also needed on sand management related to federal harbor structures.

2. Will the CMP develop one or more strategies for this enhancement area?

Yes __X__
No _____

Briefly explain why a strategy will or will not be developed for this enhancement area.

A strategy will be developed for this enhancement area due Ohio shoreline communities' continued need and desire to manage development in hazard areas. A strategy for this enhancement area will enable the Office of Coastal Management to build upon the recent progress that has been made in providing guidance materials, increasing technical assistance capacity, and generating momentum through the initial LESEMP development process. The strategy will mainly address elements of this enhancement area but will also address the Great Lakes Resources enhancement area and the Cumulative and Secondary Impacts enhancement area.

A strategy will also be developed that will further the goals and impact of the CMP and Ohio Balanced Growth Program in guiding Ohio community development from a watershed planning scale and educating communities on ways to develop while addressing economic competiveness, ecological health and quality of life. The strategy will result in the development of a coastal-specific module of Ohio's Lake Erie Balanced Growth Best Local Land Use Practices guide. It will also facilitate the development of additional coastal community waterfront plans. The Coastal Hazards and Public Access enhancement areas will be addressed by this strategy but Cumulative and Secondary Impacts is the main enhancement area that will be addressed.

Public Access

Section 309 Enhancement Objective
Attain increased opportunities for public access, taking into account current and future public access needs, to coastal areas of recreational, historical, aesthetic, ecological, or cultural value

Resource Characterization
Purpose: To determine the extent to which problems and opportunities exist with regard to the enhancement objective.

1. Characterize threats and conflicts to creating and maintaining public access in the coastal zone:

Type of threat or conflict causing loss of access	**Degree of threat** (H,M,L)	**Describe trends or provide other statistics to characterize the threat and impact on access**	**Type(s) of access affected**
Private residential development (including conversion of public facilities to private)	L	No access sites along Lake Erie were lost since the last assessment due to private residential development. A residential condominium development project in Sandusky was slated to alter public waterfront lands, however the plan never materialized.	Many residential road right-of-way dead-ends are underutilized and not accessible for the general public due to private encroachment
Non-water dependent commercial/industrial uses of the waterfront (existing or conversion)	L	The proposed relocation of the Cleveland-Cuyahoga County Port Authority to a proposed Confined Disposal Facility at Cleveland Lakefront State Park would have potentially impacted public access in the proposed area. However, the impetus to relocate the Port's facilities from its current site between the Cuyahoga River mouth and Cleveland Browns Stadium is to free up lands for mixed-use development and increase public access. Regarding public access, relocation of the Cleveland-Cuyahoga County Port Authority is a trade-off situation. Although the current port facility allows for only minimal public access, it is nonetheless publicly owned whereas it is unclear whether the proposed development on the site would be publicly or privately owned. A similar development project was proposed for currently public lakefront land in Port Clinton in Ottawa County. While neither project has moved forward, the trend to seek privatization of public waterfront is of concern. This has been a topic of discussion within the Coastal and	Would potentially affect boating and fishing access Open space/green space reduced

Type of threat or conflict causing loss of access	**Degree of threat** (H,M,L)	**Describe trends or provide other statistics to characterize the threat and impact on access**	**Type(s) of access affected**
		Estuarine Land Conservation Plan (CELCP) and has let to significant disagreement and discussion in the respective communities.	
Erosion	M	General short-term (1973-1990) recession rates for Ohio's eight coastal counties range from 0.4 feet/year (Cuyahoga County) to 2.7 feet/year (Lucas County). Many Lake Erie access sites in higher bluff areas (Lorain, Cuyahoga, Lake and Ashtabula counties) are susceptible to erosion. Warning signs are posted in high risk areas at public access sites.	Erosion is a wide-ranging issue at many access 'types,' i.e. local parks, county Metroparks, etc. Erosive factors may result in a range of outcomes, from beach loss to bluff instability or even bluff failure. Sites lacking proper, up-to-date control measures are increasingly susceptible where erosion is most prevalent.
Sea level rise/ Great Lake level change	L	Climate change poses a variety of challenges in the Great Lakes, including lower water levels, loss of ice cover and depleted water surface area, which would affect wildlife, fisheries, wetlands and tourism.	Affected access includes: nature preserves and wildlife areas due to habitat loss, fishing access locations, recreational boating ramps and marinas, among other water dependent public areas.
Natural disasters	L	Ohio's Lake Erie coast generally does not experience extreme natural disaster events like hurricanes, storm surge, tsunamis or major earthquakes; however, Ohio's coast is susceptible to other natural hazards, such as tornados, water spouts, flooding, blizzards and seiche.	In 2006, significant flooding in Lake County resulted in the closure of three public swimming beaches. Extreme seiche events potentially affect the boating community, particularly in the shallower waters of Lake Erie's Western Basin. Seiches also create serious off-shore currents and expose sand bars which make beaches exceedingly dangerous. Lake Erie typically experiences two (2) significant seiche events per year.
National security	L	There are two nuclear power plants on the shores of Lake Erie in Ohio (Davis-Besse in Ottawa County and Perry in Lake County) as well as other power facilities. Acts of terrorism are regarded as significant threats to national security. All of Ohio's power plants, telecommunication facilities, drinking water sources, water treatment facilities and public gathering locations should be regarded as potential terrorist targets.	Any access site near a nuclear or other power plant; sites near high public traffic areas and/or popular gathering places (i.e. sport event, amusement park, tourist location); sites near commercial, industrial and/or recreational harbors, etc.
Encroachment on public land	L	No access sites along Lake Erie were lost since the last assessment due to private development. In some instances, private land was purchased to expand the	

Type of threat or conflict causing loss of access	**Degree of threat** (H,M,L)	**Describe trends or provide other statistics to characterize the threat and impact on access**	**Type(s) of access affected**
		adjacent public space (two sites in Avon Lake).	
Other			

2. Are there new issues emerging in your state that are starting to affect public access or seem to have the potential to do so in the future?

In Ohio, a case regarding the boundary of the Lake Erie public trust territory is currently being heard in the Ohio Supreme Court. Among the issues before the court is whether the public has a limited right to traverse the shoreline between the water's edge and the Ordinary High Water Mark. A ruling in this matter may affect how or where the public can access existing public lands adjacent to Lake Erie. OCM expects that a decision will be reached by the Ohio Supreme Court in 2011.

(CM) Use the table below to report the percent of the public that feels they have adequate access to the coast for recreation purposes, including the following. If data is not available to report for this contextual measure, please describe below actions the CMP is taking to develop a mechanism to collect the requested data.

Contextual measure	**Survey data**
Number of people that responded to a survey on recreational access	1577
Number of people surveyed that responded that public access to the coast for recreation is adequate or better.	1000 out of 1396
What type of survey was conducted (i.e. phone, mail, personal interview, etc.)?	Internet (Survey Monkey)
What was the geographic coverage of the survey?	Ohio (1,152), Pennsylvania (27), Michigan (18), Indiana (15), Illinois (10), Other States- 20 (53), Other Country- Chile (1)
In what year was the survey conducted?	2010

3. Briefly characterize the demand for coastal public access within the coastal zone, and the process for periodically assessing public demand.

   The Office of Coastal Management (OCM) administered a Public Access survey in June – September 2010 in partnership with local visitor bureaus, county/city metroparks and ODNR divisions. The survey was administered electronically via SurveyMonkey.com and aimed to capture the following:

   1. How often people visit Ohio's Lake Erie coast;
   2. When and where people most recently visited;

3. What activities people enjoy partaking in while visiting;
4. Public viewpoints regarding the quality and quantity of Ohio's Lake Erie public access sites;
5. How much money people spent during their last visit on lodging, food, entertainment and transportation;
6. What limitations may prevent one from visiting, and;
7. Socioeconomic information.

Over 70 percent of survey respondents agreed or strongly agreed that there are adequate opportunities to experience Lake Erie in Ohio. However, when asked specifically about whether there were enough places for fishing, parks, trails, launch ramps and scenic views, the responses were as follows:

Access Type	**% Agree/Strongly Agree**	**% Disagree/Strongly Disagree**	**% Neither Agree or Disagree**	**% Do Not Know**
Places to Fish	52	19	13	16
Lakefront Parks	46	36	13	5
Hiking and Biking Trails along Lake Erie	36	29	18	17
Launch Ramps	35	25	18	21
Scenic Views while driving along coast	46	34	15	4

Interestingly, when asked the question, "Overall, how satisfied are you with the amount of public access locations on Ohio's portion of Lake Erie?", only 48 percent were satisfied/very satisfied.

Survey participants were given the open-ended question, "Do you have any other comments about public access to Ohio's portion of Lake Erie?" Out of the 1,278 that responded to the question, 512 didn't have any comments and 766 provided comments. Nearly one-third of the 766 respondents indicated a desire for increased access and opportunities including beaches, boat/kayak-related access, trails, hunting/fishing, handicap/disabled, and related facilities such as parking and restrooms. The need for quality improvements to existing access facilities were expressed by almost a quarter of the respondents. Quality improvement comments indicated the need for improved cleanliness of beaches and restrooms, overall maintenance, and better signage/publicity.

While the survey revealed a fairly positive level of satisfaction and sense of adequacy with public access to Lake Erie, it also showed that there is a desire to see increased public access related to specific types of access.

This survey was considered a pilot and based on the response rate and information that has been derived it will likely be repeated in 3-5 years as one means of assessing public demand for public access to Lake Erie in Ohio. Discussions have also been initiated with the entity responsible for conducting Ohio's Statewide Comprehensive Outdoor Recreation Plan survey to explore future opportunities for collaboration.

Also of note, visitors to Ohio's Lake Region generated $10.1 billion in direct and indirect business sales in 2009 according to a June 2010 study prepared by Tourism Economics titled *The Economic Impact of Tourism in the Lake Region of Ohio*. This study also revealed that tourism supports 1 in every 10 jobs in the Lake Region. The Study defined Ohio's Lake Region as Lucas, Ottawa, Erie, Lorain, Cuyahoga, Lake, and Ashtabula counties.

4. Please use the table below to provide data on public access availability. If information is not available, provide a qualitative description based on the best available information. If data is not available to report on the contextual measures, please also describe actions the CMP is taking to develop a mechanism to collect the requested data.

Types of public access	**Current number(s)**	**Changes since last assessment (+/-)**	**Cite data source**
(CM) Number of acres in the coastal zone that are available for public access (report both the total number of acres in the coastal zone and acres available for public access)	Total acres in the coastal zone (mainland and island): 177,047.66 Total acres in the coastal zone (adjacent to Lake Erie) available for public access: 14,908.36	Previous assessment only provided acreage for coastal state parks (5,277 acres) New areas established since previous assessment: 9	OCM staff: Geographic Information Systems (GIS) datasets & analysis, site fieldwork, maintaining public access inventory, and local verification
(CM) Miles of shoreline available for public access (report both the total miles of shoreline and miles available for public access)	Total miles of Lake Erie shoreline: 312 Total miles of publicly accessible Lake Erie shoreline: 52.25 or 16.7%	Total miles of publicly accessible shoreline increased 8.53 miles, due to the development of 9 new sites and further inventory work and local verification to identify previously missed sites	OCM staff: GIS datasets & analysis, site fieldwork, maintaining public access inventory, and local verification

Types of public access	Current number(s)	Changes since last assessment (+/-)	Cite data source
Number of State/County/Local parks and number of acres	Total number of state/county/local parks and facilities on Lake Erie coast : 156 State: 38 total County: 12 total Local (city, township, village): 101 total Port Authority: 5 Sites total 14,867.5 acres	Total number of state/county/local parks increased by 44. This is due to the development of 9 new sites and further inventory work and local verification to identify previously missed sites, including permissible right-of-way sites. Previous assessment only measured acreage for coastal state parks (5,277 acres).	OCM staff: GIS datasets & analysis, site fieldwork, maintaining public access inventory, and local verification
Number of public beach/shoreline access sites	Total number of public access sites: 162 Total number of access sites with a beach: 67 Number of beach sites that allow wading or swimming: 38	Total number of public access sites increased by 46.	OCM staff: GIS datasets & analysis, site fieldwork, maintaining public access inventory, and local verification
Number of recreational boat (power or non-power) access sites	Total number of recreational boat sites: 311 Government owned: 72 Commercial: 169 Boating Club: 70	11 new publicly accessible, government owned facilities, including 4 water trail access points.	ODNR Division of Watercraft, 2004 Watercraft Access Sites GIS; and 2009 update from Douglas Leed, ODNR Division of Watercraft
Number of designated scenic vistas or overlook points	Total number of "scenic" access sites: 39 (subjective designation; no formal designation)	Not inventoried previously	OCM staff: GIS datasets & analysis, site fieldwork, maintaining public access inventory, and local verification
Number of State or locally designated perpendicular rights-of-way (i.e. street ends, easements)	Total number of road right-of-way street ends: 361 Total number of road right-of-way street ends leading to a public access site: 43	Not inventoried previously	OCM staff: GIS datasets & analysis, site fieldwork, maintaining public access inventory, and local verification

Types of public access	Current number(s)	Changes since last assessment (+/-)	Cite data source
Number of fishing access points (i.e. piers, jetties)	Of 162 public access sites, total permitting fishing access: 114, 70%	Total number of public access sites increased by 43	OCM staff: GIS datasets & analysis, site fieldwork, maintaining public access inventory, and local verification
Number and miles of coastal trails/boardwalks	Total number of trail miles in coastal counties: 802.18	Total number of trail miles increased: 560.82. Previous assessment not as comprehensive. Also, 6 known new trails.	OCM staff: GIS datasets, and multiple community-level websites
Number of dune walkovers	3 sites (East Harbor State Park, Headlands Dunes State Nature Preserve and Walnut Beach Park)	Not inventoried previously	OCM staff: GIS datasets & analysis, fieldwork
Percent of access sites that are ADA compliant access	22% (36 of the 162 public access sites) State Parks: 4 State Nature Preserves: 2 Non-state sites: 30	Previous inventory only listed the 4 state park facilities. Change since last assessment: +30	OCM staff: fieldwork and local verification
Percent and total miles of public beaches with water quality monitoring and public closure notice programs	22 public beaches monitored by the Ohio Dept. of Health, 8.79 miles = approx 17% of public beach/shore access miles	Overall change since last assessment = +2.2 beach miles (A recalculation of all beach miles using more accurate aerial photography accounted for a majority of the change.)	Ohio Dept. of Health Beach Monitoring Sampling Results, 2006-2009 OCM staff: GIS datasets & analysis
Average number of beach mile days closed due to water quality concerns	Sampled beaches were posted 16.5% of the beach season during 2006-2009 (Based on total # of posted days over total beach season days) 507.08 beach mile days posted during 2006-2009 (days posted at χ beach miles)	Sampled beach postings – percentage of days posted increased by 3 Beach mile days posted – relative increase of approx 4.5%	Ohio Dept of Health Beach Monitoring Sampling Results, 2006-2009 OCM staff: GIS datasets & analysis

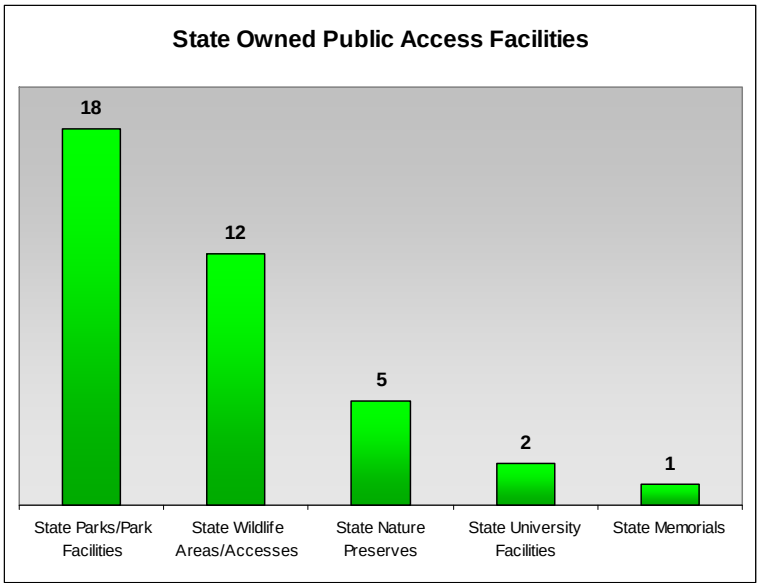
Public Access: General Statistics

Portions of nine of Ohio's 88 counties are located within Ohio's designated Coastal Management Area (CMA). From west to east, they include: Lucas, Wood, Ottawa, Sandusky, Erie, Lorain, Cuyahoga, Lake and Ashtabula counties. In total, the CMA comprises 2,467,755.66 acres. Excluding the waters of Lake Erie, and only factoring the mainland and islands, the CMA covers 177,047.66 acres. The Ohio portion of the Lake Erie shore stretches approximately 312 miles, including island shores. Of these 312 miles of shore, 52.25 miles or approximately 16.7 percent are publicly accessible including 8.79 miles of public beaches that are monitored for water quality.

Since the previous assessment, the Office of Coastal Management (OCM) has made significant revisions to its public access inventory and has improved identification and verification methods. As a result, including newly created access sites, OCM has identified 46 access sites not previously cataloged (116 sites to 162 sites). At least nine of the 46 recently catalogued access sites have been newly developed since the last assessment. Those sites include: the Big Island Preserve and Landing and the Sandusky Bay Pavilion in Sandusky, two scenic access locations along the Sandusky Bay Pathway in Sandusky, the Joseph Steinen Wildlife Area and Wyandot Wetland Meadows Preserve in Huron Township, Huron Rotary Centennial Park in Huron, the Scheeff East Point Nature Preserve in Put-in-Bay Township and the Port Clinton Lakefront Preserve in Port Clinton. Since the last assessment, eight (8) sites were omitted from the tally for various reasons. Those sites included: Crane Creek State Park (closing of park operations but consolidated with adjacent wildlife area; site remains publicly accessible), Memorial Park on Kelleys Island (not adjacent to Lake Erie; site remains parkland), Huron Harbor East Breakwater (part of Nickel Plate Beach; no need for two points denoting one site), Edgewater Park West Entrance (no need for two points denoting one site), Mentor Lagoons Nature Preserve East Entrance (no need for two points denoting one site), North Townline Park (open to residents only), Grandview Park (museum property, not a park) and Point Park (not adjacent to Lake Erie; site remains publicly accessible). Also as a result of OCM's enhanced access identification methodologies, improved and increasingly accurate measurements and calculations have been performed. In the previous assessment, it was documented that 6.59 miles of public beaches were monitored for water quality, where this assessment lists 8.79 miles. This difference is a result of better measurements using Geographic Information Systems (GIS) technologies and the development of new, updated datasets (i.e. aerial photography from the 2006 Ohio Statewide Imagery Program).

Erie County, which includes Kelleys Island, has the most public access sites (38), followed by Ottawa (30), Lake (27), Cuyahoga (25), Lorain and Lucas (15 each), Ashtabula (11) and Sandusky (1) counties. Lake Erie offers fishing access at 114 (70%) locations.

Many types of Lake Erie public access are available from parks, nature preserves, wildlife areas, fishing and boating sites and scenic overlooks. In total, OCM has identified 162 coastal access locations, covering 14,908.4 acres. Constituting the most acreage (12,720.6, or 85%) are state owned facilities.



Of note, the previous assessment listed only twelve (12) state parks/facilities: *Maumee Bay, Catawba Island, South Bass Island, Oak Point, Middle Bass Island, North Bass Island, Kelleys Island, East Harbor, Marblehead Lighthouse, Cleveland Lakefront, Headlands Beach and Geneva.* This assessment lists five (5) additional state park facilities as a result of distinguishing the six (6) individual sections of Cleveland Lakefront State Park *(Edgewater, East 55th Street Marina, Gordon Park and the Euclid Beach, Villa Angela and Wildwood areas).* Also of note, Fox's Marsh, Green Island and Honey Point state wildlife areas are adjacent to Lake Erie; however, they are not accessible to the general public and therefore not included in the analysis.

One hundred and one (101) coastal access sites, totaling 1,324.7 acres, consist of city, village or township property. County metro park facilities in Cuyahoga (1 site), Erie (5 sites) and Lake (5 sites) counties total 723 acres. Port authority owned facilities in Ashtabula (2 sites), Lake (2 sites) and Lorain (1 site) counties total 73.8 acres. The remaining coastal accessible acreage includes Federal (38.3 acres at 4 sites), county (25.4 acres at 1 site) and non-profit/"other" (2.6 acres at 2 sites) lands. The previous assessment only provided an acreage tally for Ohio's coastal state parks.

Beaches, Public Swimming and Beach Monitoring Programs

Of the 162 public access sites, 67 have beaches—38 of which allow public swimming. Maumee Bay State Park also provides an inland lake with a swimming beach. The Ohio Department of Health (ODH) measures water quality at 21 Lake Erie beaches and at the Maumee Bay State Park inland lake beach. ODH coordinates the sampling activities at beaches monitored by the Cuyahoga County Board of Health, the Lake County General Health District and the Northeast Ohio Regional Sewer District. A local water quality program is also administered by the Erie County General Health District at 25 additional beach sites, public and private. Ohio's Lake Erie beaches are generally tested between Memorial and Labor days.

The following water quality analysis focuses on the 22 ODH monitored beaches. *Of note, the swimming beach at Crane Creek State Park closed in 2008 and as a result the total miles of publicly accessible beach decreased from 9.40 miles to 8.79 miles.* Therefore, in 2006-2007,

ODH monitored 23 beaches and in 2008-2009 monitored 22 beaches. Over the four (4) year span, ODH performed a combined 5,358 water quality measurements. Sampling outcomes during that timeframe resulted in water quality advisory sign postings on a combined 1,568 days (29.26%) at 22 of the 23 beaches tested. Beach season days (total duration/days in beach season) during the four (4) year span was 9,507 days. Sampling outcomes during that timeframe resulted in water quality advisory sign postings 16.5% of total beach season days. This average represents an increased percentage of days closed by 3 since the previous assessment.

	Years	Days Signs Posted	Days in Season
2001-2005	5	1,380	10,264
2006-2009	4	1,568	9,507

During the four (4) year timeframe, 507.08 total beach miles had advisory sign postings due to excessive sampling results, equaling a relative increase of approximately 4.5%. *Due to beach length recalculations, mileage values are notably changed. To calculate the relative percent change, beach lengths from the previous assessment were factored with the recent sampling data.* Kelleys Island State Park was the only beach that never had an advisory sign posted. In addition to the advisory signs posted, 9.31 beach mile days at Headlands Beach (West) and 4.66 beach mile days at Headlands Beach (East) were closed in 2006 due to flooding.

According to the National Resources Defense Council's 2009 study, "Testing the Waters: A Guide to Water Quality at Vacation Beaches," Ohio's 45 monitored Lake Erie beaches exceeded the national daily standard 19% of the time in 2008, earning a rank of 29th, nationally, out of the 30 coastal states. It is important to note that compared to other states, Ohio samples its beach sites with greater regularity (2,429 total samples at 45 locations) and is in the top 25 percentile (ranked 7th). Although this statistic does not discredit nor support the cleanliness of Lake Erie's beaches, it does suggest Ohio's commitment to ensure public safety and health.

Trails

Ohio's coastal counties provide an extensive network of trails. The previous assessment cataloged twelve statewide trails totaling 241.36 miles in combined length. This assessment provides a much more comprehensive inventory of trails in the coastal counties. Further research has identified 802.2 miles of trails in the nine coastal counties. This mileage includes 63.55 miles of trails at 17 state facilities (state parks and nature preserves). Of those facilities, eleven are adjacent to Lake Erie and consist of 46.8 miles of trails. There are five metro park systems with recordable trail lengths in the nine coastal counties. These include the Cleveland Metroparks' Emerald Necklace network which has 112.1 miles of interconnected trails in Cuyahoga and Lake counties; the Toledo Metroparks which has 72.7 miles of trails recorded at seven parks in Lucas County; Lake Metroparks which has 34.6 miles of trails recorded at 16 parks in Lake County; the Erie Metroparks which has 34.2 miles of trails recorded at six (6) parks in Erie County, including the Huron River Greenway; and the Lorain County Metro Parks which has 23.9 miles of trails recorded at nine (9) parks in Lorain County. Since the last assessment, two (2) new Lorain County Metro Park trails have opened—the two-mile long Steel Mill Trail Extension in 2008 and the one-mile long Black River Trail Extension in 2009. The Buckeye Trail, a statewide path, runs through Cuyahoga, Lake, Lorain, Lucas, Ottawa, Sandusky and Wood counties, for a total of 151.7 miles. In fact, the northern-most point of the Buckeye Trail is at Headlands Dunes State Nature Preserve in Lake County. There are many new trails that have opened since the last

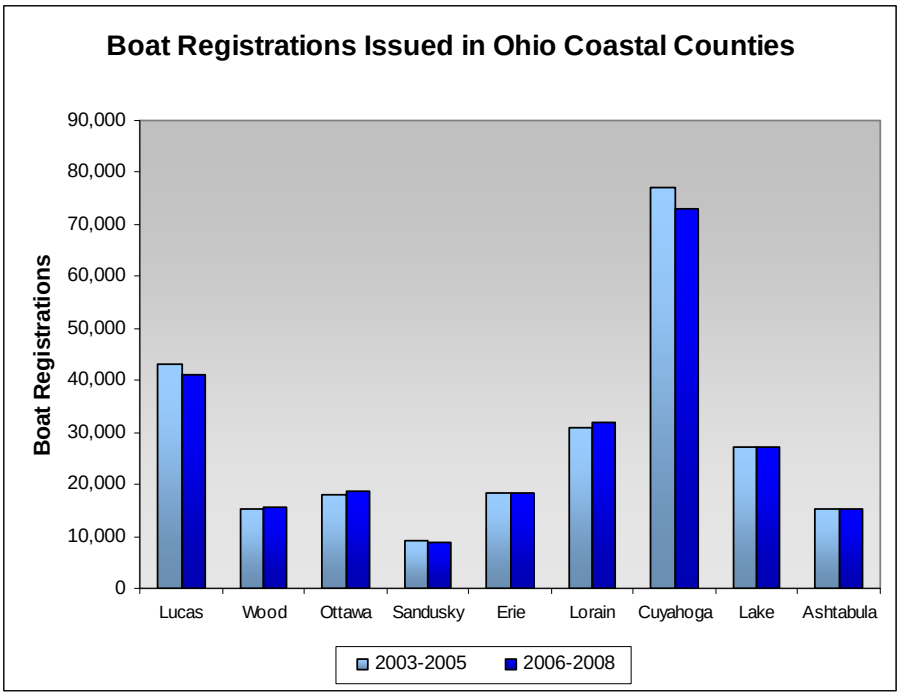
assessment. These include Lorain County's Beaches and Back Roads Bike Tour (2007), a 70.6 mile signed trail that follows existing road rights-of-way in Erie and Lorain counties, the 2.4 mile Sandusky Bay Pathway and its various extensions (2007-09) in Erie County, the 2.5 mile Morgana Run Trail (2007) in Cuyahoga County and the 0.7 mile Treadway Creek Trail and Greenway (2007) in Cuyahoga County. Also of note, there are many citywide bike path networks and newly constructed bike lanes throughout the coastal communities.

Water Trails

Two water trails have been designated since the previous assessment. These trails provide kayakers, rafters and canoe-paddlers access to Lake Erie along a designated route from marked livery points. The East Sandusky Bay Water Trail, established in 2007, is a 15.3 mile round trip trail with access locations at the Big Island Preserve and Landing, the East Sandusky Bay Metropark and points up the Pipe Creek. More access points are in future development plans. The East Sandusky Bay Water Trail was the first trail of its kind on Lake Erie to receive such designation. The Vermilion-Lorain Water Trail was established in 2009 and is 27 miles long. This water trail starts at the Mill Hollow/Vermilion River Reservation, meanders down the Vermilion River to Lake Erie, follows the lake shore eastward to the Black River, travels up the Black River and finishes at the Black River Reservation. Of the trail's nine (9) livery points, four (4) provide direct access to Lake Erie (Main Street Beach and Showse Park in Vermilion and Lakeview Park and Lakeside Landing in Lorain).

Boating

Lake Erie and its navigable tributaries provide an abundant resource for recreational boaters. According to the ODNR Division of Watercraft, the number of boat registrations issued between 2006 and 2008 in Ohio's nine coastal counties rank high as compared to the rest of the state. Compared to the number of boat registrations issued between 2003 and 2005, the coastal counties have seen a 1.8 percent decrease.



For boaters there are 311 boating access and/or docking sites, including 72 government-owned sites, 169 commercial sites and 70 private boating club sites. Since the previous assessment, eleven (11) new publicly accessible boating facilities were created, including four (4) water trail accesses for non-motorized crafts. In addition to these new boating access locations, the marina at Middle Bass Island State Park in Ottawa County was significantly expanded and improved.

Right-of-Way and Scenic Access Sites

In Ohio, many roads terminate at Lake Erie. Using parcel data from coastal county auditor and engineer offices, approximately 361 road rights-of-way that extend directly into the lake were counted. Rights-of-way that terminate at a lakefront parcel were not counted in the inventory. Of the 361 tallied rights-of-way, only 43 (or 12%) are confirmed publicly accessible or lead to a publicly accessible park.

Although Ohio does not have any formally designated scenic overlooks, all access sites along Lake Erie can be considered "scenic." Of Ohio's 162 access sites, 39 are categorized as "Scenic" (subjective OCM classification). Generally, a site is rated "Scenic" if it exhibits one or more of the following characteristics:

(1) Its primary amenity is one (or more) park bench(es);
(2) It does not feature any recreational amenities;
(3) It is an unmarked access site, or;
(4) It does not provide direct water access.

In many instances, right-of-way access points are also classified as scenic access. Neither the right-of-way accesses nor the scenic accesses were inventoried for the previous assessment.

ADA Compliant Access Sites

Identification of Lake Erie public access sites that provide ADA compliant accessibility is an ongoing effort. Per the Ohio Department of Natural Resources website, four (4) state parks and two (2) state nature preserves provide ADA compliant accessibility at coastal locations. These sites were identified for the previous assessment.

As part of OCM's public access fieldwork initiative, staff has met with local parks, recreation and public works departments to verify findings. With the confirmation of these local authorities, 30 additional public access sites have been identified as having ADA compliant components.

Management Characterization

Purpose: To determine the effectiveness of management efforts to address those problems described in the above section for the enhancement objective.

1. For each of the management categories below, indicate if the approach is employed by the state or territory and if significant changes have occurred since the last assessment:

Management categories	**Employed by state/ territory** (Y or N)	**Significant changes since last assessment** (Y or N)
Statutory, regulatory, or legal system changes that affect public access	Y	N – See below

Management categories	**Employed by state/ territory** (Y or N)	**Significant changes since last assessment** (Y or N)
Acquisition programs or policies	Y	N – See below
Comprehensive access management planning (including GIS data or database)	Y	Y – See below
Operation and maintenance programs	Y	N – See below
Alternative funding sources or techniques	Y	N – See below
Beach water quality monitoring and pollution source identification and remediation	Y	N – See below
Public access within waterfront redevelopment programs	N	N –Not a category in previous assessment
Public access education and outreach	Y	Y – See below
Other (please specify)		

2. For management categories with significant changes since the last assessment provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference rather than duplicate the information.
   a) Characterize significant changes since the last assessment;
   b) Specify if it was a 309 or other CZM-driven change (specify funding source) or if it was driven by non-CZM efforts; and
   c) Characterize the outcomes and effectiveness of the changes.

<u>Statutory, Regulatory or Legal Changes– No significant changes</u>
Please see the Resource Characterization section, item 2 regarding a case before the Ohio Supreme Court.

<u>Acquisition Programs or Policies– No significant changes</u>
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, acquire and construct public access. Since the previous assessment, three (3) planning projects, two (2) acquisition projects and three (3) construction projects have been awarded assistance grant funding. Of these projects, the planning and construction initiatives range from a fishing pier feasibility study to an ADA beach access and trail/boardwalk expansion at Lake Erie's public sites. One of the acquisition projects, Middle Bass Island Wildlife Area, will provide a new public access site along Lake Erie. The second acquisition project, Chagrin River Anchor Island Protection Project, will secure public riparian access to the Chagrin River, one of Lake Erie's major tributaries.

Through the Coastal and Estuarine Land Conservation Program (CELCP), also coordinated by the coastal management program, federal funding is provided to help protect coastal and estuarine lands considered important for ecological, recreational, conservational, historical or aesthetic value, or lands that are threatened by conversion from a natural or recreational state to other uses. Between Fiscal Years (FY) 2007 and 2009, nine (9) Ohio projects were submitted for funding and eight (8) were nationally ranked. Of the eight (8) ranked projects, two (2) received funding: the Lake Erie Coastal Riparian Forest Preserve (FY 2007) in Cuyahoga County and the Port Clinton Lakefront Preserve (FY 2007) in Ottawa County. Of the six (6) remaining ranked projects, five (5) have received funding from other sources, including three (3) that would expand public access to Lake Erie, including: [1] the Middle Bass Island Wildlife Area in Ottawa County, although not finalized will receive partial funding through coastal assistance grants, as mentioned above; [2] the Vermilion River Lakeshore Preserve in Erie County, also not finalized, will receive partial funding through Clean Ohio funds; and [3] the East Point Acquisition and Preserve (Scheeff East Point Nature Preserve) in Ottawa County, which will be acquired through US Fish and Wildlife Endangered Species Act Section 6 Grants and Clean Ohio funds. Two FY 2010 CELCP projects have also been funded from the Great Lakes Restoration Initiative supplemental CELCP dollars, including the Kelleys Island Preserve in Erie County and the Lake Erie Bluff Preservation Project in Lake County.

The ODNR Division of Parks and Recreation administers NatureWorks grants to local governments for acquisition, development or rehabilitation of existing public parks and recreation areas. In 2009, Ashtabula County Metroparks was awarded $18,650 to acquire 35 acres to provide public fishing access on the Conneaut Creek. Also in 2009, the Put-in-Bay Township Park District in Ottawa County received $17,948 for the acquisition of 2 acres to extend the Jane Coates Wildflower Trail. Between 2006 and 2008, $918,183 was awarded for projects in coastal counties- none of which were at coastal parks. Of note, in 2008, $40,000 was awarded to Danbury Township in Ottawa County to acquire 3 acres of marshland for the Meadowbrook Marsh Preserve.

The Federal Land and Water Conservation Fund (LWCF) grant program provides assistance to state and local government subdivisions for acquiring, developing and rehabilitating public recreation areas. The program is administered through the ODNR Division of Parks and Recreation in cooperation with the Federal Highway Administration. Since 2006, the LWCF has awarded $398,887 to Ohio coastal counties, including $70,000 in 2009 for the acquisition of 25 acres to expand the Conneaut Creek MetroPark in Ashtabula County and $70,000 in 2009 for the acquisition of 7.8 acres on Middle Bass Island in Ottawa County for the Middle Bass East Point Wildlife Area.

The ODNR Division of Parks and Recreation, in cooperation with the National Park Service, administers the Recreational Trails Program (RTP). This program is a federally funded reimbursement grant program provides up to 80% project funding. The program is available to cities, villages, counties, townships, park districts and conservancy districts, among others. Types of projects available for this funding include new recreational trail construction (non-motorized, motorized and water trails), trail maintenance and restoration, trailside and trailhead facilities, acquisition of easements and property for trails and for educational programs promoting trail safety and environmental protection. Since 2006, the RTP helped fund over

$1,070,000 for nine community trail projects in Ohio's coastal counties. These include trail projects at Maumee Bay State Park in Lucas County ($150,000 in 2009), Geneva State Park in Ashtabula County ($150,000 in 2008) and East Harbor State Park in Ottawa County ($9,928 in 2006) as well as the Sandusky Bay Pathway in Erie County ($113,500 in 2007).

The Clean Ohio Trails Fund is a state-funded grant program also administered by the ODNR Division of Parks and Recreation. Up to 75% of project costs may be reimbursed for new recreational trail construction, acquisition of property and easements for trails or trail corridors, trailhead development and trail engineering and design. In 2006, a total of $1,027,000 was awarded for four trail projects in Ashtabula and Cuyahoga counties. One of the Ashtabula county projects involved the construction of new trails and the upgrading of existing trails along the Lake Erie shoreline to connect Geneva-on-the-Lake with Geneva State Park ($300,000).

Through the Cooperative Boating Facility Grant program, administered by the ODNR Division of Watercraft, 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. In 2009, three (3) Ohio coastal county projects were awarded funding, including $1,000,000 toward enhancements at the Middle Bass Island State Park marina in Ottawa County and $65,865 to the Lorain County MetroParks for canoe/kayak water trail access.

Recreational Harbor Evaluation Program Grants, provided from the Waterways Safety Fund through the ODNR Division of Watercraft, offer up to 100% reimbursement assistance to eligible political subdivisions and state/federal agencies for dredging public areas on the Ohio River, Lake Erie and their tributaries. Funded projects must be accessible to the general boating public. In 2008 and 2009, four Lake Erie projects were funded. These projects included a $400,000 City of Toledo project in Lucas County (2009), the $347,700 Conneaut Lagoon Access dredging in Ashtabula County (2008), the $210,750 Huron Municipal Boat Basin dredging in Erie County (2008) and the $182,145 Vermilion Lagoons Access dredging in Lorain County (2008). There were no Lake Erie funded projects in 2006 or 2007.

Comprehensive Access Management Planning– Significant changes

Since 2005, the Office of Coastal Management (OCM) has collected and maintained an inventory of Ohio's Lake Erie public access locations, which includes a comprehensive listing of amenities. OCM GIS staff annually to biennially collect field data and update a GIS database (spatial and tabular data) accordingly. In 2009, OCM verified public access information with local officials, including parks and recreation, public works and service departments. Also in 2009, OCM conducted its first spatial inventory of public riparian access sites along Lake Erie tributaries within the designated Coastal Management Area. The information gathered was incorporated into the public access GIS database. These activities were initiated through the Coastal Management Program utilizing Section 306 funds. In addition to the enhancement of the public access GIS database, these efforts have led to the development of the Lake Erie Public Access Guidebook which is further described in Question 3 of the Public Access Management Characterization section.

The ODNR Division of Real Estate and Land Management issued an updated edition of the Statewide Comprehensive Outdoor Recreation Plan (SCORP) in 2008. This plan will help guide

and inform the public to access locations and amenities, and also establishes Ohio's eligibility to receive and award federal Land and Water Conservation Fund monies.

Operation and Maintenance Programs– No significant changes
In 2009, the ODNR Division of Parks and Recreation consolidated management of the East Harbor and Lake Erie Islands state park regions in Ottawa County.

In 2008, the swimming beach and picnic areas at Crane Creek State Park were closed. Management of the small state park was transferred from the ODNR Division of Parks and Recreation to the ODNR Division of Wildlife and the park became part of the adjacent Magee Marsh State Wildlife Area.

The decision to partition the North Bass Island property (purchased in 2004) into a state park (managed by ODNR Division of Parks and Recreation) and a state wildlife area (Fox's Marsh; managed by ODNR Division of Wildlife) was made in 2008.
Due to State budget issues, the ODNR Division of Real Estate and Land Management dissolved in 2008. Various functions and programs of the division were transferred to other offices/divisions within the department, including the Office of Trails and the Canal Lands Program that were moved to the ODNR Division of Parks and Recreation. Goals of the Trails office include revising the Statewide Trail Plan, administering grants such as the Clean Ohio Trails Fund, and the development of an internet-based statewide trails map. The Canal Lands Program, which oversees state owned sections of the two former canal systems (the "Ohio and Erie" and the "Miami and Erie" canals), establishes lease agreements with local authorities, public utilities, commercial enterprises, land owners or other entities who obtain exclusive use of the land. Remnant canals/canal lands exist in Cuyahoga and Lucas counties and are managed by the Cleveland Metroparks and Toledo Metroparks, respectively, via long term lease management agreements.

Also due to budget constraints, the Scenic Rivers Program was transferred from the ODNR Division of Natural Areas and Preserves to the ODNR Division of Watercraft in 2009. There are seven (7) designated scenic rivers in the Lake Erie Watershed, including the Ashtabula River, Chagrin River, Conneaut Creek, (Upper) Cuyahoga River, Grand River, Maumee River and the Sandusky River. The Ashtabula River was designated "Scenic" in 2008. In 2010, the Division of Natural Areas and Preserves was administratively moved into the Division of Parks and Recreation to reduce operating expenses and foster mutual benefits from shared resources.

Alternative Funding Sources or Techniques– No significant changes
See Acquisition Programs or Policies section for descriptions of funding sources for public access in the coastal region.

Beach Water Quality Monitoring and Pollution Source Identification and Remediation– No significant changes
According to the National Resources Defense Council's 2009 study, "Testing the Waters: A Guide to Water Quality at Vacation Beaches," all beach closing and advisory days in 2008 were as a result of "unknown" contamination sources.

The Ohio Department of Health (ODH) provides the E. coli level readings, but does not identify the exact contamination source. ODH's "Beach Monitoring Frequently Asked Questions" states: "Beach water can become polluted from many sources including, but not limited to, sanitary sewer, storm sewer, and combined sewer overflows; urban, rural, and agricultural runoff; malfunctioning septic tanks and aeration systems; industrial wastes, boating wastes, human and animal wastes." Further, the USGS Water Science Center affirms that "identifying and mitigating the source of fecal contamination to a particular beach is often complicated by the spatial and temporal variability of bacterial-indicator concentrations and the dynamic lake currents, weather patterns and natural processes that affect these concentrations."

In USGS Scientific Investigations Report 2006-5298 (2006), source-tracking tools were used to identify fecal contamination sources at the Edgewater Park beach in Cleveland and at the Lakeshore Park beach in Ashtabula. Due to the fact that many contamination sources are of nonpoint origins, many tracking tools are concurrently utilized to provide more accurate source possibilities and the patterns. As a result of the study, many contamination sources were identified as being of local origin, including parking lot runoff, increased wave heights, rainfall, bird feces, boat ramp runoff and wastewater, among others. USGS has written nine (9) reports pertaining to Lake Erie beach monitoring, bacteria levels, contamination and predictive modeling since 2005.

Harmful algal blooms are dense populations of quickly reproducing algae that contain various toxins, pathogens or noxious chemicals. Harmful algal blooms present many risks to aquatic and human health and hinder recreational and beach activities. In 2009, NOAA initiated an experimental harmful algal bloom forecasting system in Lake Erie. This program established a detection method and more efficient tool to notify local health departments and scientists of any potential threat(s). The system provided weekly forecast bulletins in 2009 and used satellite imagery, field observations and buoy data to determine and evaluate the spatial scale, frequency and movement of harmful algal blooms.

Public Access Education and Outreach– Significant changes

In 2007, the ODNR Office of Coastal Management released the Second Edition of the *Ohio Coastal Atlas*, a print publication capturing a wide range of readily available data, including biological, cultural, environmental and physical data. Chapter Five of the *Ohio Coastal Atlas* focuses on recreation and tourism within the Lake Erie region, and features maps showing public access sites, boating access sites and many other recreational amenities, such as fishing and hunting locations, trails, campgrounds, golf courses, ferry routes and scenic rivers. A DVD version of the atlas was also produced in 2007. OCM printed 3,000 book copies and 15,000 DVD copies, and distributed them at no cost to federal, state and local decision-makers, coastal county/community officials and offices (auditors, commissioners, engineers and planners), park districts, academia, libraries, visitor bureaus, conservation districts, watershed groups and to the general public (upon request). The *Ohio Coastal Atlas* product was also made accessible via the coastal management program's website.

OCM has also made improvements to its Coastal Internet Map Server (IMS), which was first unveiled in 2005. The IMS allows users to create, save and print custom maps of any area of interest within the Lake Erie Watershed. Data layers for boating facilities, state designated scenic

rivers and public access sites are available on the IMS. OCM intends to upgrade the IMS to an ArcServer platform, which will include enhanced mapping functionality for users and allow GIS/mapping staff to more efficiently and more frequently provide new or revised datasets.

Both of the above efforts were accomplished by the Coastal Management Program using Section 306 funds.

3. Indicate if your state or territory has a printed public access guide or website. How current is the publication and/or how frequently is the website updated? Please list any regional or statewide public access guides or websites.

The Office of Coastal Management (OCM) is currently developing a Lake Erie Public Access Guidebook, which will be available to the public in summer 2010. The guidebook will identify all parks, nature preserves, fishing piers, wildlife areas, scenic overlooks and other public places adjacent to Lake Erie and their amenities. This project will update and greatly expand the public access information currently available in OCM's previous publication, the Ohio Coastal Atlas (Second Edition, 2007). To accompany the printed guidebook, OCM will also develop an interactive webpage that will allow the public to "blog" first-hand experiences they had while visiting an access site.

In 2009, the Ohio Sea Grant College Program (OSG) published "Explore the Lake Erie Islands: A Guide to Nature and History along the Lake Erie Coastal Ohio Trail." This travel guide provides detailed descriptions of each Lake Erie island in Ohio and their publicly accessible parks, nature preserves and historical sites. This publication not only features coastal access areas, but publicly accessible inland locations and landmarks as well. In 2008, OSG published the "Lake Erie Beach Guide." This pamphlet identifies 31 swimming beaches and is available at local visitor bureaus. OSG also published "Lake Erie Lighthouses and Maritime Adventures" in 2007, which highlights Ohio's Lake Erie lighthouses (and maritime museums), many of which are publicly accessible or visible from various access points. These documents concurrently promote the Lake Erie Coastal Ohio Trail, a designated national scenic byway.

The Ohio Department of Natural Resources website features a "Publications" section that includes the following public access-related documents: *Statewide Comprehensive Outdoor Recreation Plan* (2008), *Ohio's Natural Wanderings Guide*, *Watchable Wildlife Viewing Sites*, *Public Fishing Waters of Northeastern Ohio*, *Public Fishing Waters of Northwestern Ohio*, *State Wildlife Area Maps*, *Ohio State Parks Magazine*, *Ohio State Parks Guide* and *Ohio Boat Launch Areas Map & Guide*, among others. The website is routinely updated; however, the publications may only be updated periodically.

Priority Needs and Information Gaps

Using the table below, identify major gaps or needs (regulatory, policy, data, training, capacity, communication and outreach) in addressing each of the enhancement area objectives that could be addressed through the CMP and partners (not limited to those items to be addressed through the Section 309 Strategy). If necessary, additional narrative can be provided below to describe major gaps or needs.

Gap or need description	**Type of gap or need** (regulatory, policy, data, training, capacity, communication & outreach)	**Level of priority** (H,M,L)
Need- While the Public Access Guide is useful and does promote opportunities for public access to Lake Erie, a need for better and more consistent signage of public access areas was identified.	Communication & outreach	L
Gap- Additional information on ADA compliant accessibility at public access sites is needed to help inform and direct the use of grant funds.	Data, capacity	M
Need- Based on needs for additional public access identified through the public access survey, spacial analysis tools can be used to locate undeveloped parcels along the shoreline that could be candidates for public access development using Section 306A and fund 514 funds.	Data, policy	M

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal zone (including, but not limited to, CZMA funding)?

   High _____
   Medium __X_
   Low _____

   Briefly explain the level of priority given for this enhancement area.

Public access remains a high priority to address. However, 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, Public Access remains a medium priority.

2. Will the CMP develop one or more strategies for this enhancement area?

   Yes ___X__
   No ____ __
   Briefly explain why a strategy will or will not be developed for this enhancement area.

Progress continues to be made toward the enhancement objective 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 strategy will be developed that will further the goals and impact of the CMP and Ohio Balanced Growth Program in guiding Ohio community development from a watershed planning scale and educating communities on ways to develop while addressing economic competiveness, ecological health and quality of life. The strategy will result in the development of a coastal-specific module of Ohio's Lake Erie Balanced Growth Best Local Land Use Practices guide. It will also facilitate the development of additional coastal community waterfront plans. The Coastal Hazards and Public Access enhancement areas will be addressed by this strategy but Cumulative and Secondary Impacts is the main enhancement area that will be addressed.

Marine Debris

Section 309 Enhancement Objective
Reducing marine debris entering the Nation's coastal and ocean environment by managing uses and activities that contribute to the entry of such debris

Resource Characterization
Purpose: To determine the extent to which problems and opportunities exist with regard to the enhancement objective.

1. In the table below, characterize the significance of marine/Great Lakes debris and its impact on the coastal zone.

Source of marine debris	**Extent of source** (H,M,L)	**Type of impact** (aesthetic, resource damage, user conflicts, other)	**Significant changes since last assessment** (Y or N)
Land Based – Beach/Shore Litter	Medium to high, by site	Aesthetic, resource damage, public health	N
Land Based – Dumping	Medium to high, by site	Aesthetic, resource damage, public health	N
Land Based – Storm Drains and Runoff	Medium to high, by site and frequency/severity of storm events	Aesthetic, resource damage, public health, economic, public safety, and discharge from tributaries	N
Land Based – Fishing Related (e.g. fishing line, gear)	Medium	Aesthetic, resource damage, water quality impairment, damage to boats and engines	N
Ocean (Lake) Based – Fishing (Derelict Fishing Gear)	Low	Aesthetic, resource damage, damage to equipment	N
Ocean (Lake) Based – Derelict Vessels	Low	Aesthetic, resource damage, damage to equipment	N
Ocean (Lake) Based – Vessel Based (cruise ship, cargo ship, general vessel)	Medium	Aesthetic, resource damage, public health, economic, public safety	N

Source of marine debris	**Extent of source** (H,M,L)	**Type of impact** (aesthetic, resource damage, user conflicts, other)	**Significant changes since last assessment** (Y or N)
Hurricane/Storm	Low	Aesthetic, resource damage, public health, economic, public safety	N
Other (please specify)			

2. If information is not available to fill in the above table, provide a qualitative description of information requested, based on the best available information.

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

3. Provide a brief description of any significant changes in the above sources or emerging issues.

n/a

4. Do you use 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 3100 volunteers covered about 106 miles of beaches, tributaries and streams in the Lake Erie coastal area. The amount of trash and litter collected was in excess of 64,614 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.).

The following table is a summarization of the ten most collected ‘litter items’ during Coast Weeks, International Coastal Cleanup events, and other litter cleanup efforts by the Ohio Department of Natural Resources from 2005-2009.

	Ranked Litter Items
1	Food Wrappers
2	Plastic Beverage Bottles
3	Cigarettes
4	Beverage Cans
5	Bags

6	Glass Beverage Bottles
7	Caps and Lids
8	Cups, Plates, Utensils
9	Cigar Tips
10	Straws and Stirrers

Based on this information, land-based sources of litter are the main sources of marine debris in Ohio, if the number of items collected is the only criteria.

Management Characterization

Purpose: To determine the effectiveness of management efforts to address those problems described in the above section for the enhancement objective.

1. For each of the management categories below, indicate if the approach is employed by the state or territory and if significant changes have occurred since the last assessment:

Management categories	**Employed by state/territory** (Y or N)	**Employed by local governments** (Y, N, Uncertain)	**Significant changes since last assessment** (Y or N)
Recycling requirements	N	U	N
Littering reduction programs	Y	U	N
Wasteful packaging reduction programs	N	N	N
Fishing gear management programs	N	N	N
Marine debris concerns in harbor, port, marine, & waste management plans	Y	N	N
Post-storm related debris programs or policies	N	N	N
Derelict vessel removal programs or policies	N	N	N
Research and monitoring	Y	N	N
Marine debris education & outreach	Y	N	Y
Other (please specify)			

2. For management categories with significant changes since the last assessment provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference rather than duplicate the information.

   a) Characterize significant changes since the last assessment;
   b) Specify if it was a 309 or other CZM-driven change (specify funding source) or if it was driven by non-CZM efforts; and

c) Characterize the outcomes and effectiveness of the changes.

Marine Debris Education & Outreach- Significant change
In 2006, the Ohio Clean Marina Program, in cooperation with Mondo Polymer Technologies, Inc. began a no-cost shrink wrap recycling program. Shrink wrap, a polymer plastic film, is commonly used to cover marine vessels for winter storage in Ohio. Boat shrink wrap is collected from 100 plus Lake Erie marinas in the spring. Historically, much of this material was discarded in dumpsters and sent to landfills.

There are 42 certified Ohio Clean Marinas; 26 have been certified since the last assessment. The program has pledges from 26 more marinas to participate.

Ohio's Clean Marina Program is administered by the Ohio Sea Grant College Program. The Ohio Clean Marina Program was developed in partnership with the Ohio Department of Natural Resources Office of Coastal Management, Division of Soil and Water Resources, and Division of Watercraft; 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. An advisory board provides technical expertise, development and review of programmatic materials, program development and assistance with program implementation. Funding for Ohio's Clean Marina Program is provided by the Ohio Sea Grant College Program and by the Ohio Coastal Management Program with Section 306 funds.

To date the Program has coordinated the collection and recycling of over one million pounds of shrink wrap, which is used to produce highway guard rail blocks. Enough material has been collected to produce over 150,000 guard rail blocks used to protect over 200 miles of highway. The following are the yearly totals of shrink wrap collected:

2006	100,000 lbs
2007	285,000 lbs
2008	340,000 lbs
2009	360,000 lbs

Priority Needs and Information Gaps
Using the table below, identify major gaps or needs (regulatory, policy, data, training, capacity, communication and outreach) in addressing each of the enhancement area objectives that could be addressed through the CMP and partners (not limited to those items to be addressed through the Section 309 Strategy). If necessary, additional narrative can be provided below to describe major gaps or needs.

Gap or need description	**Type of gap or need** (regulatory, policy, data, training, capacity, communication & outreach)	**Level of priority** (H,M,L)
Need- Debris continues to be an issue in urban areas at public beaches and along tributaries to Lake Erie. Additional education and volunteer efforts are needed to address the debris issue.	communication & outreach, capacity	L
Need- Debris from stream banks in the watershed resulting from the natural erosion process constitutes the majority of organic debris washing up onto the beaches and into embayments. Continued implementation of state and federal programs to address nonpoint source pollution and stormwater is needed.	regulatory, policy	L

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal zone (including, but not limited to, CZMA funding)?

   High _____
   Medium _____
   Low __X__

   Briefly explain the level of priority given for this enhancement area.

Beach clean-up programs and recycling initiatives are in place and 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 Resources, and the U.S. Department of Agriculture to address stormwater and other nonpoint pollution sources at both the watershed and individual parcel level. Therefore, the OCMP has attributed a low priority for this enhancement area.

2. Will the CMP develop one or more strategies for this enhancement area?

   Yes _____
   No ___X__

   Briefly explain why a strategy will or will not be developed for this enhancement area.

A strategy using 309 funds will not be developed for this enhancement area. Ongoing programs and initiatives, including the Ohio Clean Marina Program, are addressing the enhancement objective. The Ohio Coastal Management Program is using Section 306 funds to initiate a small-grant program to assist local communities and organizations with litter clean-up events at publicly accessible Lake Erie access locations.

Cumulative and Secondary Impacts

Section 309 Enhancement Objective
Development and adoption of procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources.

Resource Characterization
Purpose: To determine the extent to which problems and opportunities exist with regard to the enhancement objective.

1. Identify areas in the coastal zone where rapid growth or changes in land use require improved management of cumulative and secondary impacts (CSI) since the last assessment. Provide the following information for each area:

Geographic area	**Type of growth or change in land use**	**Rate of growth or change in land use** (% change, average acres converted, H,M,L)	**Types of CSI**
Great Lakes Watershed within US	Primarily agricultural land to urban	0.2%-0.4% of total land area per year (SOLEC, USGS)	- Possible decrease of agricultural nonpoint source pollution - Increase in impervious surfaces - Changes to hydrology - Increase in urban nonpoint source pollution

* NOAA C-CAP data from 1996, 2001, and 2006 exists but has yet to be analyzed. While the analysis is yet to be done, there is still evidence from the data that change is occurring, mainly in the form of agricultural to urban.

As of the time of this assessment, no recent statewide data source on growth or change in land use was available. The most recent Ohio Lake Erie Quality Index report was issued in 2004 and included a Green Area Conversion metric that addressed conversion of unbuilt to built lands. However, the data referenced in that report was based on 1994 data. A new Lake Erie Quality Index report is anticipated in 2014 that will include an analysis of the more recent NOAA C-CAP data. The Ohio Balanced Growth program also includes a land use change indicator but this component of the program has not been implemented to date.

2. Identify sensitive resources in the coastal zone (e.g., wetlands, waterbodies, fish and wildlife habitats, critical habitat for threatened and endangered species) that require a greater degree of protection from the cumulative or secondary impacts of growth and development. If necessary, additional narrative can be provided below to describe threats.

Sensitive resources	**CSI threats description**	**Level of threat** (H,M,L)
Wetlands	Sedimentation, nonpoint source pollution, habitat fragmentation, in-fill of wetlands to use land for alternative purposes, altered hydrology from dikes (throughout western basin)	H
Barrier Beach Systems- i.e. Sheldon Marsh State Nature Preserve; Headlands Beach State Park/Dunes Nature Preserve	Erosion, nonpoint source pollution, habitat fragmentation due to loss of land, loss of endangered species habitat (piping plover)	H
Lake Erie Islands- Alvar features	Coastal development, nonpoint source pollution, loss of habitat for endangered species- Lake Erie Water Snake*	M
Fish Spawning/ Nursery Habitat- specifically Western Basin/Maumee Bay	Degraded water quality- sedimentation, pollution, development, reduced populations of native fish species, loss of recreational value (economic losses)	H
Freshwater Estuaries- Old Woman Creek NERR; Arcola Creek	Degraded water quality- nonpoint source pollution and sedimentation, loss of riparian buffers- habitat and hazard (flood) control, loss of wetlands- habitat, loss of native fish species	M
Lakeshore- bluff, bank, low-lying areas	Nonpoint source pollution, erosion, habitat loss- both shore and nearshore (mainly through armoring), decreased sediment inputs- loss of sediment within the littoral system (armoring), loss of beaches- natural protection from storms (armoring), coastal development- residential, commercial, resort & marina facilities	H
River Mouths	Sedimentation, nonpoint source pollution, lack of dredging- commercial & recreational losses (economic losses), habitat degradation (through armoring, marina/port activity), erosion caused by armoring or natural migration of unarmored areas (navigational hazard)	H

Sensitive resources	**CSI threats description**	**Level of threat** (H,M,L)
Migratory Fly-way	Loss of habitat for migrating species due to development, wetlands loss (see issues listed above), decreased species- decreased birders (economic losses)	M
Open Lake- Shallow areas, Western and Central Basin	"Dead Zones" develop due to high phosphorus levels (which in turn increase algae that deplete the waters of oxygen)	H
Freshwater mussel refugia	Loss of habitat due to development of the nearshore area, coastal wetlands, and bays; impacts from invasive species such as zebra and quagga mussels	M

* The Lake Erie Water Snake (*Nerodia sipedon insularum*) is currently a federally threatened and state endangered species for those snakes living within the islands of western Lake Erie. Water snakes found on the mainland are not considered threatened or endangered. Recent recovery efforts- including education of islanders and snake population monitoring- have proved to be effective in increasing populations of island-bound Lake Erie Water Snakes. It is likely that this subset population will soon be delisted federally and considered only threatened at the state level.

Management Characterization

Purpose: To determine the effectiveness of management efforts to address those problems described in the above section for the enhancement objective.

1. For each of the management categories below, indicate if the approach is employed by the state or territory and if significant changes have occurred since the last assessment:

Management Categories	**Employed by state/territory** (Y or N)	**Significant changes since last assessment** (Y or N)
Regulations	N	N
Policies	N	N
Guidance	Y (BGI/CNP)	Y
Management Plans	Y	Y
Research, assessment, monitoring	Y	Y
Mapping	Y	N
Education and Outreach	Y	Y
Other (please specify)		

2. For management categories with significant changes since the last assessment provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference rather than duplicate the information.
   a) Characterize significant changes since the last assessment;
   b) Specify if it was a 309 or other CZM-driven change (specify funding source) or if it was driven by non-CZM efforts; and
   c) Characterize the outcomes and effectiveness of the changes.

Guidance- Significant change

Balanced Growth Program
The Balanced Growth Program began in April of 2004 when the Ohio Lake Erie Commission formally adopted the recommendations of a Blue Ribbon Task Force for the creation of a voluntary, incentive-based land use program within the Lake Erie watershed. In 2005, the OLEC awarded funding for three pilot watershed protection projects. The funds were awarded to the Upper West Branch Rocky River Partnership, Swan Creek Watershed Partnership, and Chagrin River Watershed Partners. In 2006, a fourth pilot was awarded to the Cuyahoga River Community Planning Organization to develop a Balanced Growth Plan for Chippewa Creek. Also in this year, the OLEC began conducting best local land use practices workshops to educate a broad audience on the practices recommended for balanced growth. Finally, in 2008, Lake Erie Protection funds were awarded to the Cuyahoga River Community Planning Organization for the development of the Brandywine Creek Balanced Growth Watershed Action Plan.

In 2009, two additional projects were added through the awarding of Lake Erie Protection Funds. The grantees include the Lake County Planning Commission to develop a plan for the Eastern Lake County Coastal Tributaries watershed and the Cuyahoga River Community Planning Organization to develop a plan for the Furnace Run watershed. By September 2009, all four of the previously funded watershed plans were formally endorsed by the OLEC: the Chippewa Creek Balanced Growth Plan, the Upper West Branch Rocky River Balanced Growth Plan, the Chagrin River Watershed Balanced Growth Plan, and the Swan Creek Watershed Balanced Growth Plan.

Coastal Nonpoint Control Program
In August of 2006, the Coastal Nonpoint Control Program released a *Guidance for Watershed Projects to Address Ohio's Coastal Nonpoint Pollution Control Program (CNPCP)*. The document was developed to aid watershed coordinators in their efforts to meet the requirements of a fully endorsed watershed plan. All watershed plans within the Ohio Lake Erie Basin must describe how the criteria within the document will be met.

Management Plans- Significant change

CELCP
While not specified in the previous Assessment, the Coastal and Estuarine Land Conservation Program, established in 2002, has worked towards the preservation of critical coastal lands. Ohio's Lake Erie basin has received funds for 18 projects (as of 2009) totaling more than $16.8 million in federal funds and over 3,000 acres of land from willing sellers. Through the

partnerships between the ODNR and land conservation organizations, areas of undeveloped coast or wetland have been conserved, thereby limiting or reducing the cumulative impacts of the area. Additionally, some of the areas are open for passive use, enhancing the benefits of the land purchases.

Balanced Growth Program
As of late 2009, four pilot Balanced Growth Watershed Plans were fully endorsed by the Ohio Lake Erie Commission. These include the Upper West Branch of the Rocky River, Swan Creek, Chippewa Creek, and Chagrin River. Critical to the mitigation of Cumulative and Secondary Impacts are the inclusion of Priority Development Areas (PDAs) and Priority Conservation Areas (PCAs). By including and highlighting these items, the watershed plans are fostering the ideas of limiting growth in areas of critical habitat. The plans developed in each of the four watersheds are now being implemented by the watershed partners.

Ohio Watershed Coordinator Program- Lake Erie Basin
The Ohio Watershed Coordinator Program began in 2000 as a statewide program to facilitate the development of watershed action plans. The purpose of each plan is to restore and maintain the chemical, physical and biological integrity of water resources within the watershed. As a result of this program and the watershed coordinators it supports, twelve (12) watersheds in the Lake Erie Basin have state endorsed or conditionally endorsed watershed actions plans; all of which have been approved since 2005. The Watershed Coordinator Program has been supported with state funds, Ohio EPA 319 funds, and Section 306 funds through the Office of Coastal Management.

<u>Research, Assessment, Monitoring- Significant change</u>

Lake Erie Phosphorus Task Force
In March of 2007, the Ohio EPA formed the Lake Erie Phosphorus Task Force, a group comprised of representatives from the OEPA, US EPA, ODNR, Ohio Department of Agriculture, Ohio Farm Bureau, Soil and Water Districts, OSU Extension, USDA, and academia. According to the OEPA, the group was formed "to more formally review the phosphorus loading data from Ohio tributaries to Lake Erie, to consider possible relationships between trends in dissolved reactive phosphorus loading and in-lake conditions, to determine possible causes for increased soluble phosphorus loading, and to evaluate possible management options for reducing soluble phosphorus loading".

Thus far the Lake Erie Phosphorus Task Force has explored the sources of phosphorus entering into Lake Erie and ways to combat these inputs. Information gathered and analyzed by the group has been compiled into a "Phosphorus Task Force Final Report" that was released in April 2010. This report contains background on the types of phosphorus, phosphorus sources, mechanisms by which the nutrient enters Lake Erie, and a set of recommendations for ways to reduce phosphorus levels as well as recommendations for future research.

Balanced Growth Indicators
In 2006, the Ohio Lake Erie Commission developed a draft set of Balanced Growth Indicators to track changes resulting from the Balanced Growth Program. The indicators were developed according to three categories: Programmatic Accomplishments- whether initiatives were being

implemented and whether policies were changing at the state and local levels; Land Use Changes- whether policies are changing patterns of land use; and Water Quality Improvement- whether land use changes were affecting water quality. While preliminary data collection occurred, progress on the indicators has slowed in recent years. Now that a number of the watershed plans are being implemented, it is foreseen that the indicators component will move forward in the future.

Education and Outreach- Significant change

Balanced Growth Program
The Balanced Growth Program has developed a number of education and outreach tools aimed at combating the cumulative and secondary impacts of development within the coastal zone. In recent years, the program has developed a handbook containing PowerPoint presentations, fact sheets and web resources, all aimed at local officials and professionals. Balanced Growth awareness sessions have been held for local officials, and a DVD has been created to better explain the concepts of the program. Two training modules- "Compact Development & Targeted Land Use Strategies" and "Revenue Sharing & Regional Collaboration Strategies"- are currently in the process of being developed.

Ohio Coastal Training Program
The Ohio Coastal Training Program (CTP) is a partnership of four programs (Old Woman Creek National Estuarine Research Reserve (NERR), Ohio Sea Grant College Program, ODNR Office of Coastal Management, and the Ohio Lake Erie Commission) that collaborate to, among other things, provide education on the Lake Erie coastal region. These programs regularly work together with non-profit organizations, universities, and other agencies to deliver science-based training to professionals throughout the Lake Erie watershed. The Ohio CTP surveyed more than two hundred local officials in the Lake Erie watershed about their greatest challenges and training needs related to land use and water quality. Stormwater, watershed and land use planning, sustainable design, and renewable energy were among the top priorities. In response, the Ohio CTP has partnered with others to expand and enhance training in these areas.

Priority Needs and Information Gaps
Using the table below, identify major gaps or needs (regulatory, policy, data, training, capacity, communication and outreach) in addressing each of the enhancement area objectives that could be addressed through the CMP and partners (not limited to those items to be addressed through the Section 309 Strategy). If necessary, additional narrative can be provided below to describe major gaps or needs.

Gap or need description	**Type of gap or need** (regulatory, policy, data, training, capacity, communication & outreach)	**Level of priority** (H,M,L)
Need- Refinement of regulatory database and georeferencing of the information with the OCM GIS	Regulatory, data	M

Gap or need description	**Type of gap or need** (regulatory, policy, data, training, capacity, communication & outreach)	**Level of priority** (H,M,L)
Need- Development of the Coastal Module of Balanced Growth- Best Local Land Use Practices	Policy	M
Gap- Sand resource inventory and study of erosion control structure impacts	Data	M
Need- Assess the benefits of HSTS maintenance on water quality within watersheds	Data, policy	L
Gap- Data and analysis to determine type of growth or change in land use occurring in the coastal management area	Data	L

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal zone (including, but not limited to, CZMA funding)?

   High __X__
   Medium _____
   Low _____

   Briefly explain the level of priority given for this enhancement area.

Development has slowed in general over the past few years due to the economic downturn but it has not stopped completely and neither have the associated impacts such as nonpoint source pollution, sedimentation, or the loss of wetlands. A need to identify and address cumulative and secondary impacts of coastal growth and development still exists and therefore this enhancement area remains a high priority for the Ohio coastal management program. While no individual needs were given a high level of priority, the high priority of the cumulative needs identified does mirror the collective effect of individual uses or development activities on coastal resources.

2. Will the CMP develop one or more strategies for this enhancement area?

   Yes __X___
   No _____

   Briefly explain why a strategy will or will not be developed for this enhancement area.

A strategy will be developed that will address the collection of sand transport information and coordination with the Corps of Engineers related to sand management issues. The strategy will mainly address elements of the Coastal Hazards enhancement area but will also address this enhancement area and the Great Lakes Resources enhancement area.

A strategy will also be developed that will further the goals and impact of the CMP and Ohio Balanced Growth Program in guiding Ohio community development from a watershed planning scale and educating communities on ways to develop while addressing economic competiveness, ecological health and quality of life. The strategy will result in the development of a coastal-specific module of Ohio's Lake Erie Balanced Growth Best Local Land Use Practices guide. It will also facilitate the development of additional coastal community waterfront plans. Cumulative and Secondary Impacts is the main enhancement area addressed by this strategy but Coastal Hazards and Public Access will also be addressed.

Special Area Management Planning

Section 309 Enhancement Objective
Preparing and implementing special area management plans for important coastal areas

> The Coastal Zone Management Act (CZMA) defines a Special Area Management Plan (SAMP) as "a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies; standards and criteria to guide public and private uses of lands and waters; and mechanisms for timely implementation in specific geographic areas within the coastal zone. In addition, SAMPs provide for increased specificity in protecting natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas, including those areas likely to be affected by land subsidence, sea level rise, or fluctuating water levels of the Great Lakes, and improved predictability in governmental decision making."

Resource Characterization
Purpose: To determine the extent to which problems and opportunities exist with regard to the enhancement objective.

1. Identify geographic areas in the coastal zone subject to use conflicts that can be addressed through special area management plans (SAMP). Also include areas where SAMP have already been developed, but new issues or conflicts have developed that are not addressed through the current plan. If necessary, additional narrative can be provided below.

Geographic Area	Major conflicts	Is this an emerging or a long-standing conflict?
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.	Long-standing
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	Long-standing

Geographic Area	Major conflicts	Is this an emerging or a long-standing conflict?
State Nature Preserves and Critical Fish Habitat	Hydromodification (both existing and potential resulting from development), non point source pollution within the supporting watersheds and in some cases directly adjacent. Wetlands degradation, habitat fragmentation, dredging and littoral system disruption, exotic invasive species.	Long-standing
Toledo Harbor Development	Development interests for 570 acres of submerged lands conveyed to the Toledo-Lucas County Port Authority for the placement of dredged material, beneficial reuse and wind turbine farm, including meteorological towers.	Emerging
Offshore Wind Energy Development	Interest in the use of the offshore region of Lake Erie for harvesting of wind energy. Important flyway(s) for migratory species, potential loss of scenic quality and potential impacts to navigational uses and aquatic habitats. Specific locations would be identified based on development interest/proposals.	Emerging
Toledo Harbor(s) Dredged Material Management	Issues include the need for management of significant amounts of relatively clean dredge materials, particularly the potential development of habitat restoration areas and other beneficial uses of sediments.	Long-standing
Cleveland Harbor Dredged Material Management	Issues include the need for management of moderate amounts of contaminated dredge materials, particularly the construction of a new confined disposal facility, beneficial use of sediments, and management of existing confined disposal facilities.	Emerging

Management Characterization

Purpose: To determine the effectiveness of management efforts to address those problems described in the above section for the enhancement objective.

1. Identify below any special management areas in the coastal zone for which a SAMP is under development or a SAMP has been completed or revised since the last Assessment:

SAMP title	**Status** (new, revised, or in progress)	**Date approved or revised**
n/a		

2. For management categories with significant changes since the last assessment provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference rather than duplicate the information.

   a) Characterize significant changes since the last assessment (area covered, issues addressed and major partners);
   b) Specify if it was a 309 or other CZM-driven change (specify funding source) or if it was driven by non-CZM efforts; and
   c) Characterize the outcomes and effectiveness of the changes.

n/a

Priority Needs and Information Gaps

Using the table below, identify major gaps or needs (regulatory, policy, data, training, capacity, communication and outreach) in addressing each of the enhancement area objectives that could be addressed through the CMP and partners (not limited to those items to be addressed through the Section 309 Strategy).

Gap or need description	**Type of gap or need** (regulatory, policy, data, training, capacity, communication & outreach)	**Level of priority** (H,M,L)
Need- Dredged Material Management Plans	Policy, capacity, and communication/outreach	M
Need- A mechanism is needed for the assessment and mitigation of improperly maintained home sewage treatment systems.	Policy and capacity	L

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal zone (including, but not limited to, CZMA funding)?

   High _____
   Medium __X_
   Low _____

   Briefly explain the level of priority given for this enhancement area.

The issues referenced in the enhancement areas within this section are fairly significant issues in Ohio's coastal zone, particularly with respect to dredged material management issues in the

Toledo and Cleveland Harbors. Both harbors could potentially have difficulties with placement of dredged materials during the 309 Assessment and Strategies timeframe, albeit for different reasons. While the establishment of a SAMP has been given consideration, there does not appear to be a strong calling for a SAMP to address these issues. For these harbors, particularly Toledo, a number of coordinating workgroups and committees already exist.

2. Will the CMP develop one or more strategies for this enhancement area?

Yes _____
No __X___

Briefly explain why a strategy will or will not be developed for this enhancement area.

As stated above, there are real needs to address the issues identified in this section. Ohio Coastal Management Program staff members have devoted significant amounts of time and resources to these issues in the past and plan to continue to do so until effective solutions can be identified and implemented. However, it is not anticipated that the development of a SAMP will be included as a means of coordinating local, state, regional, and national interests as a number of vehicles currently exist to address these issues. However, if those coordinating activities prove to be ineffective, or if the resources to continue them become unavailable, the creation of a SAMP may be one alternative that is discussed with local stakeholders as a means of continuing the coordination efforts necessary to identify and implement solutions.

Ocean/Great Lakes Resources

Section 309 Enhancement Objective
Planning for the use of ocean resources

Resource Characterization
Purpose: To determine the extent to which problems and opportunities exist with regard to the enhancement objective.

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 use conflict**	**Degree of threat** (H,M,L)	**Anticipated threat or use conflict**
Water Quantity	Water Diversions Climate Change along with land use	L M	Diversions of Great Lakes water out of the watershed; competing users within the watershed Lower groundwater recharge
Water Quality	Open lake disposal of Toledo Harbor sediments Nutrient Loads	M H	Ecosystem impacts from turbidity and contaminants if open Lake disposal of Toledo Harbor sediments continues Increasing dead zone
Sand	Insufficient amounts and disruption of littoral processes	H	Continued trapping of sand and covering over of sand by shore structures, and potential commercial sand mining from beaches
Coastal Habitat	Development of the shore; armoring the shore and nearshore (covering habitat)	M	Continued loss of critical coastal habitat, especially open coastal wetlands
Native Species	Invasive Species Offshore Wind Energy Development	H	Numerous species already within the Great Lakes; Asian Carp is an emerging threat; Development of offshore wind turbines is a potential conflict

Resource or use	**Threat or use conflict**	**Degree of threat** (H,M,L)	**Anticipated threat or use conflict**
Land / Water Interface	Erosion & Inundation	H	Loss of land due to erosion; damage caused by inundation during coastal storms

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

Water Quantity

Given the continuing positive activities to address this threat/conflict, the degree of threat for water diversions remains low. Climate change predictions are for the climate to be warmer with more intense storms that will produce greater peak runoff amounts. Increased evaporation and lower groundwater recharge are also expected along with lower Lake Erie water levels.

Sand

During the previous 309 Assessment period the Office of Coastal Management received a request from the U.S. Army Corps of Engineers to provide financial assistance for appropriate nearshore placement of dredged sand resources. Although OCM was unable to provide financial assistance at the time, the two organizations have continued to coordinate on sand management issues and will explore possibilities for collaborative projects in the future.

ODNR is coordinating with the U.S. Army Corps of Engineers on Regional Sediment Management under WRDA Section 204(e) USACE. Specific projects that could impact sand resources within Lake Erie that are being performed in coordination with the USACE under Regional Sediment Management include:

1) Maumee Bay Habitat Restoration project
2) Development of a sediment budget for Lake Erie. Analysis of budget to consider (i) impacts of shoreline hardening, (ii) effects of structures (both federal and non-federal) on littoral drift, and (iii) recommendations for sediment bypassing to restore historic nearshore/littoral ecosystem function
3) Development of a Detailed Design Report (DDR) and associated NEPA documentation for a sediment bypassing annual program at significant Lake Erie structures
4) Lake Erie Shore Erosion Management Plan

Native Species

Over the past several years, the Great Lakes states, and Ohio specifically, have taken measures to assist with management and technical assistance for two emerging issues. One is the potential threat to native fisheries posed by the potential introduction of Asian Carp into the Great Lakes. On June 23, 2010, a live bighead Asian carp was caught in a waterway about six miles from Lake Michigan further intensifying regional concerns. The second issue is the heightened interest in the development of offshore wind energy facilities. The Ohio Coastal Management Program has taken a leadership role in this issue by developing Wind Favorability Maps for Ohio's portion of Lake Erie. These maps are a tool that may be voluntarily used by potential

developers to help with siting wind energy projects in areas of Lake Erie having relatively low competing uses and aquatic habitat concerns.

Management Characterization

Purpose: To determine the effectiveness of management efforts to address those problems described in the above section for the enhancement objective.

1. For each of the management categories below, indicate if the approach is employed by the state or territory and if significant changes have occurred since the last assessment:

Management categories	**Employed by state/territory** (Y or N)	**Significant changes since last assessment** (Y or N)
Comprehensive ocean/Great Lakes management plan or system of Marine Protected Areas	N	N
Regional comprehensive ocean/Great Lakes management program	Y	Y
Regional sediment or dredge material management plan	Y	Y
Intra-governmental coordination mechanisms for Ocean/Great Lakes management	Y	Y
Single-purpose statutes related to ocean/Great Lakes resources	Y	Y
Comprehensive ocean/Great Lakes management statute	N	N
Ocean/Great Lakes resource mapping or information system	Y	N
Ocean habitat research, assessment, or monitoring programs	Y	Y
Public education and outreach efforts	Y	Y
Other (please specify)		

2. For management categories with significant changes since the last assessment provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference rather than duplicate the information.
   a) Characterize significant changes since the last assessment;
   b) Specify if it was a 309 or other CZM-driven change (specify funding source) or if it was driven by non-CZM efforts; and
   c) Characterize the outcomes and effectiveness of the changes.

Regional comprehensive ocean/Great Lakes management program- Significant change

In 2009, Congress authorized $475 million to implement projects addressing five focus areas identified as the highest priorities for which urgent action is required to restore the Great Lakes. Various agencies within the State of Ohio collaborated to submit an application requesting $22.7

million for 37 projects addressing a variety of coastal resources in Ohio's Lake Erie watershed. Additional funding for the Initiative is expected to be authorized in 2010. Several Coastal and Estuarine Land Conservation Program (CELCP) grants were awarded to Ohio through this initiative, and Ohio expects to receive more funding for restoration projects as additional awards are announced.

Regional sediment or dredge material management plan (DMMP)- Significant change

Cleveland Harbor DMMP
The draft Cleveland Harbor DMMP was issued in August of 2009. ODNR has coordinated with the USACE and the local sponsor throughout the process and continues to provide assistance as the draft plan is reviewed. The DMMP recommendations included a new confined disposal facility that had been proposed to be constructed by the Corps of Engineers in partnership with the Cleveland-Cuyahoga County Port Authority. The proposal called for an approximately 157-acre facility to be built adjacent to the E. 55th Street Marina at Cleveland Lakefront State Park. The long-term plan by the port authority is to eventually move their port operations to that site and free up the current port location, north of Cleveland Browns Stadium, for development and public access. The plan has faced criticism during the public comment period, and has recently been withdrawn.

Lorain Harbor DMMP
The final Lorain Harbor DMMP was released in April of 2009. The plan includes a proposal for upland beneficial use of dredged material instead of the construction of a new in-water confined disposal facility.

Ashtabula Harbor DMMP
Continued implementation of the DMMP will support the Corps of Engineers' efforts to dredge of the harbor in an economically feasible, environmentally sound manner.

Toledo Harbor DMMP and Regional Sediment Management Demonstration Project
Within the overall scope of implementing the DMMP, the U.S. Army Corps of Engineers has been authorized to develop a Regional Sediment Management Demonstration Project, which would utilize dredge sediments currently being placed in the open waters of Maumee Bay to develop a small-scale habitat restoration unit (HRU). This project would serve as a pilot project to build a much larger HRU, which is an idea that has generated significant support at the local, state, and federal levels as an alternative to the continued placement of dredged sediments in the open lake where it can be potentially re-suspended, leading to negative impacts on aquatic resources. ODNR continues to work with the Ohio Lake Erie Commission, Ohio EPA, and the Army Corps of Engineers to move forward with the HRU concept.

Additionally, Ohio EPA has proposed revisions to the Ohio Administrative Code that would limit open lake disposal of dredged sediments in the western basin of Lake Erie. If approved, the revised rules would allow an individual applicant to dispose of no more than 50,000 cubic yards of sediments in a twelve month period within the western basin of Lake Erie. These rules would apply to all applicants, including federal dredging projects.

Western Lake Erie Basin Study
The U.S. Army Corps of Engineers (USACE) and the U.S. Department of Agriculture - Natural Resources Conservation Service (NRCS) invited 14 Federal, State, and regional partners to attend the first meeting of a Leadership Group designed to create a comprehensive watershed management partnership and framework for the Western Lake Erie Basin (WLEB) Study in November of 2005. The goal of the Western Lake Erie Basin Study is to improve flood control, navigation, water quality, recreation and fish and wildlife habitat in a comprehensive manner including watersheds of the Maumee, Ottawa and Portage Rivers.

All activities discussed under this management category were funded by non-309/CMP sources.

Intra-governmental coordination mechanisms for Ocean/Great Lakes management- Significant change
In 2008, the Ohio Lake Erie Commission revised the *Lake Erie Protection and Restoration Plan*, originally released in 2000. The purpose of the Plan is to identify the strategic direction and the near-term actions of the State of Ohio related to Lake Erie. The Plan also provides a statement of what Ohio is doing to implement the Great Lakes Regional Collaboration. In 2014, the Commission plans to update the *Lake Erie Quality Index* and the results of action items outlined in the Plan will be measured through that Index. The Plan is organized into ten Ohio priorities which includes the nine priorities established by the Great Lakes Governors (for the Great Lakes Regional Collaboration) plus the priority of "Climate Change," which was deemed of great significance to the Commission. Revisions to the Plan were funded with non-309/CMP sources.

Single-purpose statutes related to ocean/Great Lakes resources- Significant change
In June 2008, Ohio became the sixth state to ratify the Great Lakes- St. Lawrence River Basin Water Resources Compact (Compact). The Compact became effective on December 8, 2008 after it was approved by all of the Great Lakes States, was ratified by Congress, and signed by President Bush. There are three fundamental regulatory components to the Compact: 1) a ban on new or increased diversions out of the Great Lakes Basin except for a few specific exceptions, including communities that straddle the Lake Erie/Ohio River drainage divide and communities within counties that straddle the divide, 2) each state must develop a regulatory program for new or increased withdrawals, and 3) each state must develop and implement a water conservation and efficiency program.

Ohio's enacting legislation established an advisory board to make recommendations to the Governor and General Assembly on the laws, rules, and policies required for implementing the commitments made in the Compact. The primary responsibility of the board is to develop goals and objectives for a voluntary water conservation and efficiency program, and to make recommendations for the process and requirements for implementing the regulatory program for new or increased withdrawals. Comments and recommendations on any other aspect of Ohio's implementation of the Compact are also within the scope of the board's work. A report to the Governor and General Assembly on the advisory board's recommendations was due on June 8, 2010, but an extension has been granted until December 15, 2010, by the Legislature.

Ohio must have its water conservation and efficiency program in place by December 8, 2010 and its program for regulating new or increased withdrawals established by December 8, 2013. Each

Great Lakes State must also maintain a database of withdrawal facilities, and be prepared to review and comment on various applications from in-state and out-of-state water withdrawal facilities.

A portion of this work has been funded with Section 306 and 309 CMP funds.

Ocean/Great Lakes resource mapping or information system- No significant change

The Ohio Coastal Atlas Project suite of resources was developed with CMP funding to provide coastal decision makers, professionals, educators, interest groups and the general public with information about Lake Erie and its watershed. The Office of Coastal Management began developing the Ohio Coastal Atlas products in 2004. The Ohio Coastal Atlas Project consists of four components:

- The 240-page printed Second Edition (2007) is illustrated with maps, text, figures and photographs featuring geographic resource data for the Lake Erie region's cultural, physical, biological and natural phenomena. It features topics covered in the 2005 First Edition, including expanded Habitat chapter and new Lake Science chapter.
- The DVD Edition, comprised of high-resolution PDF files formatted for computer use, contains all of the information found in the Second Edition plus additional maps and content.
- The online Interactive Atlas Map Viewer allows users to create and customize maps with GIS data layers found in the printed and digital atlases. The Viewer also permits users to download GIS data and access metadata**.**
- The Coastal Map Library is a repository of prepared, static maps from the atlas and other sources available to download as a high-resolution PDF files. Designated Coastal Management Area Maps are found here.

Ocean habitat research, assessment, or monitoring programs- Significant change

The ODNR Natural Heritage Program converted the *Ohio Natural Heritage Database* that tracks the locations of rare species to a GIS system in 2003-2004. The ODNR Division of Natural Areas and Preserves is using GPS equipment to map the locations of rare species and plant communities across the coastal management area. 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 and 309 CMP funds. In 2010, the *Ohio Natural Heritage Database* was moved under the Division of Wildlife when the ODNR Division of Natural Areas and Preserves was moved under the Division of Parks and Recreation due to State budget reductions. Under the Division of Wildlife, the *Ohio Natural Heritage Database* has been renamed the *Ohio Biodiversity Database Program*.

Since initial meetings of the Coastal Research Advisory Group (CRAG), all NOAA-affiliated partners in Ohio have made strides in coordinating research and grant review:

- CMAG - OWC NERR, Sea Grant, and the Lake Erie Commission representatives assist OCM in the review of coastal management assistance grants.
- Lake Erie Commission small grants - OCM, OWC NERR, and Ohio Sea Grant representatives serve on the small grant review committee.
- Lake Erie Protection and Restoration Plan - Group partners assisted in the update of the Lake Erie Protection and Restoration Plan. OCM coordinated the development of research and management needs of ODNR divisions and programs.

- The Group continues to meet and discuss research questions and priorities as part of the development of Ohio state agency priorities for the Great Lakes Restoration Initiative.
- For the first time in 2009, Ohio Sea Grant and Old Woman Creek NERR collaborated on a joint RFP. These CRAG partners are co-funding a multi-year examination of Phragmites control in the Old Woman Creek estuary.

Future steps for the research advisory group are to establish the research framework for the Lake Erie Partnership.

The first year of a research study to determine the annual variability in pelagic bird densities throughout Ohio's waters of Lake Erie has been funded with non-309/CMP funds. A second year of the study will be funded through the CMP under Section 306. A more detailed description of the study is provided in the Energy and Government Facility Siting section of this 309 Assessment.

Public education and outreach efforts- Significant change

The Office of Coastal Management has expanded its education and outreach efforts over the last five years to include many different ventures ranging from presentations to local and civic groups to the development of fact sheets and WebPages to serve the educational needs of Ohio's coastal constituents. While some educational tools are audience specific, others are intended to serve the general public. A couple of items developed recently using Section 306-funded CMP staff time and staff time from non-309/CMP funded partners include:

ODNR Real World Learning Modules: Lake Erie: Coastal Management

Real life learning opportunities about resource conservation and outdoor recreation, including Lake Erie Coastal Management, are a featured educational resource on the ODNR website. The site brings to life what we do and how we do it at ODNR and provides resources for developing lesson plans in science, language arts and career education. Site visitors select from six resource modules to discover how ODNR scientists, writers, researchers, naturalists, engineers, law enforcers and resource managers strive to conserve Ohio's natural resources and provide outdoor recreational opportunities for all Ohioans.

Lake Erie Literacy Principles and Lake Erie Partnership for Education and Outreach

The Ohio Lake Erie Commission, Office of Coastal Management, ODNR Division of Wildlife - Old Woman Creek National Estuarine Research Reserve, and the Ohio Sea Grant College Program are developing a unified strategic plan for Lake Erie education and outreach.

As part of this effort, the agencies identified a need for a place-based environmental literacy framework for Lake Erie.

A project team initiated the development of this framework by adapting Ocean Literacy: The Essential Principles and Fundamental Concepts to Lake Erie. The partnership first introduced the Lake Erie Literacy Principles and Concepts for public comment in May 2009 at a Great Lakes research conference and has continued to solicit feedback through an online survey. The group is seeking feedback from researchers, educators, coastal managers, nongovernmental agencies, and

others involved with and interested in Lake Erie protection, restoration, research, education, and outreach.

Priority Needs and Information Gaps

Using the table below, identify major gaps or needs (regulatory, policy, data, training, capacity, communication and outreach) in addressing each of the enhancement area objectives that could be addressed through the CMP and partners (not limited to those items to be addressed through the Section 309 Strategy). If necessary, additional narrative can be provided below to describe major gaps or needs.

Gap or need description	**Type of gap or need** (regulatory, policy, data, training, capacity, communication & outreach)	**Level of priority** (H, M, L)
Need- Support Great Lakes compact efforts through funding of rule-making, acquisition (with non-309 funds), and publishing of data.	Policy	L
Need- Marine spatial planning effort to assist with decision-making on regional basis related to wind energy facility siting	Policy, capacity, communications & outreach	M
Need – Additional coordination on and assessment of sediment management issues related to federal harbors, structures, dredging practices, etc.	Policy, data	H

As described in the Summary of Past 309 Efforts section of this assessment, Ohio's 309 Strategy was amended in 2009 to include an additional project in order to assist with the Compact implementation. This project is scheduled for completion in December 2010. The progress made to date towards accomplishing the tasks necessary to fulfill Ohio's Compact commitments has been significant. Although the required tasks are not one hundred percent complete and some work is still needed, enough progress has been achieved to enable this priority need to be listed as a low priority.

The Ohio Coastal Management Program has taken measures to assist with management and technical assistance for the heightened interest in development of offshore wind energy facilities by developing Wind Favorability Maps for Ohio's portion of Lake Erie and funding studies related to potential impacts of wind energy facilities on coastal resources. Additional studies are needed to further our knowledge of Ohio's aquatic habitat and cultural/social issues related to the siting of potential offshore wind energy projects.

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal zone (including, but not limited to, CZMA funding)?

High __X__
Medium _____
Low _____

Briefly explain the level of priority given for this enhancement area.

This enhancement area is a high priority for the Ohio Coastal Management Program as a number of significant issues are contained in this area. In particular, OCMP staff members have spent a large portion of their time addressing the issues of dredged material management and offshore wind energy during the previous 309 Assessment period. These efforts are expected to continue well into the next 309 Assessment period and perhaps beyond.

2. Will the CMP develop one or more strategies for this enhancement area?

Yes __X___
No _____

Briefly explain why a strategy will or will not be developed for this enhancement area.

A strategy to address offshore wind energy development will be included, as effective management of this issue is anticipated to involve a program change during the upcoming 309 Assessment period. The program change(s) will contain elements of both this enhancement area and Energy and Government Facility Siting enhancement area.

A strategy will also be developed that will address the collection of sand transport information and coordination with the Corps of Engineers related to sand management issues. The strategy will mainly address elements of the Coastal Hazards enhancement area but will also address this enhancement area and the Cumulative and Secondary Impacts enhancement area.

Energy & Government Facility Siting

Section 309 Enhancement Objectives
Adoption of procedures and enforceable policies to help facilitate the siting of energy facilities and Government facilities and energy-related activities and Government activities which may be of greater than local significance

Resource Characterization
Purpose: To determine the extent to which problems and opportunities exist with regard to the enhancement objective.

1. In the table below, characterize the types of energy facilities in your coastal zone (e.g., oil and gas, Liquefied Natural Gas (LNG), wind, wave, Ocean Thermal Energy Conversion (OTEC), etc.) based on best available data. If available, identify the approximate number of facilities by type.

Type of Energy Facility	**Exists in CZ** (# or Y/N)	**Proposed in CZ** (# or Y/N)	**Interest in CZ** (# or Y/N)	**Significant changes since last assessment** (Y or N)
Oil and gas facilities	Y	N	N	N
Pipelines	Y	N	N	N
Electric transmission cables – CZ and coastal counties	Y	Y	Y	N
LNG	N	N	N	N
Wind	Y- coastal county	N	Y	Y
Wave	N	N	N	N
Tidal	N	N	N	N
Current (ocean, lake, river)	N	N	N	N
OTEC	N	N	N	N
Solar	Y- coastal county	N	Y	N
Coal - CZ and coastal counties	Y	N	Y	N
Electric co-generation facility – coastal county	N	Y	Y	N
Natural gas liquids (not LNG)	N	N	Y	N

2. Please describe any significant changes in the types or number of energy facilities sited, or proposed to be sited, in the coastal zone since the previous assessment.

Wind- Significant change

There are several wind projects being discussed (no applications submitted to the Ohio Power Siting Board) by developers that would be located within the coastal management area (CMA), including within Lake Erie, since the previous assessment. Moving forward from today, it can be presumed that multiple wind farms will be proposed within coastal counties and the CMA in the future. The exact number and timeframe is uncertain at this point but since the wind resource in Ohio is favorable along the shores of Lake Erie and within the lake itself, we can assume that it is a matter of time before a large number of turbines from wind farms will be proposed for these areas. In addition to turbines, such projects would presumably include electric transmission/distribution infrastructure (i.e., lines, substations, etc.) that may also be located within the CMA.

3. Does the state have estimates of existing in-state capacity and demand for natural gas and electric generation? Does the state have projections of future capacity? Please discuss.

Natural Gas

While Ohio produces a small amount of natural gas, most of its supply is brought in from several major interstate pipelines. Major natural gas storage capacity is used to meet peak demand during the winter. Ohio's high natural gas consumption is led by the residential and industrial sectors with nearly seven-tenths of households using natural gas as their primary energy source for home heating. According to the U.S. Energy Information Administration, total supply and consumption of natural gas in Ohio have slightly declined in recent years. However, construction of a natural gas pipeline from Colorado could reverse that trend in the near future. In addition, recent assessments also indicate that there may be significant potential for future coalbed methane production in the State. Ohio had 985 billion cubic feet of dry natural gas reserves and marketed 84,858 million cubic feet of natural gas in 2008. Consumption of natural gas in 2008 totaled 792,339 million cubic feet.

Electric Generation

Ohio ranks among the top States in total energy consumption due in part to its large population and heavily industrial economy. The U.S. Energy Information Administration reports that the State's industrial sector accounts for more than one-third of the State's electricity consumption and the residential sector consumes around one-fourth. Nearly one-fifth of Ohio households rely on electricity as their primary energy source for home heating. Coal fuels close to nine-tenths of Ohio's total electric generation. Two nuclear plants located in the coastal management area supply most of the remainder of the State's generation. For 2008, electric power industry net summer capability was 33,492 MW with a total net electricity generation of 11,156 thousand MWh. According to the Ohio Long Term Forecast of Energy Requirements 2008-2027 report issued by the staff of the Public Utilities Commission of Ohio, the annual peak load was 33,140 MW in 2007. The report forecasted an annual peak load demand of 33,327 MW in 2008 increasing to 35,248 MW by 2014. The 2007 total end use demand for electricity in Ohio was 165.4 million MWh. Total end use demand for electricity is expected to decrease slightly with a forecast of 161.7 million MWh in 2010 but then increase to 176.6 million MWh in 2018.

4. Does the state have any specific programs for alternative energy development? If yes, please describe including any numerical objectives for the development of alternative energy sources. Please also specify any offshore or coastal components of these programs.

Ohio adopted an alternative energy portfolio standard in 2008. The standard requires that by 2025 and thereafter, at least 25 percent of all electricity sold in the state must come from alternative energy resources. At least half of that 25 percent standard, or 12.5 percent of electricity sold, must be generated by renewable energy resources, including 0.5% from solar energy resources. The standard defines a "renewable energy resource" as solar photovoltaic or solar thermal energy, wind energy, power produced by a hydroelectric facility, geothermal energy, fuel derived from solid wastes, biomass energy, biologically derived methane gas, or energy derived from nontreated by-products of the pulping process or wood manufacturing process. At least half of the renewable energy must be generated in-state; the remainder must be met with resources that can be shown to be deliverable into Ohio. The other half of the 25 percent standard can come from other advanced energy sources such as clean coal, advanced nuclear energy technology, fuel cells used in the generation of electricity, and demand-side management and any energy efficiency improvement.

Although the alternative energy portfolio standard does not specify any offshore or coastal components, the statutory definition of "renewable energy resource" does include specific reference to "…any wind turbine located in the state's territorial waters of Lake Erie". The State, through the Department of Development Ohio Energy Office, is promoting the development of wind power within Ohio, including in the coastal zone and offshore in Lake Erie.

In addition, there are two state incentive programs that pertain to alternative energy development. The first program is the Advanced Energy Fund that supports investments in renewable energy and energy efficiency. The second program is the Advanced Energy component of the Ohio Job Stimulus Package that focuses on increasing the development, production, and use of advanced energy technologies in the state.

5. If there have been any significant changes in the types or number of government facilities sited in the coastal zone since the previous assessment, please describe.

There have not been any significant changes in the types or number of government facilities sited in the coastal zone since the previous assessment.

Management Characterization

Purpose: To determine the effectiveness of management efforts to address those problems described in the above section for the enhancement objective.

1. Does the state have enforceable policies specifically related to energy facilities? If yes, please provide a brief summary, including a summary of any energy policies that are applicable to only a certain type of energy facility.

Yes, out of the Ohio Coastal Management Program's 30 enforceable management policies, two policies specifically relate to energy facilities: Policy #34- Energy Facility Siting and Policy #35-

Energy Resource Storage and Transshipment. Policy #34 contains two enforceable polices. The first requires certification of any major utility facility or economically significant wind farm through the Ohio Power Siting Board in a process that ensures public participation and the second requires a 10-year demand, resource and site inventory and forecasts for all energy generation and transmission activity in the state. Policy #35 contains the enforceable policy of the State of Ohio to regulate the storage of energy related resources (coal, oil and gas) in the coastal area through planning assistance and permit review to assure the safe and efficient use of these resources; and to ensure that air, water and other environmental standards are met.

2. Please indicate if the following management categories are employed by the State or Territory and if there have been significant changes since the last assessment:

Management categories	**Employed by state/territory** (Y or N)	**Significant changes since last assessment** (Y or N)
Statutes or regulations	Y	Y
Policies	Y	N
Program guidance	Y	Y
Comprehensive siting plan (including SAMPs)	N	N
Mapping or GIS	Y	Y
Research, assessment or monitoring	Y	N
Education and outreach	Y	N
Other (please specify)		

3. For management categories with significant changes since the last assessment provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference rather than duplicate the information.
   a) Characterize significant changes since the last assessment;
   b) Specify if it was a 309 or other CZM-driven change (specify funding source) or if it was driven by non-CZM efforts; and
   c) Characterize the outcomes and effectiveness of the changes.

<u>Statutes or Regulations- Significant change</u>
The Ohio Alternative Energy Portfolio Standard became effective on July 31, 2008. See the Resource Characterization section, item 4 for a description of the new law. This change was driven by non-CZM efforts and has facilitated a heightened level of interest and investment in utility-scale wind-powered electric generation throughout the State, including the waters of Lake Erie.

Ohio House Bill 562 (2008) – Gave regulatory authority to the Ohio Power Siting Board for any proposed wind-powered electrical generating facility with the cumulative generating capacity of $\geq$ 5 megawatts. The threshold for the Board's authority over other generating facilities was and remains at $\geq$ 50 megawatts. This was a non-CZM driven change. An outcome of this change has been the opportunity to coordinate with the Board regarding their regulatory review process and

development of the CMP's draft rules for the use and occupation of Lake Erie through submerged lands leases and permits for Lake Erie wind-powered electrical generating facilities.

Program Guidance- Significant change
The Ohio Department of Natural Resources (ODNR) developed a Voluntary Cooperation Agreement that is administered through the Division of Wildlife. The purpose of the voluntary agreement is "to coordinate wind energy projects with wind energy developers in order to work collaboratively to ensure that wind-energy development project sites are developed in both an environmentally conscientious manner and with best regard to the conservation of the State's wildlife resources." ODNR solicited the participation of the Ohio Wind Working Group in the development of the voluntary agreement which was funded in part with 309 funds.

In conjunction with the voluntary agreement, the ODNR Division of Wildlife developed protocols for pre- and post-construction monitoring of on-shore wind energy facilities in 2008 with a revision in 2009. Also in 2009, the Division began drafting off-shore monitoring protocols. Both initiatives are 309-driven and are intended to promote standardized procedures that will allow the Division to make broad-scale comparisons in order to minimize wind/wildlife interactions.

Mapping or GIS- Significant change
The Lake Erie Wind Turbine Placement Favorability Map was created by the CMP in 2008 and was updated in 2009. The intent of the Favorability Map is to illustrate the potential limiting and restrictive factors for wind turbine placement in Lake Erie. Thematic data layers were used to develop the Favorability Map (v1.5) and include the following: bird habitat, commercial fishery, distance from shore, fish habitat, industries, lakebed substrates, natural heritage observances, navigable waterways, shipwrecks, sport fishery, and utilities. The Favorability Map has also served as a valuable educational tool and a starting point for discussions with coastal constituents and wind developers on the multiple uses and resources to be considered when siting wind energy facilities in the coastal area.

Research, assessment or monitoring- No significant change
A one year study was conducted to investigate the inter-annual spatial and temporal variability of pelagic birds throughout Ohio's waters of Lake Erie in an attempt to identify areas of the lake where wind energy facilities may or may not pose a threat to pelagic birds that migrate through the region. This study was funded with non-309/CZM funds. A second year of the study is planned and will be funded with Section 306 CMP funds. The studies will provide needed information to facilitate the siting of wind energy facilities in a way that minimizes the likelihood of impacts to these wildlife resources.

Priority Needs and Information Gaps
Using the table below, identify major gaps or needs (regulatory, policy, data, training, capacity, communication and outreach) in addressing each of the enhancement area objectives that could be addressed through the CMP and partners (not limited to those items to be addressed through the Section 309 Strategy). If necessary, additional narrative can be provided below to describe major gaps or needs.

Gap or need description	**Type of gap or need** (regulatory, policy, data, training, capacity, communication & outreach)	**Level of priority** (H,M,L)
Gap- Additional information on bird/bat use of lake and nearshore areas to identify potential impacts and monitoring needs related to wind energy facility siting	Data, policy	H
Need- A study/overall plan for Ohio Lake Erie to identify best areas for wind development	Policy/communication & outreach	H
Need- Enhancement of the existing Submerged Lands Lease rules to provide adequate guidance for the development of wind energy facilities	Regulatory	H
Gap- Additional information about the geologic framework of the Lake Erie bottom, particularly the substrate and subsurface information	Data	M

Enhancement Area Prioritization

1. What level of priority is the enhancement area for the coastal zone (including, but not limited to, CZMA funding)?

   High __X__
   Medium _____
   Low _____

   Briefly explain the level of priority given for this enhancement area.

This enhancement area is a high priority for the Ohio coastal management area. There continues to be increasing interest in the development of wind energy facilities in and around Lake Erie at the federal, state, and local levels.

2. Will the CMP develop one or more strategies for this enhancement area?

   Yes __X___
   No _____

   Briefly explain why a strategy will or will not be developed for this enhancement area.

A strategy will be developed for this enhancement area because there is an opportunity for coordination and a need for planning, data collection and guidance to ensure resource protection and facilitate the successful siting of wind energy generation facilities. This strategy will contain elements of this enhancement area as well as the Ocean/Great Lakes Resources enhancement area.

Aquaculture

Section 309 Enhancement Objective
Adoption of procedures and policies to evaluate and facilitate the siting of public and private aquaculture facilities in the coastal zone, which will enable States to formulate, administer, and implement strategic plans for marine aquaculture

Resource Characterization
Purpose: To determine the extent to which problems and opportunities exist with regard to the enhancement objective.

1. Generally characterize the private and public aquaculture facilities currently operating in your state or territory.

Aquaculture is not a significant activity in Ohio's coastal management area. There are ten (10) licensed fish propagators and two (2) Ohio Department of Natural Resources (ODNR) fish hatchery facilities located within the Lake Erie Watershed.

The ODNR Division of Wildlife operates the Castalia and St. Marys fish hatcheries. The Castalia State Fish Hatchery is located in Erie County, a Lake Erie coastal county. A cold water supply diverted from the Cold Creek and from blue-hole aquifers allows the hatchery to raise rainbow trout and all of the state's steelhead production. Fish are raised to catch size and stocked in Ohio lakes (in spring and fall). The St. Marys State Fish Hatchery is located in Auglaize County near the Lake Erie-Ohio River watershed divide. Water is supplied by Grand Lake St. Marys to 26 ponds totaling 43 acres of water with two outdoor raceways and an indoor rearing trough. Fish raised include saugeye, walleye, yellow perch, channel catfish and largemouth bass that are used to stock Ohio lakes.

Type of existing aquaculture facility	**Describe recent trends**	**Describe associated impacts or use conflicts**
State Fish Hatcheries	Due to an outbreak of Viral Hemorrhagic Septicemia (VHS), emergency proclamations were issued in 2008 & 2009 restricting the transport, sale and distribution of 28 species susceptible to VHS out of the affected region.	Several million dollars are being spent to develop capacity at the Castalia hatchery in case the Michigan-based source tests positive for VHS and becomes banned. Increased costs for disinfecting equipment, testing, personnel time and general operations as a result of VHS.

Management Characterization

Purpose: To determine the effectiveness of management efforts to address those problems described in the above section for the enhancement objective.

1. For each of the management categories below, indicate if the approach is employed by the state or territory and if significant changes have occurred since the last assessment:

Management categories	**Employed by state/territory** (Y or N)	**Significant changes since last assessment** (Y or N)
Aquaculture regulations	Y	Y – see below
Aquaculture policies	Y	N
Aquaculture program guidance	Y	N
Research, assessment, monitoring	Y	Y – See below
Mapping	N	N
Aquaculture education & outreach	Y	N
Other (please specify)		

2. For management categories with significant changes since the last assessment provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference rather than duplicate the information.
   a) Characterize significant changes since the last assessment;
   b) Specify if it was a 309 or other CZM driven change (specify funding source) or if it was driven by non-CZM efforts; and
   c) Characterize the outcomes and effectiveness of the changes.

Aquaculture Regulations- Significant change

The ODNR Division of Wildlife is responsible for oversight, program planning, and setting policies and standards for the aquaculture industry in Ohio. Aquaculture (Class A and B), White Amur and Bait Dealer permits are all issued annually by the Division through district offices and also at the Sandusky Fisheries and Enforcement Unit office in Erie County. The Sandusky Fisheries and Enforcement Unit office also issues annual Fish Transportation and Wholesale permits. For general information on aquaculture related regulations in Ohio, the ODNR Division of Wildlife provides the "Aquaculture Law Digest," the "Commercial Fishing Law Digest" and the "Bait Dealer Regulations" fact sheet on its website.

In 2008, the ODNR and Ohio Department of Agriculture partnered to protect Ohio's fish populations from the spreading of the disease Viral Hemorrhagic Septicemia (VHS). Emergency proclamations were established to prohibit the intrastate transport, sale or distribution of 28 fish species susceptible to VHS out of the affected region in northern Ohio. The proclamation was revised in 2009 to include a ban of intrastate distribution of VHS susceptible bait fish (living or dead), along with disinfected live eggs used for fish production. The affected area includes portions of northern Ohio within the Lake Erie Watershed; north of US Route 6 between the Indiana state border and Fremont in Sandusky County then north of Interstate 90 (Ohio Turnpike) between Fremont and the Pennsylvania state border, and also the Sandusky River

south of US Route 6 in Fremont to the Ballville Dam. Aquaculture regulation and the emergency proclamations are funded with non-309/CZM funds.

Research, Assessment and Monitoring- Significant change
The Ohio State University's Ohio Center for Aquaculture Development works to enhance Ohio's aquaculture productivity, advancement, environmental sustainability and profitability. Since 2006, the Center has continued or commenced 18 funded projects. Research has focused on aquaculture improvements, production techniques, bait production techniques, aquaculture genetics and outreach.

Priority Needs and Information Gaps
Using the table below, identify major gaps or needs (regulatory, policy, data, training, capacity, communication and outreach) in addressing each of the enhancement area objectives that could be addressed through the CMP and partners (not limited to those items to be addressed through the Section 309 Strategy). If necessary, additional narrative can be provided below to describe major gaps or needs.

Gap or need description	**Type of gap or need** (regulatory, policy, data, training, capacity, communication & outreach)	**Level of priority** (H,M,L)
n/a		

Enhancement Area Prioritization
1. What level of priority is the enhancement area for the coastal zone (including, but not limited to, CZMA funding)?

High _____
Medium _____
Low __X__

Briefly explain the level of priority given for this enhancement area.

The extent of the aquaculture industry in Ohio's coastal area is relatively limited. That, coupled with ODNR's ability to maintain adequate controls to regulate the industry, has resulted in a low level of priority for this enhancement area.

2. Will the CMP develop one or more strategies for this enhancement area?

Yes _____
No __X__

Briefly explain why a strategy will or will not be developed for this enhancement area.

There are presently no identified needs or gaps in addressing the programmatic objectives for this enhancement area.

IV. Strategy

Wind Energy Policy Implementation

I. Issue Area(s)

The proposed strategy or implementation activities will support the following priority (high or medium) enhancement area(s) *(check all that apply)*:

- ☐ Aquaculture
- ☒ Energy & Government Facility Siting
- ☐ Coastal Hazards
- ☒ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☐ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Program Change Description

A. The proposed strategy will result in, or implement, the following type(s) of program changes *(check all that apply):*

☐ A change to coastal zone boundaries;

☒ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;

☐ New or revised local coastal programs and implementing ordinances;

☐ New or revised coastal land acquisition, management, and restoration programs;

☐ New or revised Special Area Management Plans (SAMP) or plans for Areas of Particular Concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,

☒ New or revised guidelines, procedures and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government and other agencies that will result in meaningful improvements in coastal resource management.

B. Up to three potential program changes are anticipated to result from the activities outlined in this strategy. First, this strategy would be expected to result in revisions to the existing Submerged Lands Lease rules contained in Chapter 1501-6 of the Ohio Administrative Code. Specific rules for leasing portions of the Lake Erie Territory for use in the production of wind energy would be developed and implemented over a period of several years.

Second, this strategy would be expected to utilize data from research on environmental and cultural aspects of wind energy to develop guidelines, procedures, and/or policy documents to guide the siting of wind energy facilities in Ohio's coastal zone.

Third, this strategy would employ elements of marine spatial planning and regional coordination to develop guidelines, procedures, and/or policy documents that identify favorable locations for the installation of wind energy facilities in Ohio's coastal zone and potentially the coastal areas of neighboring states and the province of Ontario.

(Revision 03-2012) Due to recent changes to the offshore wind industry related to long and short term financing, interest in developing offshore wind in Lake Erie has been greatly reduced. . The most optimistic view is that turbines might be installed as part of a pilot project in 2017 or 2018. Ohio is currently reviewing legislation passed in 2008 regarding renewable energy standards, and it is unclear whether large scale offshore wind energy development will occur in the foreseeable future. The priority for developing rules and policies related to offshore wind has been lowered, and may or may not be re-elevated in the future. Depending on the outcome of the legislative review, existing 309 funding for this task in year 1 may still be used for work on wind energy. Alternatively, the funds may be reprogrammed into the other three strategies to advance those tasks sooner. The wind energy focus in the strategy will be retained and revisited over the upcoming year to see if it merits further work.

III. Need(s) and Gap(s) Addressed

As referenced in the 309 Assessment, Ohio has adopted an Advanced Energy Portfolio Standard which mandates that 12.5% of the electricity sold in Ohio must be derived from alternative energy sources such as wind turbines by 2025. Since the enactment of this standard in 2008, the amount of interest in wind energy has significantly increased in Ohio. A large number of small wind turbines have been erected throughout Ohio and several utility-scale wind projects have been proposed for Lake Erie.

With the increasing interest in wind energy projects in Lake Erie and the coastal zone, needs exist for oversight, coordinated planning, and research for optimal siting and operation of wind energy developments, particularly those located in Lake Erie and Ohio's coastal zone. Specifically, Ohio's 309 Assessment lists two priority needs related to energy facility siting. One such need involves data collection regarding bird/bat use and natural/cultural resources of the nearshore and open lake areas. The second need includes studies and planning to further identify optimal and sub-optimal areas of Lake Erie for the siting of offshore wind energy facilities. Both of these needs and information gaps have been addressed to some degree in the past, partially using 309 funding, but this emerging coastal management issue remains a priority.

Research on natural and cultural resources with respect to wind energy projects is expected to focus on several areas. First, recent and current studies have included pelagic bird surveys for the Ohio portion of Lake Erie. Initial research would likely build on those studies by utilizing available technologies to focus on the specific areas of Lake Erie that appear to provide favorable and unfavorable siting locations based on the type or number of bird species. The research may confirm whether the initial research findings regarding favorability are accurate, leading to more specific siting recommendations for the location of future facilities. Subsequent research efforts are expected to focus on geologic characteristics of Lake Erie with the intent of providing further site-specific siting recommendations. Other research areas are dependent on whether currently planned offshore wind energy developments are implemented in Ohio. If facilities have been developed, research may focus on areas such as impacts of the facilities on avian and aquatic resources, fishing opportunities (recreational, charter, and commercial), and other social considerations including viewsheds and transportation.

Priority research areas will be determined using a consensus approach among stakeholders including various offices and divisions with the Ohio Department of Natural Resources, other

government agencies, and developers. The research priorities that are developed will be considered with respect to the available expertise and technology so that opportunities for research are effectively coupled with needs.

IV. Benefit(s) to Coastal Management

Several impacts would be expected to result from the program changes intended to result from this strategy. First, potential wind energy developers would benefit from increased predictability and efficiency in the regulatory review processes. If specific sites that do not need extensive pre-construction studies could be selected for development, the other steps (i.e. funding, permitting, etc.) in the project planning process could commence more quickly.

Second, coastal resources would benefit from the various research efforts proposed in the strategy by steering projects to areas that would be expected to have minimal impacts on both natural and cultural resources. Existing wind favorability maps created by the Ohio Coastal Management Program have proven to be very effective in drawing attention to the various competing uses for Lake Erie, and additional research to more precisely identify ecologically and culturally sensitive areas in Lake Erie would provide further benefit to both wind energy developers and regulatory agencies.

Finally, both coastal resources and developers would benefit from regional planning efforts that would help protect environmentally sensitive areas while creating a climate of consistency among review standards and siting criteria across Lake Erie and perhaps the entire Great Lakes region. A regional approach to wind energy facility siting criteria would enhance coastal resource protection much more effectively than a piecemeal framework.

V. Likelihood of Success

This strategy contains three major components, with each component having a unique degree of likelihood of success. The first component, involving revisions to the Ohio Administrative Code, has a very high likelihood of success. Draft rules have been developed and periodically refined over the past several years. The development of these drafts has included a significant amount of consultation with other state agencies and other interested parties. The draft rules have the support of a variety of interests, including the wind development industry, which encourages the development of wind energy-specific rules to increase the predictability in the development process.

The second component of the strategy, including research on ecological and social resources, has a moderately high likelihood of success. Existing research conducted by the Ohio Department of Natural Resources and other organizations would be expanded upon to further Ohio's knowledge of coastal resources and favorability of wind energy sites. The limiting factors in this area would include the availability of researchers and the willingness of interested parties to cooperate in such efforts. However, these limitations have not been realized in previous research efforts and would not be expected to negatively impact the proposed strategy.

The strategy's third component, implementing a marine spatial planning process including a regional coordination component, would also have a moderately high likelihood of success. Some of the limiting factors in this component include availability of data and willingness of regional

entities to participate in such an effort. These factors are not expected to pose a hindrance to the project, and efforts to build on existing partnerships would be used through various channels including the Ohio Wind Working Group, Great Lakes Commission, Great Lakes regional CZM program meeting, and the Coastal States Organization.

VI. Strategy Work Plan

Total Years: 5
Total Budget: ~~$418,000~~ $130,000 (Revised 03-2012)
Final Outcome(s) and Products: Regulations providing management of offshore wind energy facilities in Ohio; more precise guidance through GIS products, online mapping, and other publicly available tools for favorability of the siting of offshore wind energy facilities in Ohio; guidelines, procedures, and/or policy documents reflecting a regional coordination effort and identification of common siting criteria for offshore wind energy. (Added 03-2012) The deferral of the wind energy component mirrors the changing landscape associated with the offshore wind energy industry. If the outlook for the industry changes, the work plan may be amended in years 3 through 5 to resume the efforts described in the strategy.

Year(s): 1 (2011)
Description of activities: Development of Ohio Administrative Code rules, public comment process, and approval of rules through Joint Committee on Agency Rule Review (JCARR)
Outcome(s): Regulations providing management of offshore wind energy facilities in Ohio
Budget: ~~$30,000~~ $0 (Revised 03-2012)

Year(s): 1-5 (2011-2015)
Description of activities: Research on natural and cultural resources that could potentially be impacted by the development of offshore wind energy facilities
Outcome(s): More precise guidance through GIS products, online mapping, and other publicly available tools for favorability of the siting of offshore wind energy facilities in Ohio
Budget: ~~$348,000~~ $130,000 (Revised 03-2012)

Year(s): 4-5 (2014-2015)
Description of activities: Marine spatial planning and regional coordination effort to identify common siting criteria among managing agencies with oversight of offshore wind energy development projects in the Great Lakes
Outcome(s): Guidelines, procedures, and/or policy documents
Budget: ~~$40,000~~ $0 (Revised 03-2012)

VII. Fiscal and Technical Needs

A. Fiscal Needs: 309 funds would be supplemented with other funding available to the Ohio Coastal Management Program, including potential 306 funds from NOAA and non-federal CZMA matching funds generated through user fees in Ohio's portion of Lake Erie. Section 306 funds are applied for on an annual basis, and the non-federal user fees are generated annually through Submerged Lands Leases and the mining of salt, sand, and gravel from the

surface and sub-surface of Lake Erie.

B. Technical Needs: The Ohio Coastal Management Program, including its partner state agencies, possesses the expertise necessary to draft rules, solicit public comments, and submit to JCARR for approval. The program has coordinated the drafting and submittal of administrative rules in the past, and it is anticipated that the existing expertise coupled with additional resources (if needed) will allow the Program to move forward with the wind energy rules.

Regarding the research on natural and cultural resources, the core program staff would likely coordinate and contract with experts possessing the necessary knowledge and tools to conduct such research. The resources to conduct this type of research do not currently exist within the core program.

Finally, the resources to administer the marine spatial planning and regional coordination efforts are contained within the core program staff. Potentially, these efforts may be administered internally. However, it is possible that some or all of the tasks may be contracted to another entity that also possesses the resources to fulfill the strategy requirements. A decision would be based on the workload and resources of core program staff and would be made closer to the commencement of the efforts.

VIII. Projects of Special Merit (Optional)

Currently, there are no plans to pursue competitive funds for efforts that would augment the strategy as currently planned. However, a decision on whether to pursue competitive funds to implement a portion of this strategy as currently outlined has not been made. Recent discussions regarding the need to address wind energy on a lake-wide basis may result in development of a collaborative effort between the states (MI, OH, PA and NY) and the province of Ontario to develop a comprehensive approach to wind energy on Lake Erie. Such an effort may result in a Project of Special Merit. The last component related to Marine Spatial planning may be moved forward in time if opportunities present themselves through regional collaborative efforts and funding through NOAA and/or the Great Lakes Restoration Initiative.

Wetland Change Tracking and Historical Analysis

I. Issue Area(s)

The proposed strategy or implementation activities will support the following priority (high or medium) enhancement area(s) *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy & Government Facility Siting
- ☐ Coastal Hazards
- ☒ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☒ Cumulative and Secondary Impacts
- ☒ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Program Change Description

A. The proposed strategy will result in, or implement, the following type(s) of program changes *(check all that apply):*

- ☐ A change to coastal zone boundaries;
- ☒ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
- ☐ New or revised local coastal programs and implementing ordinances;
- ☒ New or revised coastal land acquisition, management, and restoration programs;
- ☐ New or revised Special Area Management Plans (SAMP) or plans for Areas of Particular Concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- ☒ New or revised guidelines, procedures and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government and other agencies that will result in meaningful improvements in coastal resource management.

B. The proposed program changes will include: revisions to the existing memorandums of understanding with Ohio EPA and the Ohio Department of Transportation and the adoption of a new memorandum of understanding with the U.S. Army Corps of Engineers to obtain copies of their wetland permits on an ongoing basis so that information on wetlands to be created, restored, and mitigated within the coastal management area can be collected and tracked; collection and use of information synthesized from historical data to identify areas that could be candidates for mitigation or restoration; and analysis and distribution of this information to other entities involved in wetland mitigation or restoration. The results may also be used to revise and target coastal grant programs such as the Coastal Estuarine Land Conservation Program (CELCP) and Coastal Management Assistance Grant (CMAG) program to help identify areas that might be candidates for conservation.

III. Need(s) and Gap(s) Addressed

1- The Assessment revealed that there are no ongoing or planned efforts to develop programs or quantitative measures to track wetland creation, restoration and preservation activities of all the individual federal, state and private programs that deal with wetland regulation, mitigation, restoration and acquisition. The need to collect this information is an identified priority. The

strategy will address this finding by establishing a mechanism to collect data from the entities that issue permits for wetland restoration, mitigation, and creation within the coastal management area that are subject to consistency. Amending the memorandums of agreement with the relevant regulatory agencies to require the provision of issued permits is the most appropriate means to address the priority need because the entities will have the necessary incentive to comply.

2- The Assessment also revealed that the CMP does not have a habitat restoration plan for wetlands. Ohio does have the *"Ohio Wetland Restoration and Mitigation Strategy Blueprint"* developed in 1999 for the eight coastal counties. Although the strategy has not been actively implemented since completion, there are components of the document that could be utilized in development of a habitat restoration plan. Updating the *Strategy* using 306 funding would complement the efforts to collect wetland information and could assist in development of a wetland habitat restoration plan.

Information from the recently released National Wetlands Inventory is available regarding existing wetlands but information is not readily available on historic wetlands or how those historic wetlands compare to the currently documented wetlands. This information gap would be addressed through the compilation and analysis of historic data to identify areas within the coastal counties and/or coastal management area where wetlands did or could have existed previously. Efforts will be focused on those areas that have not been studied by regulatory agencies and preservation/restoration–focused organizations. A GIS layer of potential wetland areas would form the basis of a CMP wetland habitat restoration plan.

IV. Benefit(s) to Coastal Management

The anticipated effect of amending the memorandums of agreement with agencies that regulate wetlands so that they provide copies of their issued wetland permits to the CMP is that the information obtained from the permits will be compared to aerial imagery and a GIS-based wetlands change layer will be created that can be used to quantify the amount of wetlands that are being eliminated, created and restored. This information will be shared with and can be used by agencies and organizations that fund, restore, mitigate and preserve wetlands to evaluate their impact and to prioritize and target future efforts. By utilizing GIS spatial analysis tools with hydric soils, topographic contours and historic wetland location information, areas of potential wetlands can be identified and data layers can be created. A data layer of potential wetland areas would be used as the basis of a CMP wetland habitat restoration plan and would be used to revise the CELCP plan and to identify priorities for CMAG funding related to wetland acquisition and restoration. The potential wetland data and map would also be shared with agencies and organizations involved with wetland preservation, restoration and mitigation and would particularly be of assistance those without GIS capabilities that are seeking to identify wetland mitigation or restoration opportunities.

V. Likelihood of Success

The likelihood of attaining the proposed program changes is considered to be good.

The agencies have not been approached to date regarding the proposed program change, although discussions with respective agency staffs regarding obtaining permit information for CZMA Performance Measures has taken place in the recent past. It is anticipated that agencies that

regulate wetlands will be amenable to the memorandums of understanding. Rather than requesting that the agencies modify their permit tracking procedures or set up a special reporting regimen, the CMP is simply requesting that copies of issued permits be provided. The CMP will seek to build support for implementing the program change by sharing the wetland change information that is derived from the wetland permits and other sources.

The agencies and organizations involved in wetland preservation, restoration and mitigation have not been canvassed regarding their support for the development of maps or GIS data layers depicting potential wetlands in the coastal management area or possibly the coastal counties, but it is believed that development of these data layers would be an enhancement to their efforts. Based on CMP interactions with local agencies and organizations over the past several years and on the lack of consolidated historical wetland data in general, it has been determined that the identification of potential wetland areas would be a valuable tool for CMP and local wetland preservation, restoration and mitigation efforts. Once developed, the potential wetland data and map will be made available to any organizations or agencies that are interested. The map will also be added to the CMP's Ohio Coastal Atlas Project.

VI. Strategy Work Plan

Total Years: 2 (309-funded)
Total Budget: $60,000
Final Outcome(s) and Products:

Year(s): 3 (2013) ~~Year(s): 1 (2011)~~ (Revised 03-2012)
Description of activities: Meet and discuss with the appropriate agencies the means and methods to obtain copies of authorizations related to wetlands in either the Coastal Management Area or the coastal counties. Update memorandums of agreement to ensure that OCM is provided with the necessary information in a useable format.
Outcome(s): Memorandums of Agreement executed with appropriate agencies that reflect a process for OCM to obtain the appropriate information.
Budget: $0 (To be funded with Section 306 funds and/or non-federal CZMA matching funds.)

Year(s): 4-5 (2014-2015) ~~Year(s): 2 – 3 (2012-2013)~~ (Revised 03-2012)
Description of activities: A gap analysis would be conducted to identify those areas where work to identify potential wetland restoration sites has already been done by regulatory agencies and preservation/restoration–focused organizations and areas that have not been studied. The areas that have not been studied would then be the focus. In consultation with agencies and partners, develop or identify existing spatial analysis tools that can utilize existing data sets to identify sites within the focus areas where wetland restoration or mitigation efforts may be successful. The data sets would include hydric soils, topographic contours, historic wetlands, hydric or wetland vegetation, and watersheds.
Outcome(s): Spatial analysis tools identified/developed, data layers established and maps produced showing potential candidate areas for wetland restoration/mitigation in the CMA and/or coastal counties.

Budget: $60,000

VII. Fiscal and Technical Needs

A. Fiscal Needs:

309 funds would be supplemented with other funding currently available to the Ohio Coastal Management Program, including potential 306 funds from NOAA and non-federal CZMA matching funds generated through user fees in Ohio's portion of Lake Erie. Section 306 funds are applied for on an annual basis, and the non-federal user fees are generated annually through the mining of salt, sand, and gravel from the surface and sub-surface of Lake Erie.

B. Technical Needs:

The Coastal Management Program possesses the technical knowledge, skills, and equipment to carry out all aspects of the proposed strategy. Based on workloads, the addition of an intermittent (temporary) employee to the Program staff is an option that may be considered. It is also possible that some of the tasks may be contracted to another entity that also possesses the resources to fulfill the strategy requirements. A decision would be based on available resources and would be made closer to the commencement of the efforts.

VIII. Projects of Special Merit (Optional)

Currently, there are no plans to pursue competitive funds for efforts that would augment the strategy as currently planned. However, a decision on whether to pursue competitive funds to implement a portion of this strategy as currently outlined has not been made.

Erosion and Sand Resources Management

I. Issue Area(s)

The proposed strategy or implementation activities will support the following priority (high or medium) enhancement area(s) *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy & Government Facility Siting
- ☒ Coastal Hazards
- ☒ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☒ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☐ Public Access

II. Program Change Description

A. The proposed strategy will result in, or implement, the following type(s) of program changes *(check all that apply):*

- ☐ A change to coastal zone boundaries;
- ☒ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
- ☐ New or revised local coastal programs and implementing ordinances;
- ☐ New or revised coastal land acquisition, management, and restoration programs;
- ☐ New or revised Special Area Management Plans (SAMP) or plans for Areas of Particular Concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- ☒ New or revised guidelines, procedures and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government and other agencies that will result in meaningful improvements in coastal resource management.

B. The proposed program change and activities include several action items. First, the Ohio Coastal Management Program (OCMP) plans to continue the development and implementation of the Lake Erie Shore Erosion Management Plan (LESEMP). Efforts in this area during the previous 309 Assessment period utilized a NOAA Coastal Fellow, 306 funding, and State matching funds to develop a plan for Ashtabula County (one of eight counties along Ohio's portion of Lake Erie). The plan's development was a combined effort between the Office of Coastal Management and the ODNR Divisions of Wildlife and Geological Survey. Additionally, close consultation with local officials and residents took place throughout the process. In the upcoming 309 Assessment period, the OCMP plans to continue development of the LESEMP in other Ohio counties along Lake Erie.

Complementing the LESEMP, the OCMP has recognized a need to study the impacts of federal harbors, structures, dredging practices, and hardened shoreline on sand resources, natural beaches, and erosion along the lakeshore. Based on these studies, the OCMP plans to implement changes to reduce or eliminate negative impacts caused by these processes. In one such effort, the OCMP would attempt to coordinate with the U.S. Army Corps of

Engineers to implement a program or other effort to bypass sand currently trapped by federal harbor structures to downdrift areas that may be negatively impacted by a net loss of sand. The anticipated program change resulting from these efforts would likely be an update of policies 1, 2 and 4, and the adoption of a memorandum of agreement/understanding between interested parties, possibly including the Army Corps of Engineers and the OCMP (or agencies networked in the program) to clearly define the respective agencies' roles.

(Added 03-2012) The OCMP has also identified a need for a Coastal Design Manual to provide technical design and surveying information for Lake Erie coastal projects to property owners, design consultants and contractors. The clarification of methodologies to be used when designing a coastal structure will result in better project proposals and increased processing efficiency. A First Edition of the manual has been developed that focused on the design process for coastal structures including a summary of required existing site condition information, basic coastal engineering and surveying methods and design examples for revetments, seawalls, and access structures. A Second Edition of the Manual is needed to address design guidelines for breakwaters, groins, piers, beach nourishment and monitoring and by-pass of littoral material.

Finally, the rules contained in the Ohio Administrative Code associated with the Shore Structure Permit and Submerged Lands authorities are expected to be updated in an effort to comply with any court decisions or legislative changes that could potentially occur during the Section 309 Assessment period, provide for more streamlined authorization processes, and increase predictability of the authorization process for applicants. Ohio Administrative Code rules governing Shore Structure Permitting are not currently codified. Development and codification of rules for this permitting program would provide protection to Lake Erie as a resource by strengthening and streamlining the regulatory process. Shore Structure Permit rules currently being considered would specify submittals required for applications, require sand monitoring/bypassing plans for certain types of projects and set review timelines. Additionally, as both the Shore Structure Permit and Submerged Lands Authorizations rules would be developed concurrently, the new rules could include procedures that officially align the ODNR process for review of those applications.

III. Need(s) and Gap(s) Addressed

As referenced in the 309 Assessment, during the previous Assessment period the Ohio Coastal Management Program (OCMP) received a request from the U.S. Army Corps of Engineers to provide financial assistance for appropriate nearshore placement of dredged sand resources. Although the OCMP was unable to provide financial assistance at the time, the two organizations have continued to coordinate on sand management issues and will explore possibilities for collaborative projects in the future.

Additionally, ODNR is coordinating with the U.S. Army Corps of Engineers on Regional Sediment Management under WRDA Section 204(e) USACE. A number of specific projects that could impact sand resources within Lake Erie are being performed in coordination with the Corps of Engineers under the umbrella of Regional Sediment Management.

Finally, a need exists to periodically update and revise administrative rules so that the processes are as efficient and predictable as possible for applicants.

IV. Benefit(s) to Coastal Management

The LESEMP is anticipated to have significant positive impacts for coastal residents as a robust educational document that provides site-specific recommendations on the most effective means to protect property from erosion. Expansion of the Coastal Design Manual will ultimately result in better Lake Erie coastal projects that are more likely to be approved in a shorter time period.-(sentence added 03-2012) The efforts to coordinate with the Corps of Engineers on regional sediment management issues are expected to yield both economic and habitat-oriented positive impacts for Ohio's coastal zone. In some cases, the disruption of natural littoral processes can lead to accelerated erosion of coastal property, as sand provides for a highly effective natural form of erosion control. An adequate and properly distributed sand supply also provides for a unique habitat in the transition area between shallow Lake Erie waters and the sandy beach.

V. Likelihood of Success

Success in these areas is highly probable, as the program changes will build on existing efforts that are well underway. The LESEMP has been developed with a significant level of public outreach and consensus-building with local government officials and coastal area residents. These outreach efforts will continue, particularly as plans are developed for additional counties.

(Added 03-2012) Similar to the LESEMP, the Coastal Design Manual has been vetted through extensive coordination efforts with state and local government officials and interested constituents. The same successful development approach will be utilized for the Second Edition of the manual. An initial training workshop on the information contained in the First Edition of the Coastal Design Manual was held for engineers and surveyors and was well received. Continued education and outreach efforts will help ensure the successful dissemination and application of design methodologies.

Additionally, coordination efforts with the Corps of Engineers have taken place since the creation of the Office of Coastal Management in 2002 and have continued in depth and frequency since that time. The office holds several coordination meetings or conference calls with Corps of Engineers officials annually, and additional coordination frequently takes place through conferences, workshops, phone conversations, and email. As the strategy unfolds during the upcoming 309 Assessment period, the development of a Memorandum of Agreement among the relevant agencies is expected to formalize coordination and implementation efforts.

The process of updating of administrative rules has a high likelihood of success since the ODNR has a significant amount of experience with revising rules. The technical knowledge exists within the organization, and the rules are anticipated to have a favorable response from the public since they are intended to increase efficiency and predictability.

VI. Strategy Work Plan

Total Years: 5
Total Budget: $250,000

Final Outcome(s) and Products:

1. Lake Erie Shore Erosion Management Plan development and implementation.
2. Agreement with an outside entity to study Ohio's sand resources and related impacts from erosion control structures
3. Agreement with the Corps of Engineers for efforts to bypass sand at federal harbors
4. Coastal Design Manual development and dissemination (Added 03-2012)
5. Revised Ohio Administrative Code rules for coastal authorizations

Year(s): 1-5 (2011-2015)
Description of activities: Support to LESEMP previously developed in Region 1 (Ashtabula County) and Region 2 (western Lucas and eastern Ottawa counties) in 2011-2015. Development of LESEMP in Islands region (Ottawa and Erie counties), eastern Ottawa and Erie counties in 2011-2012, Sandusky Bay region (Erie and Sandusky counties), Lorain and Lake counties in 2013-2014, and western Lucas and Cuyahoga counties in 2015. (order of completion subject to change and Region boundaries to be delineated as project progresses.)
Outcome(s): LESEMP outlining recommendations for effective erosion control strategies through a suite of state-approved options that are tailored to the specific regions along Ohio's Lake Erie shore. These new guidelines provide specific interpretations of the Ohio Shore Structure Permit regulations to local government, other agencies and applicants.
Budget: $238,794 (Revised 03-2012)

Year(s): 1-5 (2011-2015)
Description of activities: Study of sand resources by outside entity, coordination with Corps of Engineers, implementation of program
Outcome(s): Technical information regarding Ohio's sand resources along the shore of Lake Erie and agreements with the Corps of Engineers and other entities regarding the bypassing of sand at federal harbors in Ohio
Budget: $75,000 (Revised 03-2012)

Year(s): 2 (2012) (Added 03-2012)
Description of activities: Development of the Second Edition of the Coastal Design Manual, education and outreach efforts
Outcome(s): Coastal Design Manual that describes the design process and guidelines for Lake Erie coastal structures for use by property owners, design consultants and contractors
Budget: $96,206

Year(s): 3 – 4 (2013-2014)
Description of activities: Revisions to Ohio Administrative Code
Outcome(s): Revised rules that contain updated application and approval processes for Shore Structure Permits and Submerged Lands Authorizations
Budget: $0 (To be funded with Section 306 funds and/or non-federal CZMA matching funds.)

VII. Fiscal and Technical Needs

A. Fiscal Needs:

309 funds would be expected to provide the primary funding for this strategy. If needed, the 309 funds could be supplemented with other funding available to the Ohio Coastal

Management Program, including potential 306 funds from NOAA and non-federal CZMA matching funds generated through user fees in Ohio's portion of Lake Erie. Section 306 funds are applied for on an annual basis, and the non-federal user fees are generated annually through Submerged Lands Leases and the mining of salt, sand, and gravel from the surface and sub-surface of Lake Erie.

B. Technical Needs:

The Ohio Coastal Management Program, including the agencies networked into the program, possess the necessary technical knowledge, skills, and equipment to carry out the majority of activities outlined in this strategy. However, the study of sand resources is likely to be contracted out to either a private consultant, another government agency with expertise in this area, or an academic institution. Pursuant to the Think Ohio First campaign, the OCMP would prefer to contract with an entity based in Ohio.

VIII. Projects of Special Merit (Optional)

Currently, there are no plans to pursue competitive funds for efforts that would augment the strategy as currently planned. However, a decision on whether to pursue competitive funds to implement a portion of this strategy as currently outlined has not been made.

Community Waterfront Planning

I. Issue Area(s)

The proposed strategy or implementation activities will support the following priority (high or medium) enhancement area(s) *(check all that apply)*:

- ☐ Aquaculture
- ☐ Energy & Government Facility Siting
- ☒ Coastal Hazards
- ☐ Ocean/Great Lakes Resources
- ☐ Special Area Management Planning
- ☒ Cumulative and Secondary Impacts
- ☐ Wetlands
- ☐ Marine Debris
- ☒ Public Access

II. Program Change Description

A. The proposed strategy will result in, or implement, the following type(s) of program changes *(check all that apply):*

- ☐ A change to coastal zone boundaries;
- ☐ New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;
- ☐ New or revised local coastal programs and implementing ordinances;
- ☒ New or revised coastal land acquisition, management, and restoration programs;
- ☐ New or revised Special Area Management Plans (SAMP) or plans for Areas of Particular Concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- ☐ New or revised guidelines, procedures and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government and other agencies that will result in meaningful improvements in coastal resource management.

B. This strategy will be implemented through two distinct projects, both of which are intended to improve the amount and effectiveness of community waterfront planning efforts in Ohio. The first project within this strategy involves the implementation of Policy #16 (Public Trust Lands) of the Ohio Coastal Management Program, which underwent a routine program change and was approved by NOAA in May, 2007. An ordinance on which that enforceable policy is based, Section 1506.11(B) of the Ohio Revised Code, provides for local governments to adopt a resolution or enact an ordinance finding or determining that an area of Lake Erie for which a Submerged Lands Lease or Permit has been applied for complies with regulation of permissible land use under a waterfront plan of the local authority. The strategy will provide for the adoption of such plans by local communities to provide for comprehensive management of waterfront areas along Ohio's Lake Erie coast. The initial portion of this project will be devoted to the identification of needs for elements to be included in the plans. Then, a document or other resources to provide plan development guidance will be created and made available to communities and other interested parties prior to the project selection process. The guidance will be a required element of the planning process and is intended to ensure that plans are developed in accordance with language in the Ohio Revised Code.

The second project within this strategy is intended to lead to a program change based on updates to a formally adopted land management program in Ohio. The Ohio Balanced Growth Program (http://balancedgrowth.ohio.gov/) would be enhanced through the development of a coastal module, which would deal specifically with voluntary best management practices for development in Ohio's coastal communities. Such a module would be expected to include a focus on the unique opportunities and challenges facing coastal communities, including flooding and inundation, erosion, working waterfronts, tourism, and demand for seasonal dockage and public access to Lake Erie through boat ramps, marinas, and public parks/beaches. In the next routine program change to the Ohio Coastal Management Program, it is intended that the Ohio Balanced Growth Program will be included as a networked element of the program.

III. Need(s) and Gap(s) Addressed

One need to be addressed in this strategy is a need to promote more local involvement in decisions about whether to issue resolutions or adopt ordinances providing for Submerged Lands Leases or Permits in coastal communities. Some communities have adopted waterfront master plans, but in most cases the plans focus on the upland portions of the community and do not extend beyond the water's edge. Additionally, these master plans are likely not consulted in many cases where the resolutions are passed by local governments. Finally, many townships (unincorporated areas) are not covered by any master plans developed by counties or other entities.

Ohio's Balanced Growth Program is a tool to address long-term economic competitiveness, ecological health and quality of life. It focuses on reducing urban sprawl, protecting natural resources and encouraging redevelopment in urban areas of the Lake Erie watershed. The program was anticipated to include a coastal-specific module, but that portion of the strategy has yet to be developed.

As noted in the Coastal Hazards section of the assessment, a number of issues pose either High or Medium threats to Ohio's coastal area, including flooding, coastal storms, shore erosion, and water level changes resulting from natural fluctuations and the potential impacts of climate change. Both portions of this strategy would be expected to assist with local community management of these issues.

IV. Benefit(s) to Coastal Management

The program change and implementation activities are anticipated to have substantial positive impacts on the management of Ohio's coastal resources. First, the development and implementation of community-based waterfront plans will allow local governments to make sound decisions on whether to issue resolutions in support of proposed projects that will be based on a plan that has been developed at the community level with public input and involvement. Second, the development of a balanced growth module focusing specifically on coastal communities will provide for enhanced opportunities for coastal communities to develop watershed-specific balanced growth plans with designated Priority Development Areas and Priority Conservation Areas that take into account the unique features and resources found in coastal communities. To date, no lakefront communities in Ohio have developed balanced

growth plans.

V. Likelihood of Success

The likelihood of success in this area is moderately high. This strategy is anticipated to be implemented in years 4 and 5 of the Section 309 Assessment Period. This will provide the Ohio Coastal Management Program (OCMP) with the opportunity to work with partners at the local and state level as well as the public to provide information on the proposed strategy, obtain input and feedback, and form partnerships to develop and implement the strategy. The OCMP has worked very closely with the Lake Erie Commission on the Commission's administration of the Lake Erie Balanced Growth Program since the program's inception. It is expected that this close working relationship will continue over time, and the two networked entities will be able to continue sharing resources in order to ensure that the strategy becomes a reality.

VI. Strategy Work Plan

Total Years: 2
Total Budget: $100,000
Final Outcome(s) and Products: Waterfront planning initiated by one or two units of local government, as well as a coastal module officially developed and adopted by the Lake Erie Commission as part of the Lake Erie Balanced Growth Strategy.

> **Year(s): 4 (2014)**
> **Description of activities:** Partnership with Lake Erie Commission, public/agency input process, and technical development of coastal module.
> **Outcome(s):** Coastal-specific module of Ohio's Lake Erie Balanced Growth Strategy
> **Budget:** $40,000
>
> **Year(s): 5 (2015)**
> **Description of activities:** Development of planning guidance, technical and financial assistance to coastal communities for development of waterfront plans; development of partnerships with public and agency input.
> **Outcome(s):** Two waterfront master plans
> **Budget:** $60,000

VII. Fiscal and Technical Needs

A. Fiscal Needs:

309 funds would be expected to provide the primary funding for the portion of the strategy involving the coastal planning module. If needed, the 309 funds could be supplemented with other funding available to the Ohio Coastal Management Program, including potential 306 funds from NOAA and non-federal CZMA matching funds generated through user fees in Ohio's portion of Lake Erie. Section 306 funds are applied for on an annual basis, and the non-federal user fees are generated annually through Submerged Lands Leases and the mining of salt, sand, and gravel from the surface and sub-surface of Lake Erie.

C. Technical Needs:

The development of waterfront plans is expected to be led by the communities for which the

plan would be developed. The community would be expected to determine whether existing staff could develop their plan or if an outside entity would be hired as a consultant to facilitate the process. The Ohio Coastal Management Program, including the agencies networked into the program, possess the necessary technical knowledge, skills, and equipment to carry out the portion of the strategy focusing on the Balanced Growth coastal module. However, this activity could be contracted out to either a private consultant, another government agency with expertise in this area, or an academic institution. That decision would be made closer to the time of the strategy's development.

VIII. Projects of Special Merit (Optional)

Currently, there are no plans to pursue competitive funds for efforts that would augment the strategy as currently planned. However, a decision on whether to pursue competitive funds to implement a portion of this strategy as currently outlined has not been made.

5-Year Budget Summary by Strategy

At the end of the Strategy section, please include the following budget table summarizing your anticipated Section 309 expenses by strategy for each year.

Strategy Title	**Year 1 Funding**	**Year 2 Funding**	**Year 3 Funding**	**Year 4 Funding**	**Year 5 Funding**	**Total Funding**
Wind Energy	$130,000					**$130,000**
Wetland Change Tracking and Historical Analysis				$30,000	$30,000	**$60,000**
Erosion and Sand Resources Management	$50,000	$130,000	$130,000	$60,000	$40,000	**$410,000**
Community Waterfront Planning				$40,000	$60,000	**$100,000**
Total Funding	**$180,000**	**$130,000**	**$130000**	**$130,000**	**$130,000**	**$700,000**

Appendix

The following are the public comments received on the Ohio Coastal Management Program Draft Assessment and Multi-year Strategy 2011-2015 for the Section 309 Coastal Zone Enhancement Grants Program.

Comment 1)
From: Jones, Dalton
Sent: Monday, August 02, 2010 1:04 PM
To: Alley, Yetty
Subject: RE: Review and Comment Requested- Ohio Coastal 309 Assessment and Strategy

Hi Yetty:

Our comments on this document are attached.

D. Mark Jones, CPG
Geologist
Ohio Department of Natural Resources
Division of Geological Survey
2045 Morse Rd., Bldg C-2
Columbus, OH 43229-6693
(614) 265-6595 voice
(614) 447-1918 fax
www.OhioGeology.com

Ohio Coastal 309 Assessment and Strategy
Division of Geological Survey (DGS) comments
August, 2010

Section: Coastal Hazards, Page 15, first complete paragraph:
"In other words, 30-40 inches of precipitation may fall over the course of a few months or days."

> DGS comment: 30 to 40 inches (a year's worth) of precipitation over a few days seems an unlikely and alarmist prediction. Is there a reference to support this? If so, it should be cited. If not, please re-consider this statement.

Page 15, 2nd complete paragraph:
"With Ohio's location in the Lake Erie Snowbelt…"

> DGS comment: It is not correct that Ohio is in the "Lake Erie Snowbelt." A portion of northeastern Ohio downwind of the lake is affected by lake-effect snow. This area has been informally referred to as the "snowbelt." (In contrast, northwestern Ohio, from Toledo to Lorain, has some of the lowest precipitation levels in Ohio on average.)

Page 15, 2nd complete paragraph:
"The spring thaw and runoff can lead to flooding if the temperatures shift drastically or if the ground warms enough to allow for runoff infiltration."

DGS comment: This is not a correct description of the spring thaw flooding process. Thawing soil allows **more** infiltration and **less** flooding. Frozen soil prevents infiltration and causes more runoff, hence more flooding.

Page 15, first paragraph under the heading Shoreline Erosion:
"Erosion of Ohio's Lake Erie shore has been a noted issue for decades, with anecdotal evidence dating back to the beginning of the last century."

DGS comment: More than anecdotal, the evidence is well-substantiated and goes back much further, with maps and surveys dating to the early 19th century, such as Almon Ruggles' survey of the Sandusky Bay region, and the early maps of the Cleveland lakefront.

Page 16, first complete paragraph:
"Approximately one-third of the Ohio shoreline is designated as a coastal erosion area."

DGS comment: This statistic will no longer apply when the 2010 CEA maps are finalized. The proportion will be closer to 12%.

Section: *Ocean/Great Lakes Resources*, Resource Characterization, Page 61, table entry under Sand:

DGS Comment: Under "**Anticipated threat or use conflict**:" To *"Continued trapping of sand and covering over of sand by shore structures"* should be added *"and potential sand mining from beaches."* (or similar language to reflect the threat that beaches could be used as a source of commercial sand.)

Section: *Energy & Government Facility Siting*, Page 75, table describing Priority Needs and Information Gaps

DGS comment: In addition to the listed needs, it should be added that further information is needed about the geologic framework of the Lake Erie bottom, particularly the substrate and subsurface information and ice scour characteristics. The DGS feels these studies are needed. If this change is inserted, it will be necessary to update the budget line item for wind power in the 5-Year Summary Budget Table found at the end of the document. DGS would be happy to provide assistance with this.

Response: *Text within the document has been changed to reflect the comments provided by the reviewer. Determinations on the prioritization of funds for studies to acquire substrate and subsurface information and/or to compile and publish existing geologic information will be made at the time each annual grant is prepared.*

Comment 2)
From: Taylor, Melissa
Sent: Thursday, August 05, 2010 6:12 PM
To: Alley, Yetty
Cc: Frank, Edward; Culver, Brent
Subject: RE: Reminder! Review and Comment Requested by August 6th Ohio Coastal 309 Assessment and Strategy

Yetty,

I have had the chance to review Coastal's document in regards to state parks and offer the following comments:

- Page 29 states there are 38 state parks within the coastal zone. I believe there are only 11; Geneva, Headlands Beach, Cleveland Lakefront, Marblehead Lighthouse, East Harbor, Kelleys Island, South Bass Island, Middle Bass Island, North Bass Island, Catawba Island and Maumee Bay State Parks.
- Page 33 individually distinguishing 6 fragmented sections of Cleveland Lakefront State Park and 1 fragmented section of South Bass Island State Park. The Division of Parks and Recreation does not distinguish the areas within a park as single state parks since they are not journalized as such.
- Pages 40 & 66 mention the Division of Natural Areas and Preserves. Not sure if it needs to be mentioned but in 2010 DNAP was moved under the auspices of the Division of Parks and Recreation.

Comments not regarding parks:

- Page 40 mentions the Division of Real Estate and Land Management. May want to state Division formally known as ____.
- Page 66; I believe the Ohio Natural Heritage Database is under Wildlife now.

Thanks,
Melissa Taylor
Ohio State Parks
614-265-6568

Response: *Text within the document has been changed to reflect the comments provided by the reviewer.*

Comment 3)
From: Adkins, Matt
Sent: Thursday, August 05, 2010 2:57 PM
To: Alley, Yetty
Cc: Nageotte, Greg
Subject: RE: Review and Comment Requested- Ohio Coastal 309 Assessment and Strategy

Yetty,

Thanks for the opportunity to review and comment on the 309.
The Coastal NPS and Watershed Summaries look good.
Is there any way to include the Ohio Clean Marinas Program?
According to my count: Lake Erie has 8 endorsed plans and 4 conditionally endorsed plans.
An additional 7 plans are under development. This is a total of 19 plans either being developed or completed.

Thanks,
Matt

Response: *Text within the document has been changed to reflect the comments provided by the reviewer. Additional comments regarding the Ohio Clean Marinas Program have been inserted.*

Comment 4)
From: Knight, Roger
Sent: Thursday, August 05, 2010 11:54 AM
To: Alley, Yetty
Subject: FW: Review and Comment Requested- Ohio Coastal 309 Assessment and Strategy

Hi Yetty,

I added a few minor comments on the document in tracker. Overall it looks fine. I do wonder a bit about how the new Ocean Policy recently signed into effect by the President might affect elements of the plan, especially the Marine Spatial Planning components.

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

Page 51

Freshwater Estuaries- Old Woman Creek NERR; Arcola Creek	Degraded water quality- nonpoint source pollution and sedimentation, loss of riparian buffers- habitat and hazard (flood) control, loss of wetlands- habitat, loss of native fish species These probably apply to fish habitat category too, certainly the first phrase	M

Page 52
* The Lake Erie Water Snake (*Nerodia sipedon insularum*) is currently a federally threatened and state endangered species for those snakes living within the islands of western Lake Erie.

Water snakes found on the mainland are not considered threatened or endangered. Recent recovery efforts- including education of islanders and snake population monitoring- have proved to be effective in increasing populations of island-bound Lake Erie Water Snakes. It is likely that this subset population will soon be delisted federally and considered only threatened at the state level. You might also consider native freshwater mussels…the Middle Bass situation. Looks like nearshore, wetlands and bays provide refugia against Dreissenid mussels, which could affect future nearshore projects (may have to determine if mussels are present, how they may be affected, implement mgt options).

Page 54

Thus far the Lake Erie Phosphorus Task Force has explored the sources of phosphorus entering into Lake Erie and ways to combat these inputs. Information gathered and analyzed by the group will be compiled into a "Phosphorus Task Force Final Report." This report will contain background on the types of phosphorus, phosphorus sources, mechanisms by which the nutrient enters Lake Erie, and a set of recommendations for ways to reduce phosphorus levels as well as recommendations for future research. It is unknown when the report will be released for public review. The report is done, with recommendations and is available to the public.

Page 58

Offshore Wind Energy Development	Interest in the use of the offshore region of Lake Erie for harvesting of wind energy. Important flyway(s) for migratory species, potential loss of scenic quality and potential impacts to navigational uses and aquatic habitats. Specific locations would be identified based on development interest/proposals.	Emerging

Page 61

Resource or use	**Threat or use conflict**	**Degree of threat** (H,M,L)	**Anticipated threat or use conflict**
Water Quantity	Water Diversions	L	Diversions of Great Lakes water out of the watershed; competing users within the watershed
	Climate Change along with land use	M	Lower groundwater recharge
Water Quality	Open lake disposal of Toledo Harbor sediments	M	Ecosystem impacts from turbidity and contaminants if open Lake disposal of Toledo Harbor sediments continues
	Nutrient Loads	H	Increasing dead zone

Sand	Insufficient amounts and disruption of littoral processes	H	Continued trapping of sand and covering over of sand by shore structures
Coastal Habitat	Development of the shore; armoring the shore and nearshore (covering habitat)	M	Continued loss of critical coastal habitat, especially open coastal wetlands
Native Species	Invasive Species Offshore Wind Energy Development	H	Numerous species already within the Great Lakes; Asian Carp is an emerging threat; Development of offshore wind turbines is a potential conflict
Land / Water Interface	Erosion & Inundation	H	Loss of land due to erosion; damage caused by inundation during coastal storms

Page 62
Water Quantity

Given the continuing positive activities to address this threat/conflict, the degree of threat for water diversions remains low. Climate is expected to be warmer, more intense storms, greater runoff, more evaporation, lower groundwater recharge. Lake levels expected to be lower.

Native Species

Over the past several years, the Great Lakes states, and Ohio specifically, have taken measures to assist with management and technical assistance for two emerging issues. One is the potential threat to native fisheries posed by the potential introduction of Asian Carp into the Great Lakes. On June 23, 2010, a live bighead Asian carp was caught in a waterway about six miles from Lake Michigan further intensifying regional concerns. The second issue is the heightened interest in the development of offshore wind energy facilities. The Ohio Coastal Management Program has taken a leadership role in this issue by developing Wind Favorability Maps for Ohio's portion of Lake Erie. These maps are a tool that may be voluntarily used by potential developers to help with siting wind energy projects in areas of Lake Erie having relatively low competing uses and aquatic habitat concerns.

Page 66
Since initial meetings of the Coastal Research Advisory Group (CRAG), all NOAA-affiliated partners in Ohio have made strides in coordinating research and grant review:

Response: *Text within the document has been changed to reflect the comments provided by the reviewer. It is unclear at this time how the Ocean and Coastal Policy released in July 2010 will alter or affect the Ohio Coastal 309 Assessment and Strategy. Regional Marine Spatial*

Planning efforts for the Great Lakes have yet to be determined, and may or may not lead to changes to the Ohio Coastal 309 Assessment and Strategy.

Comment 5)

From: Warren D. McCrimmon [mailto:mwarren_d_@hotmail.com]
Sent: Wednesday, August 18, 2010 3:43 PM
To: Alley, Yetty; athomasimage@sbcglobal.net; ddonaldson@lakecountyohio.org; jboyd@lakecountyohio.org; admiral@maritimelaw.com; edodrill@bex.net; ggoudreau@goudreaugroup.com; herdendorf@aol.com; jmk@clevelandmetroparks.com; jim@divisionstreetdesign.com; hageman.2@cfaes.osu.edu; jpkkeenan@gmail.com; amdream@buckeye-express.com; rtatter@hotmail.com; rheath@kent.edu; tom_denbow@urscorp.com; vurbanski@lakemetroparks.com
Cc: Holland, Steven; Watkins, John; Everhard, Liz
Subject: RE: Request for review and comment

Dear Yetty, thank you for your continuing exemplary service to the CRAC … you make our advisory work less complicated than it would otherwise I be. My regret is that I have not been able to participate more effectively.

This latest legislative initiative bothers me in that it may assist the beaurocracy but really does not overall progress environmental protect and the partnering of special interests, industry and governments. We are looking at more of the same, not something truly new.

My experience in this context leads me to suggest consideration being given to Port Authorities being responsible for, and obligated to self regulate their lands, air and waters. This is being done with remarkable success outside of the USA and is facilitating prompt identification of environment challenges and the scope of the challenges, as well as the implementation of sustainable restoration and enhancement efforts. This is not theoretical but proven to favor the environment and impacted communities.

Such a concept may be difficult for some to truly comprehend, requires some openness to change and may be essential to competing effectively internationally and locally. I commend the concept for consideration and suggest the Bill could be amended accordingly. This is not intended as an indictment of what is now before us. Rather this is a suggestion for doing something remarkably constructive to the betterment of the environment.

Thank you for consideration of all of the above.

Warren

Response: *The Ohio Coastal 309 Assessment and Strategy does not include or contemplate any recommendations for legislative changes to Ohio law governing local Port Authorities within Chapter 4582 of the Ohio Revised Code. Such proposals are outside the scope of the Ohio Coastal 309 Assessment and Strategy.*

Comment 6

From: Herdendorf@aol.com [mailto:Herdendorf@aol.com]
Sent: Sunday, August 22, 2010 10:37 AM
To: Alley, Yetty
Subject: Re: Request for review and comment

Hi Yetty:

As a new council member I do not have much of a background to evaluate draft assessment. However, the draft strategy appears appropriate. One additional priority might be something like funds to mitigate damage caused by coastal structures either built by or approved by government agencies (such as the North Perry Village boat ramp and associated structures).

Cheers,
Eddie

Response: T*he Ohio Coastal 309 Assessment and Strategy does not include or contemplate any recommendations for legislative changes to Ohio law to establish a fund to mitigate damage caused by coastal structures that are built or approved by governmental agencies. The Office of Coastal Management has included under the Erosion and Sand Management priority an outline of an effort under the Lake Erie Shore Erosion Management Plan to work with the US Army Corps of Engineers and local jurisdictions to identify ways in which sand bypassing can be addressed at locations where the accretion of sand by the federal harbor structures has led to erosion in the vicinity of the harbors.*