FINAL ASSESSMENT
AND STRATEGIES FOR ENHANCEMENT OF THE
OHIO COASTAL MANAGEMENT PROGRAM

Coastal Zone Enhancement Grants Program
Coastal Zone Management Act, Section 309

March 2001

Introduction

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

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

To be eligible for these funds, the state must assess its coastal program and develop a strategy for enhancing priority areas. The priority enhancement areas must meet one or more of the following nine objectives, which are set by statute:

1. Protecting, restoring, or enhancing the existing coastal wetlands base, or creating new coastal wetlands.

2. Preventing or significantly reducing threats to life and destruction of property by eliminating development and redevelopment in high-hazard areas, managing development in other hazard areas, and managing the effects of potential sea level rise.

3. Attaining increased opportunities for public access to coastal areas of recreational, historical, aesthetic, ecological, or cultural value.

4. Reducing marine debris entering the coastal environment by managing uses and activities that contribute to the entry of such debris.

5. Developing and adopting procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect of various individual uses or activities on coastal resources such as coastal wetlands and fishery resources.

6. Preparing and implementing Special Area Management Plans (SAMPs) for important coastal areas.

7. Planning for the use of ocean resources. [Not applicable in Ohio]

8. Adopting procedures and enforceable policies to help facilitate the siting of energy facilities and government facilities and energy-related activities and government activities that may be of greater than local significance.
9. Adopting procedures and policies to evaluate and facilitate the siting of public and private aquaculture facilities in the coastal zone.

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

This year, for the first time, states are required to incorporate consideration of threatened and endangered species within their assessment and strategies. In general, the OCMP coordinates actively during permit, lease and consistency review with the U.S. Fish and Wildlife Service under the terms of a February 1997 MOU. That MOU establishes project and program review responsibilities. Threatened and endangered considerations are in fact most significant within the three categories which the OCMP rates as highest priorities. The resource characterizations, management characterizations and strategies contained in this assessment address specific threatened and endangered species considered related to each category.

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

The State of Ohio's focus for the first two years of the Section 309 program was on the following elements:

1. Wetlands
2. Cumulative and Secondary Impacts
3. Special Area Management Planning

These three categories remain the highest priorities for the coming five years. In addition, the chronic and episodic erosion elements of Coastal Hazards are prioritized for purposes of initiating enhancement efforts with regard to sand management and improved permitting enforcement and monitoring.

Summary of Past 309 Efforts

This is Ohio's second Program Assessment. In Fiscal Year 2000, the OCMP initiated four projects in the three categories identified above. These projects began in July 1999, and are: (1) detailed field analysis to identify significant wetlands for acquisition and or active management in the coastal area; (2) a cooperative effort of ODNR and Ohio EPA to initiate a pilot project to allow the agencies and local governments to incorporate consideration of cumulative and secondary impacts of development into state and local project authorizations; (3) a Special Area Management Planning process for the City of Mentor, Mentor Marsh State Nature Preserve, Village of Fairport Harbor and surrounding communities; and (4) development of a watershed study and plan for Arcola Creek. (Note: the fourth project was developed as an additional project when additional funding became available from NOAA after completion of the FY

2000 assessment in February 1999. It was also funded in part by Clean Water Action Plan funds and is considered a Cumulative and Secondary Impacts project.) The projects listed above will be further described within the assessment questions section below for each of these three categories.

Summary of Public Review

Ohio's 309 Assessment and Strategies document was made available for public review from December 29, 2000 through February 2, 2001. As part of the public review process, public notice was given in seven coastal area general circulation newspapers. Approximately 75 copies were provided to members of ODNR's Integrated Management Team (IMT), the Policies and Programs Coordinating Committee (inter-agency network), the Lake Erie Commission, Coastal Resources Advisory Council (CRAC) members, as well as to a number of affected local government officials and property owners who had requested the document. Information on progress on the Assessment document was provided at the August and November 2000 CRAC meetings. In addition, the following announcement (with attached file for downloading the entire document) was posted on the OCMP web site on December 29.

The Ohio Department of Natural Resources has made available for public review and comment the following document: Draft Assessment and Strategies for Enhancement of the Ohio Coastal Management Program, in accordance with Section 309 of the federal Coastal Zone Management Act of 1972. Section 309 of the CZMA requires states to assess their programs in nine issue categories. These are 1. Public Access, 2. Wetlands, 3. Coastal Hazards, 4. Cumulative and Secondary Impacts, 5. Government Facility Siting, 6. Marine Debris, 7. Ocean Resources (Not applicable in Ohio), 8. Special Area Management Planning, and 9. Aquaculture. Assessments are based on both the status of the resource and the status of existing management authorities and programs to address the concerns. Strategies include general direction and specific actions proposed by the OCMP to address these issues over the next five fiscal years.

*Ohio's document (updated from Ohio's 1998 assessment) identifies three of these categories as high priorities: Wetlands, Special Area Management Planning, and Cumulative and Secondary Impacts. A fourth, Coastal Hazards, is identified as a Medium priority overall, while chronic erosion (one of several types of hazards included in this category) is considered a high priority for purposes of improving sand resource management. This document is available for public review and comment from December 29, 2000 through February 2, 2001. Comments must be **postmarked by February 2** and sent to: ODNR, Division of Real Estate and Land Management, 1952 Belcher Drive, Columbus, Ohio 43224-1386. A final assessment and strategies document will be prepared with responses to comments and will be made available on request in March 2001.*

Five written responses were received, as follows:

- Edith Chase, co-chair of the Coastal Resources Advisory Council, responded that she found the report and issue prioritization excellent. She particularly commended the prioritization of returning clean sand to the littoral system and continued work on cumulative and secondary impacts. Ms. Chase requested a copy of the U.S. Army Corps of Engineers letter regarding in-lieu fee programs, which has been sent to her. She requested that mention be made in the Marine Debris category of combined sewer overflows as sources of marine debris. This source is not viewed as a significant change from previous assessments and is addressed through core program elements rather than enhancements. The text therefore has not been changed to reflect this source.

- David Carek, Chairman, Ohio Lakefront Group, responded primarily regarding submerged lands leasing, which is outside the prescribed scope of the Section 309 Program Assessment and Enhancements Strategies. His letter reflects concern regarding hardships experienced by lakefront property owners, the original Ohio Coastal Management Law passed in 1988, and "numerous new burdens on lakefront property owners." Mr. Carek states that his organization is "strongly opposed to the submerged lands lease requirement for lakefront property owners making reasonable use of the

lakefront area on or adjacent to their property for erosion control or littoral rights structures." The letter for the most part does not suggest changes to the program assessment in categories that were the subject of the assessment, but Mr. Carek provided comments specific to sand management in the coastal hazards category specifically requesting involvement of the Ohio Lakefront Group on this issue. Mr. Carek's comment that public outreach activities must be greatly increased is well taken.

Several specific items addressed by Mr. Carek relate to statements or characterizations made in the assessment document. First, identification of the submerged lands lease fund as an appropriate source of funds to improve sand management to help abate the Ohio shoreline's chronic erosion was questioned. Mr. Carek opines that this confirms lakefront owners' belief that the fund's purpose is to increase "revenue streams." The OCMP does consider that the fund, which contains money from fees paid by public and private upland owners for filling and developing the public trust lands, is appropriately used for such purposes proposed, i.e. maintaining clean beach-building materials in the littoral system to help protect private and public lands from chronic erosion. Reference to the fund's increase over time reflects improved and more consistent enforcement of the submerged lands lease requirements, which shoreline property owners and the OCMP's advisory council have stressed.

Second, Mr. Carek requests removal of references to private ownership being an impediment. The context of this wording was with regard to public access. The state is required to answer certain questions for each of the required categories, and one of those questions pertains to what impediments exist to improving performance in the category, in this case public access. It is a factual statement that increasing the amount of public access in the coastal area is limited by the extent of private property ownership, as it should be. The State of Ohio respects private ownership and does not as a practical matter take land from unwilling sellers for public access. Ohio's shoreline is far more substantially developed than most other states, and this must be taken into account in a comparative manner for state-by-state analysis for purposes of achieving national goals of increasing public access, as expressed in the Coastal Zone Management Act. It is not a judgement statement, but rather a statement of fact.

Mr. Carek also criticizes the statement that increased affluence in the general economy is one factor that has led to a high premium being placed on lakefront property. This is listed as one of several factors that have increased the costs of acquiring public land, even when willing sellers wish to sell their land for resource protection and/or public access. The context in no way suggested that "all lakefront owners are affluent." A statement about improvement in the general economy and resulting increases in lakefront property values does not equate with "all lakefront owners are affluent," and was certainly not intended that way.

Fourth, Mr. Carek urges that further investigation of near shore disposal include monitoring for hazardous materials. The OCMP supports this. Currently such sediments are monitored not only for hazardous materials, but for other pollutants of concern. The draft and final assessments identify "monitoring sediment quality" as an intended and important element of this strategy. References to disposal of sand in the littoral system in the Assessment and Strategy have been modified to refer to "uncontaminated" sand.

This letter claims that the "section regarding the NOAA Section 312 review is misleading" because it does not go into more detail regarding negative comments regarding the submerged lands leasing program. The section merely identifies the intended action to address the comments received, both supportive and in opposition. The purpose of the Assessment document is to assess the status of

specific categories of resources and propose strategies to address them. Therefore going into greater detail on comments unrelated to the Assessment categories was not relevant in this context.

Mr. Carek's final point regarding the substance of the 309 Program Assessment and Strategies document states that "increasing tourism and recreation are somewhat in opposition to other goals of the OCMP." This is absolutely true, and is at the very heart of the challenges that managing coastal resources presents. Ohio's coastal management law recognizes that this is a balancing act. And, the goals of the national and state coastal management programs include both supporting coastal development and preserving coastal resources. In the OCMP answer to item 3 under the Resource Characterization (page 5), this was addressed in the draft with respect to marinas and other boating facilities. But, in response to Mr. Carek's comment, the text has been modified to clarify that this applies generally to a wider variety of recreational facilities and opportunities.

With regard to the public comment process, Mr. Carek indicates that public notice was insufficient with respect to publication of this document. ODNR will strive to provide earlier and broader notices in the future. We do publish legal notices, and prepared a press release announcing the availability of the document. Newspapers place these notices in the legal notice section. According to Mr. Carek, web site announcements need to be made "much earlier and put in an area that is more readily identifiable." Notification was placed on the front page of the OCMP web site the day following completion of the document. The OCMP has made recent improvements to its web site, and these are also responsive to this concern.

- Ms. Loretta Lehocz voiced concerns about on the "Ohio Coastal Management Plan," the Coastal Resources Advisory Council and ODNR, generally centering on Submerged Lands Leasing. A few remarks pertain to the assessment document: (1) What date was the notice posted on the web and what other press release notices went out? Response: The document was completed by ODNR on December 28, and notice (including a link to the entire document) was placed on the web on December 29, the date the 36-day review period began. A press release was issued, and legal notice was sent to seven newspapers in the coastal area with a request that it be run on December 29. (2) The paper sounds like the Federal government may be giving the State funds to lobby legislators to push through many special interest group agendas while ignoring and overlooking taxpayer and private owner concerns. Response: The statement isn't explained further than this charge. (3) The assessment "proclaims a dozen or so 'Stewarding Organizations' and programs that are looking after OUR best interests – yet Excluding our input." After listing them Ms. Lehocz expresses a feeling that ODNR is attempting to exclude or eliminate the voices of lakefront owners. Response: ODNR will work constructively with property owners and other interests and believes the best solutions to problems are derived from broad citizen input. Lakefront property owners have identified many issues of shared interest and areas of controversy and disagreement. These issues need to be explored, and ODNR is looking forward to working with lakefront property owners and varied interests to ensure that the coastal management program operates and adjusts appropriately with meaningful public participation, broad feedback and all points-of-view.

- Mr. Russell Claus expressed his concern that the document fails to mention property owners as stakeholders in this process. He stated "the draft notes that the stakeholders in Ohio Coastal Management Program include: the Ohio EPA, federal agencies, park districts, environmental groups, conservancy groups, development and industry interests and academia. (page 22)." Response: The reference in the Assessment is to the Wetlands category text. In the Wetlands category text, under Management Characterization, the 1994 Wetlands Task Force initiative is described as *one* effort that has helped advance *wetlands restoration and enhancement programs*. The statement is that *in*

connection with that 1994 statewide effort, Ohio EPA and ODNR formed a stakeholder group that was comprised of the aforementioned groups. It most decidedly does not refer in any way to the stakeholders in the Ohio Coastal Management Program. We are in complete agreement that lakefront property owners are very important stakeholders.

Mr. Claus asks whether lakefront property owners will have input into developing a plan to address improving the enforcement capability of ODNR on submerged lands leases and Coastal Erosion Areas. Response: For the most part, the reference to improving monitoring and enforcement is in the context of the core program and not the subject of Section 309 Program Enhancement. Regarding input of lakefront property owners, ODNR is certain that improvements can and must be made with respect to submerged lands management, coastal regulatory activities, and resolving areas of dispute and disagreement. The lakefront property owners are welcome and will be represented in future efforts to resolve submerged lands issues and to improve the management of coastal regulatory functions among state and federal agencies.

The letter expresses concern with a lack of scientific basis for many policies mentioned. Mr. Claus mentions sand recovery and asks about the pollution implications. This issue is addressed in the answer to Mr. Carek, above. Secondly, he asks for the scientific basis for the "strategic retreat to protect existing development vulnerable to long-term rapid erosion."

In fact, significant research was conducted regarding the private and public costs due to erosion and storm-related damages in erosion-prone areas, through personal interviews and document study. During the rule-making process that took place with considerable public input from 1994 through 1998, an assessment of costs was completed. In general, the research identified a clear pattern of increased costs when structures are placed in erosion-prone areas. Correspondingly, decreased costs and property value appreciation occurred in direct proportion to the distance structures are moved (or placed initially) back from bluffs (or equivalent provision of erosion control measures to lengthen the protected life of structures). The following provides a summary of some of the findings.

For many years, numerous agencies, organizations and experts have warned that continued exposure of public and private investments to the risk of natural hazards, including coastal erosion, has widespread deleterious impacts upon state, local and national economies (International Joint Commission, Pilkey, the Windstorm-Coastal Issues Task Force of the National Committee on Property Insurance, Plat, the National Research Council, Federal Emergency Management Agency, Slaats, Kreutzwiser, and Carter, to name a few).

Erosion-related damages on the Great Lakes were estimated at $290 million in 1985 and 1986 (DeCooke) and at $9 million in 1985 in Lake County, Ohio (Lake County Planning Commission, 1986). Losses cited by the Planning Commission include loss of real estate structures, real estate value, private protection expenditures, public protection expenditures and loss of real estate tax revenues, all typical losses suffered by the public and by private individuals when development is exposed to erosion risks. Bedford, Moore, and Herdendorf (1978) estimated total erosion damages along the Lake Erie shoreline during the high water level period from 1972 to 1976 at more than $32 million, exclusive of costs of erosion protection measures. As a result of three severe storms during that period, various Ohio counties were declared disaster areas and several million dollars of federal aid was expended through grants and Small Business Administration low-cost loans. (Some of these expenditures were to repair flooding damage.) According to Hushak and Zygmont (1988), $103 million of direct costs were incurred, reducing other regional economic activity by $177 million of output, $27 million of income and 2028 man-years of employment for 1972-1976.

The Potential Damages Task Group report to the International Joint Commission recently estimated anticipated erosion damages in Ottawa County at $110 million over the next 50 years. Field trials of the Great Lakes Storm Damage Reporting System (GLSDRS) conducted by the North Central Division of the U.S. Army Corps of Engineers estimated $2.23 million in damages caused by erosion from four actual storm events in Ottawa, Sandusky, Erie, Lorain and Cuyahoga counties from July 1, 1993 to September 30, 1994. And, in August, 1994, the Board of County Commissioners in Lake County calculated that reconstruction costs for public facilities threatened by erosion within the next 30 years in Painesville Township alone would be nearly $11 million.

All of the above-referenced studies were subject to limitations, and while estimating such damages is not a perfect science, it is clear that losses have been and continue to be large. Increased damage is to be expected when placement of new structures within areas prone to erosion continues to occur.

Without exception, those who warned of the consequences have repeatedly urged that the most effective and fiscally-responsible means to ameliorate losses to public and private investment is to encourage the location of development out of harm's way. Guiding wiser individual development outside risk areas reduces costs to the general public through higher insurance premiums, direct emergency reimbursements or low-cost loans for damages, and replacement of public infrastructure. "A major thrust of any shore management initiative should be to contain escalating property damages by identifying high-risk shore areas and controlling development or redevelopment in these areas" (Kreutzwiser, 1987). "The mitigation of losses in areas of high susceptibility is presumably best accomplished through the enactment of land use control laws and regulations at the state and local levels" (National Committee on Property Insurance, 1986). "Policies should not encourage people to live in hazardous zones. In all cases, a prudent setback from the shore is in order" (Carter, 1987).

Two information sources pointed to potential increases in property values with “strategic retreat” or location of structures farther from the shoreline. An Ohio Sea Grant College Program (summarized in Fact Sheet 044 by Kriesel and Lichtkoppler) found a positive correlation between property values and distance between the home and the bluff (and/or the added lifetime of the home derived by effective erosion control measures). Another study found a positive correlation between floodplain regulations and property values (Federal Effects of Floodplain Regulations).

- Mr. L. Scott Duncan responded that “the State of Ohio could do a much more effective job in utilizing Section 309 funds to ensure responsible development of private shoreline protection systems.” Response: Section 309 funds may not be used for development of private shoreline protection systems. The Introduction to the Assessment document describes the eligible and ineligible uses of Section 309 funds.

  Mr. Duncan provides a lengthy criticism of the OCMP’s submerged lands leasing program, its legal and scientific foundation, and its failure to enforce “dumping and construction laws on adjacent properties.” Response: The substance of these comments did not relate to the Section 309 assessment. However, we wish to note the importance of submerged lands leasing issues. ODNR will ensure that lakefront owners are represented in future efforts to resolve issues of concern and improve submerged lands management overall consistent with the conservation of coastal resources and protections of littoral rights along the shore.

  Related to the 309 Assessment, Mr. Duncan then commented that the Section 309 funds should be used for “developing improved technical understanding of the shoreline dynamics and cooperative

efforts with property owners, rather than trying to make them see 'the error of their ways.' " While such efforts may be eligible uses of Section 309 funds, as opposed to developing shoreline protection systems for private property owners, the OCMP currently provides a considerable portion of its core Section 306 funds (currently more than 10%) for geological research and technical assistance and education regarding shoreline dynamics. In addition to what is funded through the OCMP, several positions provide technical engineering support for private landowners through the Division of Water's Coastal Engineering program. The OCMP does intend to increase its funding for education and enforcement through its core NOAA grant, as opposed to Section 309 funds. Research, education and technical assistance regarding coastal flooding and erosion are fundamental core program elements.

Public Access

Section 309 Programmatic Objectives

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

Resource Characterization

1. Extent of public access

Access Type	Extent (# of sites and/or # of miles or acres)
State/County/Local parks	State – 11 parks; 5,778 A; 16 shoreline miles County – Unknown, but stable Local - Unknown, but increasing
Boat Lanes	291, including publicly owned facilities and commercially owned marinas
Scenic Vistas	Unknown, but decreasing as result of building and construction of earth mound barriers
Rights-of-Way	Unknown, but increasing due to local efforts, some with CMAG funding from the OCMP, ODNR's NatureWorks program and the

	Recreational Trails Program
Fishing Access Sites	65 operated by ODNR
Trails	Nature – Unknown, but increasing due to increasing need, demand and use Bike and pedestrian – Unknown, but increasing due to increasing need, demand and use, as well as changing vision, prosperity and revitalization of major urban centers such as Cleveland, Lorain and Toledo Other, including cross country ski, horseback, snowmobile – Similar status as above
Disabled Access	Unknown, but increasing due to legal requirements and demand
Boardwalks/Walkways	Unknown, but increasing due to increasing need, demand and use
Refuges (Wildlife)	20,400 A
Historical/Cultural Sites	Unknown, but could be decreasing due to development pressure
Natural Areas	Eight, 1885 A
Public Beaches	24 publicly owned beaches, 8 miles in shoreline length

2. Briefly characterize the demand for public access.

The demand for public access remains extremely high and is essentially unchanged since the OCMP's last assessment. Ohio's population is approximately 10.7 million, and nearly 25% of those citizens live in the nine counties in the Coastal Management Area. Lake Erie continues to be the state's primary region for recreation and tourism. The central counties of Erie, Ottawa and Lorain alone attract between six and eight million visitors during the peak summer season, contributing more than $200 million in travel revenue to the state's economy.

Several factors point to a continued increase in demand for nature-based recreation and tourism. Sustained improvement in water quality and clarity has stimulated participation in activities like scuba diving, fishing, and swimming that were not even feasible during the 1970s. Interest in watching nature, particularly bird-watching, has attracted large numbers of new nature-based travelers nationwide. According to Fermata Inc., experiential travel, including nature tourism and outdoor recreation, is the single fastest growing segment of the travel market. In Ohio, more and more communities are recognizing the economic benefits and opportunities this represents and are making efforts to stimulate this business. Ohio's Lake Erie shoreline, located on several intercontinental flyways, is a premier location, bringing bird-watchers from around the world. Bird-watching visitors to Magee Marsh Wildlife Area and Crane Creek State Park alone have a $5.6 million impact on the local economy.

The following statistics are based on information from a survey conducted for purposes of compiling the Lake Erie Quality Index published in June 1998 and were included in the OCMP's first 309 Assessment.

Seventy one percent of all Ohio residents have visited Lake Erie at some time in their lives, with typical users visiting at least several times each year and those from shoreline counties visiting most often. For those who have visited, the most important activity is passive scenic enjoyment, with 99% participating in such activities as watching the sunset, skipping stones, or otherwise viewing the lake. The second most important activity (78%) was entertainment, in part due to the presence of Cedar Point, one of the largest amusement parks in the world, and to the renovation of the Flats in Cleveland. Other important activities noted were scenic driving (72%), beach-going (61%), cultural activities (59%), picnicking (58%), fishing (50%), boating (48%), nature watching (43%), and walking and hiking (42%).

A sample of regular recreational users of Lake Erie (those who visit several times each year), ranked the availability of recreational access to Lake Erie as low (Lake Erie Quality Index). Acquisition of key resource areas for both habitat protection and recreational use received very strong support from participants in the Statewide Recreational Opportunity Priority (ROP) public input process conducted in 1998. Public input into the ROP process also led to a goal of expansion of recreational corridors and greenways, and corridor/greenway development and management, in part through designation of an ODNR administering authority.

Significantly, those who regularly use Lake Erie recreational facilities rate the quality of facilities highly but gave the lowest scores on the availability of facilities.

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

Chief among the significant impediments to providing increased public access is the fact that approximately 85% of Ohio's Lake Erie shoreline is developed and held in private ownership. State and federal land holding agencies, while they currently own approximately 12% of Lake Erie's shoreline, generally purchase land only from willing sellers. Most recreational access improvements at the state and federal level are anticipated to be either enhancement or renovation of existing facilities or acquisitions from willing sellers. At the local level, there has been some increase in new access sites in the last few years, using Coastal Management Assistance Grants (CMAG) and boating access grants. Landward sites within the Coastal Management Area are only slightly more available. Increased emphasis has been placed upon providing connections between facilities using trails, greenways and other linkages, especially within the context of several new regional planning initiatives. Local entities are identifying corridors and rights-of-way and either acquiring them or converting them to recreational use.

The lack of availability of lake front properties, coupled with the desirability of the location, increasing affluence, and generally rising real estate prices, places a high premium on such land. As a result, the extremely high costs of purchasing such land is an additional impediment. E.g. the purchase price of ODNR's recent 124 acre acquisition on Middle Bass Island was $6.75 million.

Lake levels, both high and low, present an additional challenge for recreational opportunities on Lake Erie as well. The formidable erosive effects resulting from high lake levels during many years prior to 1998 impaired or threatened a number of existing public recreation and access sites. Further, the extensive armoring of the shoreline and the transport of large quantities of sand offshore as a result of channel dredging, storms and high lake levels have left the shoreline with an acute scarcity of sand for

public recreational beaches. Since the previous assessment, the lake's level has declined significantly. Boating access sites accordingly have been impaired by reduced water depths on Lake Erie and its tributaries.

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

Management Characterization

1. Within each of the management categories below, identify changes since the last assessment. This applies to both positive and negative changes.

Management Category	**Changes since last assessment**
Regulatory Programs	None
Acquisition Programs	Significant new acquisitions and new statewide Bond Issue Program
Comprehensive Access Planning	Significant
Operation & Maintenance Programs	None
Innovative Funding Techniques	None
Public Education and Outreach	Moderate
Other	None

2. For categories with changes that are identified as significant or moderate provide the following information for each change:

   Identify the change & whether it was a 309 change
   Briefly summarize the change
   Characterize the effect of the change

Acquisition

The past two years have seen some significant new acquisitions of valuable Lake Erie resource properties, despite the impediments cited above. Some of this progress can be attributed to improved coordination throughout ODNR when acquisition opportunities arise. None of the acquisitions were 309 changes.

ODNR's Division of Natural Areas and Preserves has acquired and dedicated two new coastal state nature preserves, the North Coast Alvar and the North Pond, both on Kelleys Island. Its effect is to preserve two unique natural areas with unique coastal plant communities, including several threatened and endangered species, in relatively untouched coastal island environments. Both new preserves are publicly accessible, and trails through them are interconnected with other trails on the island.

ODNR's Division of Parks and Recreation has made a significant acquisition of the former Lonz Winery on Middle Bass Island. Planning for a new state park of 125 acres has begun with significant involvement of local citizens, communities, and other potentially affected interests. This has added one mile of shoreline to the state's property accessible to the public. In addition, following acquisition of the Marblehead Lighthouse, the division cooperated with other ODNR divisions, the Ohio Historic Preservation Office and local communities and Nongovernmental Organizations to restore the lighthouse, develop interpretive signs and open the facility for highly popular tours during the summers of 1999 and 2000.

The Coastal Management Assistance Grants (CMAG) program developed just one year prior to the last assessment has provided funding for two small lake front property acquisitions, one a conservation easement adding to public access at the City of Ashtabula's Walnut Beach Park, and the other a fee simple acquisition in the City of Huron. CMAG has funded 14 additional projects that focus on or significantly enhance public access opportunities in the coastal region. In addition, two master plans are recognizing and incorporating public access to coastal resources as major components for the future for the communities of Kelleys Island and Port Clinton. Included in the 14 projects are bikeways, nature trails, boardwalks, an ice fishing ramp, a tour boat, and park plans. The overall effect of these grants has been to (1) increase the total shoreline length in public access, (2) increase and enhance existing publicly owned recreational open spaces, and (3) provide additional linkages among existing sites.

Specifically with regard to boating access, the Waterways Safety Fund, Cooperative Boating Access Grants experienced a statewide increase of $1.8 million, with about $1.2 million of the total in 1999 and 2000 directed toward the Lake Erie coast. Recreational harbor dredging needs also received a one million dollar boost. And the Boating Infrastructure Grant Program will provide federal assistance to construct transient moorage for recreational vessels greater than 26 feet in length. Ohio plans to apply for grants under this program.

A major new program will be established as a result of passage of State Issue 1 in November 2000. A $400 million Clean Ohio Fund will be established with state-issued bonds. One half of this fund will be used to preserve farmland and open space, greenways and trails.

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

Comprehensive Planning

The OCMP has initiated a Recreational Harbors Project to identify and prioritize recreational harbor dredging needs, establish policies and procedures, and implement a plan that is linked to communities' waterfront revitalization plans. This is not a 309 change. The project will help direct funding in order to keep priority recreational harbors open and to encourage local communities to undertake revitalization and planning efforts by giving high priority funding to those communities that develop comprehensive plans.

The OCMP, under contract with the Ohio Historic Preservation Office has begun an underwater preserve feasibility study that will lead to establishment of Ohio's first underwater preserve in Lake Erie in the vicinity of Kelleys Island. It will provide for enhanced underwater recreation and access and related land-based educational information. This is not a 309 change.

The Lake Erie Access Program has completed the boating portion of the inventory, and this is now available in GIS format. Digital orthophotographs depict the inventoried sites. The LEAP is not as far along as previously expected for reasons cited in previous OCMP performance reports. Progress is anticipated with core program funding in the coming several years.

In September 2000, the Lake Erie Commission's Lake Erie Protection and Restoration Plan established several strategic objectives for improving recreational access in the coastal area: (1) to create a high priority list for acquisition from willing sellers; (2) create special funding for fee simple and easement purchases; (3) continue work with local governments to assist with development and funding for hiking and biking trails and linkages; and (4) proceed with designation of the underwater preserve and on-shore embarkation points for accessible dive destinations. Goals were established pursuant to significant public input and as follow up to the Lake Erie Quality Index completed in 1998.

The Mentor Special Area Management Plan (SAMP) process (described later in this assessment) has identified expanded recreational opportunities and linkages within the Mentor Marsh watershed and adjacent communities as a high priority. The Marsh Area Regional Coalition formed a task force on Recreation and Access, and that group is documenting (1) needs for increased coordination of strategic regional recreation planning, (2) gaps in providing specific recreational amenities, (3) potential conflicts of recreational use with other uses, (4) funding sources, and (5) public outreach opportunities and goals.

The Old Woman Creek National Estuarine Research Reserve, in cooperation with the Ottawa County and Sandusky/Erie Counties Visitors Bureaus, recently took steps to develop a broad based plan to promote nature-based tourism in the western Lake Erie region. In November 2000, they conducted a Coastal Decision-Maker Workshop featuring Ted Lee Eubanks, one of the original planners for the Great Texas Coastal Birding Trail. Mr. Eubanks addressed a group of 34 coastal resource managers, nonprofit representatives, local officials and others on the subject of The Business of Nature: A Disciplined Approach to Nature-Based Tourism. The next steps are to develop an in-depth assessment of the region's nature-based recreation and tourism resources and begin comprehensive regional planning for a successful nature-based tourism initiative. It is anticipated that the western Lake Erie's efforts will serve as a model for the rest of the Lake Erie region.

Ohio recently established a statewide nature tourism task force, led by the Director of the Ottawa County Visitors Bureau at the request of the Ohio Department of Development (ODOD). The intent of this effort is to further advance comprehensive planning to support nature-based recreation and tourism in support of local communities and their economies. This is part of a statewide tourism task force led by ODOD's Division of Travel and Tourism. It is anticipated that several ODNR divisions will actively participate.

Public Education and Outreach

Several divisions have developed new interpretive signage with the OCMP's NOAA Section 306 funding. The Division of Parks and Recreation has completed signs about the limestone industry on Kelleys Island, and plans six new and upgraded seasonally rotating signs at East Harbor State Park to educate the public regarding wetlands, wildlife, and unique beach and wetland plant diversity. The Division of Natural

Areas and Preserves has used Section 306 funding to develop new signs for the two new Kelleys Island state nature preserves.

CMAG has also funded several important public outreach activities in local communities. The Ottawa County Visitors Bureau is providing interactive displays and interpretive exhibits regarding the region's natural history and recreational resources at the Lake Erie Islands Area Regional Welcome Center. The Great Lakes Historical Center developed a computer system for educating the public regarding Great Lakes vessels and shipwrecks, and Bowling Green State University is creating new databases on maritime resources to be available to the public at the Lake Erie Shipwreck Center. CMAG also funded a tour boat and landing in Toledo to provide educational tours on Swan Creek.

ODNR's Division of Parks and Recreation initiated extensive new educational programs in the coastal area, creating new educational packages, interpretive signage, and kiosks at state parks. The division has also developed a new Adopt-a-Beach initiative, providing beach awareness activities for children at the coastal state park campgrounds.

There are no negative changes to report.

Conclusion

1. Identify major gaps in addressing the programmatic objectives for this enhancement area.

As noted above, there has been moderate to significant progress in several areas for this enhancement area. There has been less than expected progress on the comprehensive Lake Erie Access Program due to delays in obtaining digital ortho photos, the need to conduct the Recreational Harbors project, loss of staff, and shifts of personnel to other efforts. These factors affected progress in the previous years, but renewed effort with core NOAA grant funding is expected to rectify this over the coming years.

2. What priority was this area and what priority is it now, in the view of the coastal program?

Last Assessment		This Assessment	
High		High	
Medium	X	Medium	X
Low		Low	

3. Briefly justify the proposed priority.

Public Access remains a high priority to address. However, progress in acquisitions, enhancements and comprehensive planning indicate that we are on course using CZMA core funding and other non-CZMA funded initiatives. Actual acquisition is the most pressing and costly need, and that is not eligible for Section 309 funds.

Coastal Hazards

Section 309 Programmatic Objectives

I. Direct future public and private development and redevelopment away from hazardous areas, including the high hazard areas delineated as FEMA V-zones and areas vulnerable to inundation from sea and Great Lakes level rise.

II. Preserve and restore the protective functions of natural shorelines features such as beaches, dunes, and wetlands.

III. Prevent or minimize threats to existing populations and property from both episodic and chronic coastal hazards.

Coastal Hazards Characterization

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

Hazard	High Risk	Medium Risk	Low Risk
Hurricane/Typhoons			Hurricanes sometimes track to Erie as tropical storms, causing wind set up, flooding & erosion.
Flooding	For low-lying areas during high water periods (and a function largely of cumulative and secondary impacts of development)		
Storm Surge	Wind set up from storms affects low lying areas, especially during high water periods.		
Episodic Erosion	X		
Chronic Erosion	X		
Sea/Lake Level Rise	X		
Subsidence			X
Earthquakes			X
Tsunamis			(N/A)

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

The decline in lake levels since 1998 has reduced flooding due to high water levels and in many areas has brought temporary relief from erosion. However, along sand-starved reaches downdrift of harbors, erosion of unprotected property and downcutting in the nearshore continue. Planned efforts to develop quantitative measures for littoral sand disposal are identified under the strategic portion of this document.

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

Many residences and other structures are at risk because they are located close to eroding bluffs. Data compiled by ODNR's Division of Geological Survey, Lake Erie Geology Group, reveal approximately 30 percent of lakefront parcels are in coastal erosion areas (CEAs). The following table shows the approximate number of parcels and percent of lakeshore within CEAs. Data are arranged by geographically by county from east to west.

County	Number	Percent
Ashtabula	500	22.4
Lake	590	26.4
Cuyahoga	107	4.8
Lorain	325	14.5
Erie	235	10.5
Erie Islands	57	2.6
Sandusky	14	0.6
Ottawa	190	8.5
Ottawa Islands	177	7.9
Lucas	39	1.7

While the areas subject to flooding are reasonably well known, the timing and occurrence of such flooding along the lake is highly unpredictable. Potential project sites were evaluated for inclusion in the Army Corps of Engineers' Advanced Measures Program. Of 23 suggested projects in communities from six of the eight shoreline counties, five met the eligibility criteria for Advanced Measures. Two of these projects have been completed and one is underway.

Publicly funded infrastructure is also at risk, primarily from lake-related erosion in areas where recession rates are highest. Despite erosion risks, more than 85 percent of Ohio's shoreline is already developed. The policy of the OCMP with regard to managing erosion hazards is to "encourage strategic retreat where natural functions of bluffs, dunes, and coastal barriers can be maintained effectively and selective fortification to protect existing development vulnerable to long-term rapid erosion." (OCMP Document and Final Environmental Impact Statement, Policy 1 – Lake Erie Coastal Erosion Area Management, Part II 5-8)

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

FEDERALLY LISTED

Peregrine Falcon - Federally Endangered
Piping Plover - Federally Endangered
Bald Eagle - Federally Threatened
Lake Erie Water Snake - Federally Threatened
Blanding's Turtle - Federally monitored
Black Tern - Federally monitored
Common Tern - Federally monitored

STATE LISTED
American Bittern - Endangered
Bald Eagle - Endangered
Black-crowned Night-Heron - Endangered
Black Tern - Endangered
Common Tern - Endangered
Engelmann's Spikerush - Endangered
Least Bittern - Endangered
Little Blue Heron - Endangered
Peregrine Falcon - Endangered
Piping Plover - Endangered
Osprey - Endangered
Snowy Egret - Endangered
Beach Wormwood - Threatened
Bushy Cinquefoil - Threatened
Lake Erie Water Snake - Threatened
Small-flowered Evening-primrose - Threatened
Floating Pondweed - Potentially Threatened
Low Umbrella-sedge - Potentially Threatened
Purple Sand Grass - Potentially Threatened
Sand Dropseed - Potentially Threatened
Sea-rocket - Potentially Threatened
Seaside Spurge - Potentially Threatened
Schweinitz's Umbrella-sedge - Potentially Threatened
American Black Duck - Special Interest
Blanding's Turtle - Special Interest
Fox Snake - Special Interest

Two areas of coastal beach/dune complexes (Sheldon Marsh and Headlands Dunes SNPs) were identified by the USFWS in its restoration proposals for the piping plover.

Management Characterization

1. In the table below, indicate changes to the state's hazards protection programs since the last assessment.

Mechanism	**Changes Since Last Assessment**
Building restriction	None
Repair/rebuilding restrictions	None
Restrict hard shoreline protection structures	Moderate Negative
Restrict renovation of shoreline protection structures	None

Beach/dune protection	Statutory change being developed to require disposal in the littoral system of sand dredged during construction and maintenance of navigation channels
Permit compliance program	None
Inlet management plans	None
SAMPs	None
Local hazards mitigation planning	None
Innovative procedures for dealing with takings	None
Methodologies for determining setbacks	None
Disclosure requirements	None
Publicly funded infrastructure restrictions	None
Public Education and Outreach	None

2. For categories with changes that are identified as significant or moderate provide the following information for each change:

   Identify the change & whether it was a 309 change
   (If not a 309 change, please specify the funding source.)
   Briefly summarize the change
   Characterize the effect of the change

Hard Structure Restriction

Passage of a low interest loan program for construction of erosion control structures, in connection with both existing and new habitable structure construction, could provide incentives for additional land-based structures and associated shore hardening. It is too early to be able to quantitatively determine the impacts, but permitting staff are tracking this.

Beach/dune protection

Many of today's coastal erosion problems stem from the wasteful sand management practices of the past. In 1964, Robert Hartley observed the following:

> "Most of the large structures along the Ohio shore have caused build-up of beaches on their updrift sides and accelerated erosion downdrift. The effects are not balancing, in that the length of eroding shore is ordinarily five or more times the length of shore which is protected by build-up. At some places the build-up is even too great, resulting in a waste of beach materials which are in short supply along most of the shore. One possible solution of the problem might be artificial redistribution of the trapped sands by dredging and other methods." (Robert Hartley, 1964, Effects of large structures on the Ohio Shore of Lake Erie: Ohio Geological Survey Report of Investigations No. 53, 30 p.)

In response to increasing concern over the avoidable loss of sand and coarse-grained sediments to the littoral system, the OCMP has undertaken a number of initiatives to address this problem:

- The Ohio Coastal Resources Advisory Council has identified sand management and the need to stop disposing of sand in deep lake disposal sites in Federal navigation projects as a priority issue. It has expressed its concerns in writing to the Department, the Corps of Engineers and elected officials.
- The Director, ODNR has established a Focus Group on Sand Management that is working with the Corps of Engineers to improve coordination and planning and to seek ways to assure beach nourishment and littoral system disposal in Corps of Engineers harbor dredging. Also, within this Focus Group effort, ODNR is re-examining what threshold is appropriate as a standard for the percentage of sand in dredged materials that would require disposal in the littoral system. Further, ODNR is developing a mechanism for using the state's federal consistency authority to its fullest extent and advantage.
- The Coastal Program Manager, through the Coastal States Organization's Coastal Hazards Committee and NOAA's Office of Ocean and Coastal Resource Management, is urging adoption of beach nourishment or littoral system sand disposal as the Federal Standard (considered the "least cost environmentally acceptable alternative" in dredged material disposal for federal projects).
- The Mentor SAMP has identified this issue and has established a task force dedicated to nearshore issues. It has established the SAMP boundary to include the shoreline west to the structure west of the Chagrin River Harbor for the purpose of assuring protection of the extensive beach/dune complexes within the SAMP area. A portion of this complex is one of the two proposed critical habitat units in Ohio for the piping plover.

To improve enforcement of the state's sand management policies, ODNR is proposing a clear statement of policy in Ohio statute. This is indicated in the above table, but is not a change in effect. It is a proposed change in progress.

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

The significant impediments to meeting programmatic objectives for sand management within the Coastal Hazards enhancement area are primarily federal policies and planning processes that do not adequately address best management practices for dredged material disposal and which affect the state's rights and sovereign responsibility to manage Lake Erie resources important to the general public interest. Ohio's historically inadequate coastal hazards policies and lack of a comprehensive approach to hazards management have contributed to the challenge.

Conclusion

1. Identify major gaps in addressing the programmatic objectives for this enhancement area.

   Public understanding and acceptance of the need for sound sand management practices is improving, but remains a gap that the OCMP seeks to bridge with more effective education and outreach. The need for sufficient funding to adequately support permit monitoring and enforcement (including federal consistency) is also an impediment.

2. What priority was this area and what priority is it now, in the view of the coastal program?

	Last Assessment	This Assessment
High		
Medium	X	X
Low		

3. Briefly justify the proposed priority ranking.

Significant changes were effected with respect to chronic and episodic erosion just prior to the previous assessment. These include permitting requirements, building restrictions, disclosure, and setback methodologies. Therefore, while chronic and episodic erosion are still considered high risk phenomena, the management means are, for the most part, in place to address them. Two exceptions to this are in the area of littoral sand management and permit compliance.

NOAA conducted a Section 312 review of the OCMP in June 2000, and issued its draft findings in November 2000. That evaluation cited the need for additional resources or program changes in the following two areas: 1) monitoring and enforcement of the two core OCMP authorities of submerged lands leasing and CEA permitting, and 2) application of the state and federal consistency provisions. The OCMP will develop a plan to address these two issues, which have a direct bearing on the coastal hazards category, by July 2001.

In summary, the overall Coastal Hazards Enhancement area remains a medium priority; but beach and dune protection and permit compliance are specifically identified as very important. Therefore, sand management and permit compliance rank very high as an important resource protection mechanisms, and ODNR is seeking to improve the effectiveness of the OCMP in these areas.

Strategy

Description of Change

Implementation of a comprehensive sand management program will require the following activities, for which Section 309 funds may be requested:

- Verification of channel or basin sediment quality
- Monitoring sediment quality during dredging processes
- Documentation that only sand is placed nearshore and that no uncontaminated sand is dumped in deep water
- Monitoring of movement of sand after nearshore disposal
- Confirmation that commercial dredging is done only within permitted areas
- Confirmation that sand resources are not buried beneath shore protection structures during construction of erosion control measures.

Other implementation activities are the policy development initiatives that are in progress and are described in item 2 of the Management Characterization section above.

Anticipated Effect of Change

The anticipated effect of the changes and implementation activities will be an accelerated recovery from past and current practices that degrade Ohio's coastal area and contribute to loss of beaches and increasing coastal erosion. The scope and value of these activities in terms of coastal management and resource protection is tangible and measurable protection of beaches and shorelines. The proposed changes and implementation activities have been identified by the OCMP, ODNR Administration and the Coastal Resources Advisory Council as the most appropriate means to address this priority need.

The General Work Plan

The general plan for achieving the program changes and implementing measures to assure continued sound management of Ohio's sand resources in the Lake Erie littoral system is as follows:

State Fiscal Year 2001

Conduct ODNR Focus Group on Sand Management
Prepare state legislation regarding management of sand in littoral system
Coordinate with Corps of Engineers to improve planning and implementation of federal dredging activities
Initiate education and outreach activities, in cooperation with the Coastal Resources Advisory Council
Continue element of Mentor SAMP addressing this issue

State Fiscal Year 2002

Initiate Implementation Activities described in the Description of Change
Seek adoption of state legislation requiring disposal of uncontaminated sand in littoral system
Continue close coordination with the Corps of Engineers

Continue to seek adoption of a Federal Standard for disposal of dredged sand
Increase education and outreach activities to garner additional public support
Make effective use of electronic media and the press
Enhance the role of the Coastal Resources Advisory Council (CRAC) in education and outreach
Continue element of Mentor SAMP addressing this issue

Wetlands

Section 309 Programmatic Objectives

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

Resource Characterization

1. Extent of coastal wetlands

Wetlands Type	Extent (acres & year)	Trends (acres/year)
Tidal	NA	NA
Non-tidal	NA	NA
Freshwater	33,000 in 1997	+1,000/year since 1987
Other _____		
Publicly Acquired Wetlands	25 acres at Middle Bass Island during the 24 month timeframe	
Restored Wetlands	60 acres at Willow Island Wildlife Area restored	

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

2. Direct and indirect threats to coastal wetlands, both natural and man-made

Threat	Significance
Development/fill	Medium
Erosion	High

Pollution	Medium
Channelization	Low
Nuisance/exotic species	High
Freshwater Input	NA
Other – Agricultural drainage	Medium

3. For threats that are identified as high or medium, provide the following information:

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

Development/Fill – The coastal area's lacustrine and palustrine wetlands are potentially threatened by the construction of marinas and waterfront developments such as condominiums and resort communities. Unprecedented development and economic growth is occurring due to the area's attractiveness for outdoor recreation and tourism and its quality of life amenities. It is extremely difficult to quantify the extent of associated losses over the last decade or so, because many are piecemeal losses, partial habitat alterations, and cumulative and secondary effects.

Mounting pressure exists to convert diked (and sometimes pumped) wetlands in cropland use to nonagricultural and nonwater dependent uses such as residential, recreational and resort development. This can represent an even greater threat to wetlands than agricultural use because such development is irreversible and is often adjacent, or in close proximity, to other marshland. Secondary and cumulative impacts of such development are serious concerns.

In the last 24 months approximately 17acres of wetlands in the designated coastal area have been filled (as the result of one master-planned industrial project, one transportation project, and one residential development project). All of the 17 acres was determined to be hydrologically isolated from Lake Erie and consisted of poor quality wetland habitat. Thus, development-induced threats to wetlands do not appear particularly imminent. Rather, the threat to wetlands located in the designated coastal area is latent due to the extent of privately owned wetlands. Approximately 50% of coastal area wetlands are currently privately owned and therefore are potentially threatened by development. Ohio EPA's adoption of more stringent wetland water quality standards in May 1998 will assist in protecting Lake Erie coastal wetlands. Additionally, ODNR staff have assisted Ohio EPA staff with the development of new wetland quality metrics which will assist both agencies in assessing the functional quality and relative degree of disturbance in coastal wetlands via a rapid assessment method. Wetlands hydrologically connected to Lake Erie and its tributaries are assigned a higher value under the standards and the rapid assessment method. As a result, proposed activities that would result in wetland degradation are subjected to an increased level of regulatory scrutiny.

Thus, the very recent trend is considered to be stable or improving slightly. Approximately 60 acres of wetland were restored on public lands, and mitigation for the wetland impacts described above totaled approximately 42 acres. Thus, the 102 acres of restored wetlands, balanced by the approximately 17 acres of wetland impact, constitutes a slight net gain in the past two years.

The only impediment to addressing this threat is the extent of private ownership; however, this clearly is balanced by the recent trends and the newly adopted standards. The development of more effective means of protecting wetlands in private ownership needs further exploration.

Erosion and High Lake Levels – Although variable, lake levels generally have been above normal for the past few decades due to high levels of precipitation in the upper Great Lakes basin. The effect on coastal marshes has been significant. This phenomenon has been exacerbated by the hardening of the shoreline and, to a lesser extent, by dams on Lake Erie tributaries. Such structural modifications have caused an increased loss of sediment in the littoral system and the consequent loss of natural barrier beaches that previously protected coastal wetlands. It is estimated that 1125 acres of coastal wetlands have been lost because of reduction of sand supply and breaching of natural protective barriers. Diking of some coastal wetlands has become essential in the recent past in order to protect wetlands whose landward advance during periods of high lake levels is restricted by inland development. Approximately 13,000 acres have been protected by such dikes.

The most serious impediment to addressing this threat is the cost of artificial dikes, the unavailability of undeveloped land over which wetlands could retreat inland and expand, and natural weather patterns.

Pollution – The primary threat from this factor is nonpoint source pollution. In 1988, the state's Nonpoint Source Assessment and Management Plan identified hydrologic/habitat modification activities as the principal nonpoint source threat to wetlands in Ohio. Secondary impacts on off-site, downstream wetlands are a serious concern with respect to many large-scale earth disturbing developments and activities. Inadequate erosion control and stormwater runoff control measures can result in the downstream siltation of aquatic habitats including wetlands. No quantitative assessment of impaired acreage has been completed since 1989. However, suburbanization of agricultural areas near coastal cities, along with its associated runoff and nonpoint source pollutants, has been growing at a rapid pace in recent years.

Progress has been made since the last assessment in that the OCMP has submitted its Coastal Nonpoint Pollution Control Plan to NOAA and the USEPA and has begun implementing some of its newest recommendations (see Cumulative and Secondary Impacts).

The primary impediments to addressing this threat include the lack of regulation of numerous small independent activities and the current inability to quantify and characterize these cumulative impacts.

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

The trend over the past few years has been an increase in wetland degradation by nuisance species, although importation, possession and sale of purple loosestrife is banned in Ohio. Ohio has developed a statewide nonindigenous invasive species plan and is currently developing model legislation that could include additional controls in cooperation with the Great Lakes Commission and other Great Lakes states.

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

Agricultural drainage – Losses attributable to drainage improvement projects involve both direct conversion and incidental results of stream and drainage system modification. Thousands of low-lying coastal marshes have been diked and drained for farming, although some are flooded in fall for waterfowl. Such areas are not irreversibly converted to nonwetland uses. In fact, some of these areas have reverted to marsh by landowner design or by the encroachment of higher lake levels.

Management Characterization

Within each of the management categories below, identify changes since the last assessment. This applies to both positive and negative changes.

Management Category	**Change since last assessment**
Regulatory Programs	None
Wetlands Protection Standards	None
Assessment Methods	Moderate
Impact Analysis	None
Restoration / Enhancement Programs	Moderate Improvements – Development of Wetland Restoration and Mitigation Strategy Blueprint Moderate to Significant change – Corps of Engineers recent raising of the bar for in lieu fee programs
SAMPs	Moderate
Education and Outreach	Significant
Wetlands Creation Programs	None
Acquisition Programs	Moderate

Other _____	

For categories with changes that are identified as significant or moderate provide the following information for each change:

Identify the change & whether it was a 309 change
(If not a 309 change, please specify the funding source.)
Briefly summarize the change
Characterize the effect of the change

Assessment Methods

Ohio EPA is developing biological criteria for wetlands using vascular plants, macroinvertebrates, and amphibians as indices of biotic integrity. A portion of the Lake Plains ecoregion has been sampled. Ohio EPA is continuing sampling in other Ohio ecoregions to develop more objective and defensible biological criteria. Additionally, Ohio EPA is participating in "BAWWG," The Biological Assessment of Wetlands Workgroup. BAWWG was formed in 1997 with the objective of improving methods and programs to evaluate the biological integrity of wetlands. The national workgroup consists of wetland scientists from federal agencies, states, and universities. The wetland bioassessments will eventually help Ohio evaluate and track wetland health, evaluate success of restorations, strengthen Water Quality Standards, and certify that permits maintain water quality. Eventually, Ohio EPA plans to work with ODNR to develop a specific metric and rapid assessment method for Lake Erie coastal wetlands.

Restoration / Enhancement Programs

Ohio EPA and ODNR collaborated since the last assessment to develop a model for identifying priority areas for wetland mitigation and restoration. Additionally, Ohio EPA and ODNR identified high quality wetlands in Ohio that should be earmarked for protection. This project built upon recent strategic planning initiatives undertaken by Ohio EPA and ODNR which developed a common strategy for implementation of the 1994 Wetlands Task Force recommendations and staff recommendations. A model was developed utilizing geographic information system spatial modeling, stakeholder input and a planning process. This model is available for private and public use in order to determine the location of wetland restoration and mitigation projects.

Ohio EPA and ODNR formed a stakeholder group comprised of representatives from Ohio EPA, ODNR, federal agencies, park districts, environmental groups, land conservancy organizations, development and industry interests and academia. This group developed strategies using a consensus approach. A subgroup of the stakeholders group compiled a list of high quality wetlands in Ohio. Numerous sources of information were pooled to develop the model and strategies. State and regional priority programs such as the Ohio Coastal Management Program, Lake Erie Remedial Action Plans, the Grand River Lowlands Tactical Plan and the Lake Erie Restoration and Protection Plan (draft) aided development of the restoration and mitigation plan.

The end product is a report of the group's findings and recommendations, a blueprint for Ohio wetland restoration and mitigation efforts, and a list of high quality wetlands worthy of special designation. The blueprint, coupled with the development of a wetland landowners guide by Ohio EPA, will provide grassroots groups and other conservation partners the necessary tools to become active partners in the agencies' shared vision of wetland conservation in Ohio. It will direct wetland restoration efforts by ODNR divisions; provide guidance to the U.S. Army Corps of Engineers, Ohio EPA and other resource

agencies on appropriate locations for wetland mitigation; and aid conservation groups and individuals interested in wetland restoration. This project was conducted on a statewide basis, and at a lesser degree of detail than the inventory described below as a Section 309 funded project.

Regarding recent changes by the U. S. Army Corps of Engineers, an MOU was issued late in 2000 subjecting in-lieu fee programs to the same standards as wetland banks. This has created an insurmountable barrier for local jurisdictions and conservancy entities for facilitating in-watershed wetland mitigation. A variety of concerns apparently led to this change, and until more time elapses, the ultimate impacts, whether positive or negative, are as yet undetermined.

SAMPs

The 309-funded Mentor Special Area Management Plan has identified wetlands and biodiversity as one of its priorities and has established a task force to specifically address the issues involved. The task force has identified priority properties, developed a relationship with the Cleveland Museum of Natural History for in-lieu fee holding for restoration projects in the watershed. The group published and distributed a brochure to promote this effort to developers, property owners, consultants, and decision makers. However, this effort was recently undermined by changes by the U. S. Army Corps of Engineers, which subject in-lieu fee programs to barriers that may be insurmountable. The Buffalo District recently terminated its in-lieu fee program in November due to this change.

Education and Outreach

Ohio EPA and ODNR, working together, developed a model for the identification of priority areas throughout the state for the development of wetland mitigation and restoration, known as the Ohio Wetland Restoration and Mitigation Strategy Blueprint. Additionally, Ohio EPA and ODNR undertook an initiative to identify high quality wetlands in Ohio that should be earmarked for protection. A model utilizing geographic information system spatially modeling combined with stakeholder input and a planning process developed by The Wetlands Initiative was developed. This model is available to make decisions on the location of wetland restoration and mitigation projects for private or public endeavors. ODNR anticipates sharing this model and other pertinent wetland information with our partners via an Ohio wetlands web site, currently under construction. ODNR realizes that the state alone can not protect wetlands, but that a shared effort with local grass roots organizations can lead to additional lands protected from development and degradation.

Also, OEPA has published a “Wetland Landowner Guide” to educate property owners about the various programs and tools available to promote effective stewardship of Ohio’s wetland resources.

Acquisition Programs

Moderate progress has been made toward acquisition in the past two years. ODNR's Division of Natural Areas and Preserves conducted a project (Section 309 funded) to identify high-quality coastal wetlands on private lands that are worthy of protection. Using two previous projects as a foundation and several resources within the Department, the Division has now developed a detailed inventory of privately-owned high-quality coastal wetlands and has made specific recommendations for their protection and enhancement. This inventory and recommendations for protection will be a critical step towards reaching the goal of enhanced wetland protection. This inventory can be used by ODNR, as well as by other land-managing and regulatory agencies, to identify and protect the highest quality remaining coastal wetlands and help restore degraded ones.

The OCMP’s Integrated Management Team has made “Habitat Preservation” one of its two priorities in its revised strategic plan for the coming years. The team has also determined that it will prioritize identifying funding opportunities and cooperative mechanisms to facilitate both state and local protection efforts. At its first meeting in the year 2001, the IMT will begin the intensive planning necessary to effect this change, particularly as it pertains to wetlands.

The OCMP also has facilitated the acquisition of conservation easements on several riparian wetlands in the Arcola Creek watershed as an outgrowth of its 309-funded watershed planning effort with the Lake County Soil and Water Conservation District (described under Cumulative and Secondary Impacts below).

Conclusion

1. Identify major gaps in addressing the programmatic objectives for this enhancement area.

Improvements in regulatory programs through new more stringent wetland water quality standards (prior to the 1998 assessment) has removed a significant impediment to protecting and preserving direct adverse impacts to coastal wetlands. Impediments to protection from indirect and cumulative impacts include first and foremost the limited nature of quantifiable information on past, current and projected impacts. It is difficult to characterize the scope and trends of the pollution threat due to their numerous and diffuse sources. An important additional barrier is relatively low public awareness regarding the impacts of individual actions on coastal wetland status and function. As individual efforts are made to modify development plans to address these impacts, an additional barrier has emerged. Many well intended local planning and zoning requirements are impediments to such "green" developments. (This factor is also a barrier to addressing cumulative and secondary impacts and will be addressed more fully in that section.)

Increasing the levels of sustainable acreage and functions of degraded wetlands is impeded by the fact that factors affecting the quality of wetlands are extremely complex. However, our understanding of these factors is constantly improving. Currently, there is no universally accepted metric for monitoring the quality of wetlands, although such a system is being developed for the Ohio situation by Ohio EPA (with support from ODNR).

Ohio has made considerable progress in restoring coastal wetlands through the Wetland Reserve Program, the Conservation Reserve Program, and ODNR's Division of Wildlife's restoration of several thousand acres. In the past seven years, the Division has accomplished several direct acquisition projects and numerous partnerships with private landowners. The state has established as a statewide goal the enhancement of 15,000 acres and the protection of 22,000 acres (over the 1987 base of 22,000 acres) by the year 2005. The acreage goals for restoration are being approached, but the acreage goals for protection are not. The principal impediments to reaching this goal are the lack of specific detailed inventories on private lands and the high cost of acquisition of fee title and easements. This should be addressed by the 309 project described above and planned efforts described in the Strategy.

Wetlands creation is not a priority in the coastal area, as all emphasis is being placed upon protection and restoration.

2. What priority is this area, in the view of the coastal program?

Last Assessment		This Assessment	
High	X	High	X
Medium		Medium	
Low		Low	

3. Briefly justify the proposed priority.

Although Ohio has made significant progress in recent years in protecting and restoring coastal marshes, the fact remains that over the long term tremendous losses in this resource occurred. Prior to Ohio's settlement, the Lake Erie marshes have been estimated to exceed 300,000 acres. By the year 1987, this acreage had been reduced to less than 23,000, a loss of more than 92%. Coastal wetlands are highly productive and diverse ecosystems that provide numerous beneficial functions that have been thoroughly

studied and documented. Still, these unique systems are fragile and continue to be susceptible to human and natural threats. There is now no doubt that restoration and protection of these natural systems is imperative to the heath of Lake Erie and the communities that depend upon and enjoy it. Although Ohio has made progress in restoring publicly-owned coastal wetlands, protection of privately-owned coastal wetlands has lagged far behind. This is primarily due to the lack of specific detailed inventories on private lands and the high cost of acquisition.

Strategy

Description of Change

It is the intent of the OCMP and the IMT to aggressively pursue development of new coordinated acquisition initiatives within ODNR and in cooperation with other entities. Specific mechanisms are not in place at this time, because the DNAP report and recommendations will not be completed until the end of December. It is anticipated that the main effort for the next two years will be development and implementation of those new cooperative efforts. Therefore actions fundable through the enhancement program are not anticipated for State Fiscal Year 2002 (July 2001 through June 2002). However, should the IMT identify necessary projects such as additional GIS depiction of specific project areas, the OCMP may wish to budget Section 309 funds to accomplish them. Or, it may be possible to request funding for additional public information efforts, assessment and monitoring or other activities.

Anticipated Effect of Change

The intent of the planned work outlined above is to finalize prioritization of wetlands for acquisition and to proceed with that acquisition. The effect would be to permanently protect remaining priority wetlands in the coastal area. It is the understanding of the IMT and other department experts in this field that the priority wetlands have now been identified. Data is not lacking, and the main remaining impediment is inadequate funds and difficulty in identifying the appropriate land managing entity. Since acquisition is not eligible for Section 309 funds, the OCMP's planned next acquisition steps are not eligible. Several other sources of funding that may advance such efforts are the newly passed bond measure described in the Public Access section and new federal appropriations for Great Lakes Coastal Restoration Grants.

Appropriateness of Change

Moving forward with acquisition from willing sellers is the logical next step following the detailed inventory. Developing new mechanisms to allow rapid action is essential because the resource faces immediate threat, and over the past few years several opportunities were lost when willing sellers stepped forward. Both ODNR's Strategic Plan and the Lake Erie Protection and Restoration Plan identified habitat protection as a high priority.

Cumulative and Secondary Impacts

Section 309 Programmatic Objectives

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

Resource Characterization

1. Identify areas in the coastal zone where rapid growth or changes in land use require improved management of Cumulative and Secondary Impacts. Provide the following information for each area:

   - type of growth or change in land use (i.e., residential, industrial, etc.)
   - rate of growth or change in land use
   - types of CSIs

The following is derived from the OCMP's previous assessment completed just two years ago, with minor updates of statistics. There has been little change in status.

As with most other coastal regions, many of Ohio's Lake Erie shoreline and near shore areas have undergone a significant transition from small town, resort cottage, rural and agricultural uses to urban, suburban and resort land uses in the past 20 years. Exceptions are (1) the already fully urbanized cities of Cleveland and Toledo; and (2) the Maumee and Portage River areas, where land uses remain largely rural and publicly managed wetlands and wildlife areas.

Ottawa County, which includes the Lake Erie Islands other than Kelleys, has experienced continuing changes in land use, primarily from rural agricultural to residential, commercial (slight), second home/resort complex uses, and marinas. In the eastern end of the coastal area of Ottawa County, two townships (Danbury and Catawba Island) rank first and second in the number of new subdivision developments since 1970. While still a small percentage of land use in the county overall, residential development increased by almost 50% between 1989 and 1998. Commercial and industrial uses have increased significantly in Portage Township. The number of residential permits in the county as a whole increased rather strongly between 1984 and 1992, leveling off and remaining steady over the past six years. Cumulative and secondary impacts to coastal waters and resources in Ottawa County result primarily from nonpoint source pollutants during construction and from post-construction runoff of developed areas.

Similarly, Lake County has undergone significant changes in land use. The largest growth surge, essentially agricultural to residential, occurred between 1988 and 1996. This trend has slowed over the past few years, and is expected to further abate in coming years. The more recent downward trend is related to the following limitations: (1) poorly drained soils in the remaining undeveloped areas, (2) failing septic systems, (3) an increase in the value that local communities in Lake County place on growth management and conservation development, and (4) limiting traffic patterns. Subdivision development continues though, and while the size has decreased from 50 to 60 lots to 20 to 30, these are generally partial developments on larger tracts where full development is planned. As a result of the earlier development trends, impermeable surfaces have increased as has the runoff associated with such urban and suburban developments.

The Lake Erie Islands are perhaps the most significant example of recent high growth and development trends. The islands' appeal as a more remote and tranquil area for recreation and escape from the mainland is the primary attraction that is spurring growth. Recent land use changes are primarily toward high season second home, resort complex and marina development. In particular, marina and resort complex development is currently increasing throughout the islands.

Threatened and endangered species are of particular interest in the Lake Erie Islands region, and cumulative and secondary impacts of development can directly threaten these populations and also

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

Erie County's coastal area, primarily to the east of the city of Sandusky, has experienced a tremendous increase in residential land use. Agriculture and small individual cottages were the dominant land use until the 1980s. Since that time, numerous condos and subdivisions have been built along the shoreline. The same process is occurring to a slight extent landward overall, but to a greater extent along Lake Erie tributaries, especially the Huron and Vermilion rivers. Several suburban developments have occurred adjacent to and in the near vicinity of the Old Woman Creek National Estuarine Research Reserve. West of the city, limitations to growth include marshes and overall poor soil drainage. Erie County includes Kelleys Island, which is characterized in the Lake Erie Islands information.

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

Secondary impacts are also associated with the development of infrastructure. For example, disposal of excess excavated materials from water and sewer line projects development and dredging have affected wetlands and other coastal resources. Accelerated development in areas served by new infrastructure has increased cumulative impacts.

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

2. Identify areas in the coastal zone (by type or location) which possess sensitive coastal resources, and require a greater degree of protection from the cumulative or secondary impacts of growth and development.

Area	**Types of CSIs**
Old Woman Creek NERR	Nonpoint source pollution, habitat fragmentation from suburbanization, exotic invasive species
Mentor Marsh State Nature Preserve and Mentor Lagoons	Nonpoint source pollution, habitat degradation, suburban development, exotic invasive species, industrial activities and residual effects of previous environmental violations at Lagoons

Lake Erie Islands	Residential/commercial development, marina and resort complex development, aesthetic and historical quality of life impairments, habitat fragmentation, degradation of public access and enjoyment, impacts to listed species, including the Lake Erie Water Snake (federally threatened species)
Sheldon Marsh State Nature Preserve	Threats similar to all those above, and negative impacts have occurred this year as a result of approval of a Nationwide Permit near the preserve's boundary
Arcola Creek Watershed, Lake County	Accelerating development, flooding, sensitive wetlands, freshwater estuary, multiplicity of stakeholders and interests, significant cold-water fish nursery habitat
Lakefront areas	Residential development, nonpoint source pollution, cumulative viewshed loss, disruption of natural littoral processes, loss of beaches
Embayments such as Maumee Bay and Sandusky Bay	Heavy sediment load and nonpoint pollution, dredging, port activities, impacts to the Lake Erie Water Snake nearshore and off-shore of the Marblehead Peninsula
Urban river mouths	Heavy sediment load and nonpoint pollution, dredging, port activities
Coastal area Wetlands	Nonpoint pollution, habitat fragmentation, suburbanization, dredge and fill of hydrologically linked lands
Critical fish habitat	Sediment and nonpoint source loading, dredging and filling, hydromodification

Management Characterization

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

   Identify the change & whether it was a 309 change
   Briefly summarize the change
   Characterize the effect of the change

Section 309 Activities

The OCMP has made some, but not significant progress in this area. As described in the 1998 assessment, quantification of secondary impacts of specific actions and the ultimate impacts of numerous separate and

seemingly insignificant activities was in its infancy in Ohio at that time. The OCMP embarked on an initial study to begin addressing this issue using Section 309 funds. The program initiated coordinated efforts involving several ODNR divisions and the Ohio EPA designed to develop enforceable guidelines for consideration of cumulative and secondary impacts in permit decisions and other land use planning activities. The ODNR/OEPA working group selected the Chagrin River Watershed as the pilot geographic area and focused on four critical resources and problems: wetlands, critical fish habitat, stormwater and sedimentation.

The OCMP hired a consultant to (1) compile a local and state permits database, (2) create GIS mapping, (3) provide information on impacts resulting from the permits compiled, (3) develop, in coordination with ODNR and OEPA staff, recommendations for short term program improvements and necessary direction for longer term policy and procedure opportunities. The intent was for this analysis to form a first step toward establishing protocols for more objective consideration of cumulative and secondary impacts of development within the two agencies' permit processes. It was assumed that the process of developing guidelines and standards would take several years.

The project began in late 1999 and continued through June 2000. The study found that the agencies' ability to assess, predict and enforce regulatory programs that consider cumulative and secondary impacts is more severely hampered than expected. Needs for accurate and complete database management and coordination, impacts monitoring, GIS systems, and other information required to evaluate CSIs in permitting and administrative actions are far larger than originally expected. The gap between the current state and the desired state is huge and cannot be overstated. Filling the gaps identified would require funding far in excess of that available through Section 309 Program Enhancement funds or funds currently available to the two agencies.

As a result of the study's findings, the OCMP has referred the issue to the two agencies, recommending coordinated database access, development and use of models and tracking land use changes at the parcel level, development of additional baseline biotic integrity data, identification of stream functions and parameters necessary to improve watersheds.

As a result, the OCMP has shifted its Section 309 funding focus to the local level for the short term. With approval from NOAA, the OCMP has funded the Chagrin River Watershed Partners to do the following: (1) assess long term hydrologic regime trends of the Chagrin River Watershed using USGS gage data, (2) evaluate land use and regional climatic factors to assess cause (if trends are identified in item 1), (3) initiate a site planning forum to determine alternative site development practices to reduce CSIs hydrologic impacts of land use changes, and (4) initiate a comprehensive wetland study to assess CSIs on wetland resources in the Chagrin River watershed.

A second Section 309 project that addresses CSI is the Arcola Creek Watershed study and plan. To accomplish development of a watershed plan, ODNR's Division of Soil and Water Conservation has entered into a contract with the Lake Soil and Water Conservation District with Section 309 Program Enhancement funds. Arcola Creek is one of the finest resources that remain natural in Ohio's Lake Erie coastal region. The creek encompasses one of only two freshwater estuaries in Ohio and serves both as steelhead trout habitat and as a nursery for other Lake Erie fishes. The estuary also encompasses an outstanding natural wetland area that is a haven for countless plant and wildlife species, some of which are listed as threatened and endangered in Ohio. The district's program administrator dedicates a portion of his time to this effort, and the district's Urban Streams Specialist is 100% dedicated to this project. Subcontracting for research, data collection and analysis may be included, as necessary, as a component of this agreement.

Non-Section 309 Activities

Local Planning Assistance - On other non-Section 309 fronts, the OCMP and others have begun actively working to assist local comprehensive planning and sustainable development initiatives through a number of means. The OCMP has prioritized such efforts through its CMAG program, conducted cross-training for ODNR staff on Sustainable Development issues, and plans additional workshops and forums for local communities on sustainable development and growth management. The Ohio EPA and ODNR's Division of Soil and Water Conservation have cooperated to financially and technically support local watershed groups.

With regard to state permitting and environmental review processes, the OCMP has begun incorporating nonpoint source BMPs in submerged lands lease and has initiated implementation of additional elements of its Coastal Nonpoint Pollution Control Program. And several ODNR divisions have established stream protection mitigation guidance for incorporation into coordinated environmental review.

Coastal Nonpoint - The Division of Soil and Water Conservation and Ohio EPA developed the Coastal Nonpoint Pollution Control Program (CNPCP) during 1998 and 1999. The document was submitted to NOAA and U. S. EPA in summer 2000. Both the CNPCP and the statewide Nonpoint Source Program Upgrade identify urban stormwater pollution and development-related hydromodification as significant problems for water resources in Ohio and the Lake Erie basin. During the process of developing these plans, statewide and coastal work groups established a number of objectives especially aimed at urban runoff problems. These pertain to funding and establishing strategies for sustainable watershed partnerships, as well as public education, information, marketing and awareness. Implementation of some of these objectives has begun under the CNPCP.

Stream mitigation and restoration - Over the past several years, ODNR had observed a lack of consistent decision making and technical assistance with regard to stream mitigation. The department determined that stream mitigation assistance provided to the development community could assist with balancing environmental protection and sustained economic growth. As a result, a stream mitigation guidance document has been developed. This guidance provides a mechanism through which various ODNR divisions, coordinated through the Environmental Review process, assist permit applicants in meeting the requirements associated with the U.S. Army Corps of Engineers (Corps) and Ohio Environmental Protection Agency permitting programs. The guidance document helps to ensure that stream mitigation efforts are effective, appropriate, viable and beneficial by linking development interests with non-governmental organizations. The document consists of stream definitions, listing of various divisions' authorities, a process flowchart and a stream mitigation matrix.

The OCMP used NOAA Section 310 funding to help advance the development of stream restoration standards for use in the stream mitigation process for small and medium sized streams. Such streams now also receive heightened regulatory review through the Section 401 Water Quality Certification process. Affected length subject to review has been reduced from 500 feet to 200. Stream restoration standards developed through the 310 funding will describe the geomorphological profiles, including entrenchment ratios, stream width to depth ratios, and riffle to pool ratios desirable for maintaining natural stream functions.

Stormwater Management - The OCMP used CZMA Section 306 funding to take initial steps toward development of improved stormwater retention design standards for incorporation into county and municipal stormwater management programs. This work began in December 1999 with meetings of the Rainwater and Land Development Committee (comprised of members of NRCS, SWCD, ODNR,

university faculty and private consulting firms). Research is being conducted to develop stormwater runoff criteria and standards that incorporate fluvial geomorphology and channel type. Once standards are developed, Urban Streams Coordinators, the OCMP's Coastal Nonpoint Source Pollution Coordinator, and others will disseminate them and work with local communities to incorporate them into local stormwater management programs and plans. The new guidelines will be incorporated into the *Rainwater and Land Development* handbook.

Database Management - The OEPA has received U. S. EPA funding to refine and fully implement its Surface Water Information Management System (SWIMS). Currently, SWIMS is usable for NPDES permitting, and through this project the following program areas will be added to the SWIMS capabilities: general permitting, 401 water quality certifications, biosolids monitoring and tracking, data assessment and analysis, and enforcement case development and tracking. EPA also is planning to consolidate and make available GIS information on 401 project impacts in the Lake Erie watershed. This will allow increased scrutiny near environmentally sensitive areas and where cumulative impacts are problematic.

Lake Erie Protection and Restoration (LEPR) Plan – The LEPR Plan published in September 2000 identifies numerous strategic actions for the Lake Erie Commission agencies that address CSI. These include: contaminated sediment remediation, support for completion of comprehensive stormwater management plans in all Lake Erie sub-watersheds, removal of non-beneficial dams and modifications to others, full implementation of the Ohio Farmland Preservation Program, and riparian corridor reforestation.

Conclusion

1. Identify significant gaps in addressing the programmatic objectives for this enhancement area (i.e., inadequate authority, data gaps, inadequate analytical methods, lack of public acceptance, etc.)

The primary impediment to significant progress toward establishing protocols and incorporating consideration of CSIs during state permit review is insufficient funding. Currently, most permitting actions are efficiently handled, but funding issues and resulting small staff size can contribute to less than the desirable state with regard to monitoring and enforcement. Trends in state funding have been and are expected to continue to be downward rather than upward. The OCMP anticipates that submerged lands lease fund revenues, which may be a logical source of additional funding for this element, would increase with increased and more consistent compliance with the program. However, several years will be required for ongoing permitting and leasing efforts (with attendant costs of enforcement) to bear fruit.

All else significantly hinges on adequate funding and assignment of staff, particularly in the database management and monitoring and enforcement areas. The level of funding available through the Section 309 program is viewed as more suitable to assist local planning efforts and to make some incremental changes in database improvement and coordination.

2. What priority was this area and what priority is it now, in the view of the coastal program?

Last Assessment		This Assessment	
High	X	High	X
Medium		Medium	
Low		Low	

3. Briefly justify the proposed priority.

Much of Ohio's coastal area has been developed and suburbanized at a steady pace, and this trend has continued in the past two years. This has resulted in rapidly increasing nonpoint pollution, loss of habitat and recreational opportunities, fragmentation of riparian and other corridors, and even the gradual loss of the Lake Erie viewshed to the public.

The Land Use Metric section of the 1998 Lake Erie Quality Index cites the deterioration of the "environmental quality of Lake Erie's tributaries, river mouths and shoreline" as well as their inability "to support healthy and diverse biological communities." These impacts are accurately attributed to urban sprawl, by which "each new development increases the demand for new infrastructure . . . increases waste discharges, reduces the ability of the land to store water, and eliminates natural habitat." The index did not incorporate a land use metric rating specifically because we currently lack an understanding of combinations of land uses "required to sustain the watershed and a plan on how to accomplish the needed change."

It is expected that making some progress in state and local government's capacity to quantify and incorporate consideration of cumulative and secondary impacts through planning and permitting will increase their ability to ameliorate these impacts. Several factors are key to making this progress: (1) advancing state and local decision makers' knowledge and understanding regarding baseline and desired biological and geomorphological integrity; (2) increasing the performance and integration of a variety of information databases, GIS and land use impacts modeling; (3) fostering local governments' sustainable community efforts through technical assistance, education, and funding; and (4) improved monitoring and enforcement to follow through on permit conditions.

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

Strategy

Description of Change

The Ohio Coastal Management Program plans to continue its coordinated efforts involving several ODNR divisions and the Ohio EPA and continue to seek additional funding for enforcement, monitoring and database management. However, it is recognized that funding increases sufficient to address the magnitude of this problem are not likely. The multi-agency working group will meet on a quarterly basis to pursue and follow up on the ongoing actions of their respective agencies with regard to: (1) database improvement and coordination, (2) development and use of models and land use changes tracking mechanisms, (3) enhanced baseline biotic integrity data, and (4) stream functions and parameters necessary to improve watersheds. OCMP staff additionally plan to continue efforts to advance the Sustainable Development priority identified in its 2000 revised Strategic Plan through workshops, cross training and other public outreach efforts.

The program also proposes to continue its work with the Chagrin River Watershed Partners and the Lake County Soil and Water Conservation District (Arcola Creek) in the coming two years. We plan to expand this effort to other watersheds in future years, coordinating with and tailoring efforts to ongoing watershed protection efforts. It is anticipated that significant benefits can accrue within these two watersheds and ultimately be shared with other watershed groups for application within their watersheds.

The OCMP is taking a primary role in addressing the LEPR Plan's Land Use metric, which will look at natural cover and impervious surfaces, wetlands, and shoreline hardening.

The OCMP will also continue internal and external training programs and workshops to address the many elements that contribute to cumulative and secondary impacts. And at the state regulatory level, either Section 306 or 309 funding will be used for improvements to Ohio EPA's databases for monitoring 401 Water Quality Certifications, wetland mitigation, and Nationwide Permit tracking and impacts monitoring, and to complete a GIS-based lakeshore data management system to assist shore structure permitting and submerged lands management.

Anticipated Effect of Change

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

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

Appropriateness of Change

Continued training, funding, and other assistance to local watershed groups is essential to building capacity to address cumulative and secondary impacts of development that result from stream modifications and other hydromodification, increased impervious surfaces, and land cover alterations. Since the OCMP's original assessment in 1998, there have been many advances in forming, training and funding local watershed groups by Ohio EPA and ODNR's Division of Soil and Water Conservation. Supporting the quantification of cumulative and secondary impacts and helping local governments incorporate such consideration into local land use planning through adoption of specific guidelines and standards is an important step toward addressing this problem at the watershed level.

ODNR's and Ohio EPA's continued coordination will address the state permitting and enforcement level. Continued work with the Chagrin River Watershed Partners and the Lake County Soil and Water Conservation District will advance direct application of planning tools to ameliorate CSIs at the local watershed level. It will also provide a framework within which to share information and build capacity throughout the Lake Erie region

Further, the need for understanding and using information on cumulative and secondary impacts cuts across and affects virtually every indicator included in the Lake Erie Quality Index (water quality, pollution sources, habitat, biological, recreation, boating, fishing, beaches, tourism and shipping). Similarly, every priority included in the Lake Erie Protection and Restoration Plan would be supported by gaining an improved understanding of cumulative and secondary impacts of a variety of coastal land uses.

General Work Plan (Fiscal Years 2002 – 2006)

It is anticipated that state budget funding will not be sufficient to significantly enhance monitoring and enforcement of permit conditions and impacts. NOAA funding may be requested to augment state funding that may become available for such efforts. In addition, as SWIMS improvements proceed, Section 309 funds may assist with enhancing those efforts, with an emphasis on coordination and integration of the database.

The OCMP will continue to focus the majority of its efforts with CSI at the local watershed level. Specifically, the Chagrin River Watershed Partners would do the following during state fiscal year 2002:

1. Convene a site planning forum to evaluate optional alternative development rules to minimize cumulative and secondary hydrologic impacts of increased impervious cover associated with land use changes in the watershed. Using information developed by the Center for Watershed Protection, explore in detail, adoption of recommended model development principles in northeast Ohio. A technical committee comprised of local and regional government representatives, planners, landscape architects, engineers, and the legal community would meet at least monthly to work on adapting the CWP principles to the Chagrin River watershed. The CRWP would conduct a public roundtable to identify issues and make recommendations to the technical committee.

   A summary report including results of the planning forum and committee meetings will be prepared. Results of the forum will be shared through a variety of means with a broad range of constituencies including growth associations, local and county planning commissions, the development community and others. The final product is expected to be the adopted model development principles.

2. Evaluate historic and remaining wetland resources in the Chagrin River watershed and assess cumulative and secondary impacts of land use changes on these resources. Focus on selected headwater areas to assess specific wetland losses and threats. The focus of the evaluation will be in the main headwater areas of the Chagrin and the Aurora Branch.

Future efforts by the CRWP and possibly others in coming years are expected to include additional information dissemination and education, flood hazard mapping in the lower watershed, a cumulative threats evaluation (using L-THIA modeling), and sediment loading source assessment. This will be conducted in collaboration with other related ongoing efforts, such as implementation of the Coastal Nonpoint Pollution Control Program and Phase II of the NPDES Stormwater permit requirements. Capacity building at the local level and sharing of experience and expertise at the

The OCMP will also continue development of the Arcola Creek watershed study and plan. The study is addressing stormwater drainage concerns in the context of other important issues in the Arcola basin, including but not limited to water quality, habitat, land use, public safety, recreation, quality of life, and agricultural, commercial and other economic needs. The ultimate goal is for this study to form the basis for a watershed management plan that would be developed once the study process concludes. Once the plan is completed the watershed communities will have a valuable guide for future development in the area.

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

Estimated Costs

Chagrin River Watershed Partners - $46,000 for Fiscal Year 2002, with a similar amount in following years to CRWP or other watershed groups to continue similar efforts as needed

Arcola Creek Watershed Study and Plan - $50,000 for Fiscal Years 2002, with a similar amount in following years to CRWP or other watershed groups to continue similar efforts as needed

Likelihood of Success

Some success is likely, due to the commitment of several divisions within ODNR, Ohio EPA and the local communities affected in the pilot project region. Further, the Lake Erie Commission has committed to developing a Land Use Metric by which to assess and address resource and water quality impacts from land use changes. Additionally, coordination with ongoing programs such as the Urban Streams Program, the governor's Farmland Preservation Task Force, the Brownfields Redevelopment Program, and Coastal Nonpoint Pollution Control Program development will help sustain the effort and provide synergistic benefits. There is widespread commitment among virtually all agencies, local governments and organizations to improved protection of our Lake Erie waters and associated resources and to the specific projects described above in particular. As described earlier, the Lake Erie Quality Index indicated that Land Use and Urban Nonpoint Source metrics are under development, and efforts to address Cumulative and Secondary Impacts are one means of supporting that effort. The OCMP will explore how this program enhancement project may assist in fully developing the land use metric of the Lake Erie Commission's Quality Index.

Success in developing consistent protocols for application in state permitting, leasing, and consistency review many be longer in coming to fruition, given limited funding.

Marine Debris

Section 309 Programmatic Objectives

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

Marine/Lake Debris Characterization

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

Source	**Impact** (Significant/Moderate/Insignificant)	**Type of Impact** (aesthetic, resource damage,etc).
Recreational Fishing and Boating	Moderate	Aesthetic, resource damage, water quality impairment, vectors, engine damage from plastics
Commercial fishing	Insignificant	Aesthetic, resource damage
Operational, galley	Insignificant	Aesthetic, resource damage

Beachgoers	Significant in a few locations	Aesthetic, resource damage, vectors, economic
Medical, sewage	Insignificant	Aesthetic, resource damage, public health
Tributaries (Storm driven erosion/flow/ Dislodging)	Significant	Aesthetic, resource damage, public health and safety, vectors, economic

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

There are no changes to report.

Management Characterization

1. In the table below, identify state ocean/Great Lake management programs and initiatives that exist as of this assessment.

Program	**Status**	**Funding Source (309 or Other)**
State/local program requiring recycling	No	No
State/local program to reduce littering and wasteful packaging	Yes	Other
State/local regulations consistent with Marine Plastic Pollution Research and Control Act	Yes	Other
Marine debris concerns incorporated into harbor, port, marina and coastal solid waste management plans	Yes, some	Other
Education programs	Yes	Other
Clean up programs	Yes	Other

2. For the programs identified above provide a brief description of the program and its effect.

While there is not a state program that mandates recycling, the Ohio Environmental Protection Agency (Ohio EPA) adopted a State Solid Waste Management Plan in 1989. The Plan's goals are to reduce reliance on landfills and establish objectives for solid waste reuse, reduction, recycling and minimization. Each county was required to establish a single or joint solid waste management district, and to submit a solid waste management plan to Ohio EPA that conformed to the agency's standards. Total waste reduction and recycling increased from 26% to 42% between 1990 and 1996. (The latter figure includes yard waste and industrial waste in addition to residential/commercial waste; that change in calculation method accounts for 8 percentage points.) In 1996, 20.6% of residential/commercial waste generated in Ohio was recycled. There was a 400% increase in industrial waste reduction/recycling from 1990 to 1996. Still, landfill disposal continues to be the primary form of solid waste management, and total waste generated as well as per capita generation has increased.

Dumping of litter and refuse into or along the waters of Lake Erie and its tributaries is prohibited by law. Litter laws are exceptionally difficult to enforce, however, since they require catching individuals in the act and proving intent to leave the scene without retrieving the materials left.

ODNR's Division of Recycling and Litter Prevention (DRLP) administers a number of programs to discourage littering and encourage waste reduction, recycling, and recycled-content product procurement. The division administers an annual Recycle Ohio! Grant program, providing grants on a competitive basis to counties, solid waste districts, and cities of greater than 50,000 population. Grants are to implement statewide solid waste reduction, recycling, recycling market development and litter prevention programs. Recycling Market Development grants to the same eligible entities foster cooperative research and development and cooperative establishment or expansion of private recycling facilities or programs.

ODNR's Division of Watercraft sponsors an "Adopt a Waterway" program and publishes materials relevant to this program and an Environmental Boater's Guide. Currently, however, Lake Erie has no organizations officially committed to waterway adoption.

DRLP also disseminates information regarding recycling, litter prevention, and waste reduction, or precycling, primarily through the Internet. The multi-layered web site features recycling, litter prevention, waste reduction, recycling market development and buy recycled information; browsers can download fact sheets, local recycling opportunities and get the latest in recycling and litter prevention news. The division has produced two videos, "The Litter Quitters" for elementary students and "Somebody Else," which encourages Ohioans to take environmental responsibility for their actions. A market development video is now in production also. The Adopt a Waterway program has been presented at schools, civic organizations, fairs, malls, and School Days programs for elementary school children. Solid waste management districts produce a wide variety of educational materials and programs and support numerous local clean-up efforts.

Ohio administrative rules governing the licensing of marinas (OAC 3701-35-05) require marinas to provide leakproof containers with effective covers for solid waste storage and mandate at least weekly emptying and cleaning. Rules also mandate proper storage and disposal of other wastes generated, such as motor oil, antifreeze and batteries.

The Ohio Lake Erie Commission Office (OLECO) coordinates the annual Coastweeks event, during which several clean up efforts are sponsored by a variety of groups at various locations. Underwater clean ups are conducted in addition to shoreline clean ups. Annual clean up events sponsored by the Lake Erie Commission Office during Coastweeks have seen an increase in the number of participants and miles cleaned. Coastweeks 2000 was a banner year, with more than twice the length of shoreline covered (22.9 miles) compared with the years prior to the last assessment.

Conclusion

1. Identify major gaps in addressing the programmatic objectives for this enhancement area.

The OCMP has not identified any major gaps.

2. What priority was this area and what priority is it now, in the view of the coastal program?

Last Assessment		This Assessment	
High		High	
Medium	X	Medium	X
Low		Low	

3. Briefly justify the proposed priority ranking.

According to ODNR State Park Managers and Port Authorities, a considerable volume of debris currently washes up onto beaches and into embayments. The origin of the vast majority of this material, which is mostly organic, is perceived to be from erosion of streambanks along Lake Erie's tributaries. In more urban areas, the larger problem is from beachgoers. However, overall the majority of debris is resulting from the natural erosion process that is hastened by suburban development. It is anticipated that ODNR's

newly developed Urban Streams Program and the Cumulative and Secondary Impacts Strategy described above will help to ameliorate this problem.

Special Area Management Planning

Section 309 Programmatic Objectives

I. Develop and implement special area management planning in coastal areas applying the following criteria:

- areas including significant coastal resources that are being severely affected by cumulative or secondary impacts;
- areas where a multiplicity of local, state, and federal authorities prevents effective coordination and cooperation in addressing coastal development on an ecosystem basis;
- areas with a history of long-standing disputes between various levels of government over coastal resources that has resulted in protracted negotiations over the acceptability of proposed uses;
- there is a strong commitment at all levels of government to enter into a collaborative planning process to produce enforceable plans;
- a strong state or regional entity exists which is willing and able to sponsor the planning program.

Resource Characterization

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

Area	**Major Conflicts**
Mentor Marsh State Nature Preserve, Mentor Lagoons, Headlands Dunes SNP, Headlands Beach State Park, and Fairport Harbor (along OCMP boundary from the Grand River/Fairport Harbor area on the east to an unspecified area west of the Mentor Marsh/Mentor Lagoons area.	Wetlands degradation and habitat fragmentation resulting from suburban development and industrial activities, disruption of littoral systems and associated biotic communities, exotic invasive species, conflicting land uses; littoral system alterations.
Lake Erie Islands	Increasing residential and commercial development, marina and resort complex development, desire of residents to maintain quality of life amenities, degradation of public access and enjoyment, pressure from mix of competing and sometimes incompatible land uses. Important habitat for federally threatened Lake Erie water snake.

Old Woman Creek Watershed and confluence area at Lake Erie including near shore waters and beach	Rapid development; loss of habitat; cumulative and secondary impacts of development, including degraded water quality and sedimentation; exotic species; wildlife habitat disruption; littoral system alterations
State Nature Preserves and Critical Fish Habitat	Hydromodification (both existing and potential resulting from development), nonpoint source pollution within the supporting watersheds and in some cases directly adjacent. Wetlands degradation, habitat fragmentation, dredging and littoral system disruption, exotic invasive species.

Management Characterization

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

Area	Status of Activities	Funding Source
Mentor	Issue Characterization	309

2. Identify any significant changes in the state's SAMP program since the last assessment (i.e., new regulations, guidance, manuals, etc.). Provide the following information for each change:

   Identify the change & whether it was a 309 change
   Briefly summarize the change
   Characterize the effect of the change

There have been no changes in Ohio's SAMP program other than the initiation of the Mentor SAMP.

Conclusion

1. Identify major gaps in meeting the programmatic objectives for this enhancement area.

There are no major gaps to identify; however it could be possible to develop additional SAMPs if funds and staffing allowed for it in the future.

2. What priority was this area and what priority is it now, in the view of the coastal program?

Last Assessment		This Assessment	
High	X	High	X
Medium		Medium	

Low Low

3. Briefly justify the proposed priority.

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

The need to address resource management conflicts and needs in a coordinated fashion is particularly clear in the Mentor Marsh and Fairport Harbor area. This area contains a State Nature Preserve that was previously identified as a National Natural Landmark, but is currently undergoing hydrologic changes and degradation from water quality impairment and the introduction of exotic species, primarily Phragmites. The last remaining large undeveloped beach on Ohio's Lake Erie shoreline supports a diverse ecological community and serves a valuable natural protective function in an area subject to major erosive problems.

Surrounding areas have experienced greatly accelerated development due to the economic growth patterns and Lake County's prominence as an outmigration area for the City of Cleveland to the west. The communities of Fairport Harbor, Grand River and Painesville are just to the east and are experiencing erosion and littoral system changes as well as fluctuating economic conditions. Waterfront planning and revitalization are a potential need in this area. Upstream, the Grand River is a State Scenic River, and the new Urban Streams program is actively working with property owners and communities on natural stream protection and sustainable development planning.

There has been increased pressure in the vicinity of several state nature preserves as well during the two years since the previous assessment. Additionally, critical fish habitat in the Lake Erie region is particularly vulnerable to impacts from hydromodification, dredging, nonpoint source pollution and other cumulative causes and sources. Such activity has pointed to a need to investigate and consider application of heightened scrutiny and/or enhanced protective measures within these special areas and buffers surrounding them. Both State Nature Preserves and Critical Fish Habitats are identified as Special Management Areas in the OCMP document and final EIS published in March 1997, and are therefore appropriate for such enhanced protection. In addition, preserving and protecting coastal habitat is identified as a priority in both the Lake Erie Protection and Restoration Plan and ODNR's Strategic Plan for Coastal Management.

Strategy

Description of Change

Mentor SAMP

The Ohio Coastal Management Program will continue the Special Area Management Planning Process in the area of Mentor Marsh, City of Mentor Lagoons Preserve and Marina and surrounding communities. The MARC has established a planning boundary that encompasses the watershed of the marsh and its feeder streams as well as Fairport Harbor to the east and the littoral cell to the west. Because this boundary extends beyond the current OCMP boundary, MARC has notified NOAA that OCMP boundary extension may be one ultimate SAMP recommendation. SAMP recommendations ultimately will be incorporated into the Ohio Coastal Management Program and adapted to other coastal areas, where

appropriate. Development and implementation of this plan is facilitated by MARC members, which include OCMP staff.

The primary focus of the efforts of the coming two fiscal years are development of strategies, public review and input, public education and outreach, beginning implementation of discreet priority strategies, and initiation of final plan development.

State Nature Preserves and Critical Fish Habitat

The OCMP will convene working groups (or support and participate in such groups formed by appropriate ODNR divisions), including ODNR Integrated Management Team (IMT) members and member division staff, Policies and Programs Coordinating Committee (PPCC) members and Coastal Resources Advisory Council members to begin consideration of improved permit review and notification processes to increase protection of State Nature Preserves (SNPs) and Critical Fish Habitats (CFHs). This may or may not prompt funding requests in future years under Section 309 of the CZMA.

Anticipated Effect of Change

With respect to the Mentor SAMP, the anticipated effects are: (1) improved coordination of resource management and community revitalization efforts at various levels of government, in cooperation with Ohio Sea Grant, nonprofit organizations, educational institutions, and private enterprise; (2) restoration of degraded and threatened biological communities; (3) economic revitalization; (4) more satisfactory mechanisms for addressing regional resource management concerns; and (5) a model for additional areas interested in effecting similar changes.

With regard to State Nature Preserves and Critical Fish Habitats, the ultimate goal and anticipated effect is enhanced protection and restoration of such areas.

Appropriateness of Change

Local communities, educational and research institutions, state agencies, Sea Grant and others in the Mentor region are committed to taking a more comprehensive coordinated approach to planning and stewardship of the economic and environmental resources of this area. Both Mentor Marsh State Nature Preserve and Headland Dunes State Nature Preserve were identified as site-specific Areas of Particular Concern (APCs) in the Ohio Coastal Management Program and Final Environmental Impact Statement published in March 1997. Wetlands, public parks and access areas, ports and harbors, critical fish habitats, and coastal erosion and flood hazard areas, all of which are located in this area, were designated as generic APCs.

Increased hydrologic changes, habitat fragmentation and accelerated development with its associated cumulative and secondary impacts necessitate additional attention to protecting buffer areas surrounding the few remaining special habitats in our State Nature Preserves and Critical Fish Habitats.

General Work Plan

Continue Mentor SAMP development through to implementation, in coordination with the Marsh Area Regional Coalition, their member agencies and organizations, and the general public.

Consider initiation of a SAMP in the Lake Erie Islands region, if interest is there among the local partners. The region is also identified as a possible location for initiation of an Ecological Characterization through NOAA's Coastal Services Center.

Convene working group on Special Management Areas (SNPs and CFHs) in Fiscal Year 2002.

Estimated Costs

Mentor SAMP - $50,000 annually for Fiscal Years 2002 and 2003

Special Management Areas planning process – No funding anticipated to be requested for Fiscal Year 2002

Likelihood of Success

The key interested parties with respect to the Mentor SAMP are highly committed to pursuing this process and making it a success. Assuring public input through coordination with the Coastal Resources Advisory Council will aid this effort.

The Special Management Area planning process is in the preliminary discussion stage.

Energy & Government Facility Siting

Section 309 Programmatic Objectives

I. Enhance existing procedures and long range planning processes for considering the needs of energy-related and government facilities and activities of greater than local significance.

II. Improve program policies and standards that affect the subject uses and activities so as to facilitate siting while maintaining current levels of coastal resource protection.

Management Characterization

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

   Identify the change & whether it was a 309 change
   Briefly summarize the change
   Characterize the effect of the change

There are no significant changes since the last assessment.

Conclusion

1. Identify major gaps in meeting the programmatic objectives for this enhancement area.

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

2. What priority was this area and what priority is it now, in the view of the coastal program?

Previous Assessment	This Assessment
High	High
Medium	Medium
Low X	Low X

3. Briefly justify the proposed priority.

No new energy facilities are planned or foreseen for the coastal region. Additional government facility siting is not anticipated, other than the planned Coastal Services Center for OCMP and related staff and Middle Bass Island State Park as described above. These two facilities are expected to have beneficial regional significance and are being planned with Sustainable Development principles in mind. Neither is anticipated to have negative impacts on coastal resources, and sufficient coordinated planning, design, public input and environmental review processes are in place. Ohio's already highly developed shoreline, theoretically the most logical place for energy facility siting, is primarily residential and urban, interspersed with publicly owned parks, wildlife refuges and natural areas. Turnover in land use to energy and government facilities is not anticipated.

Aquaculture

Section 309 Programmatic Objective

I. Enhance existing procedures and long range planning processes for considering the siting of public and private marine aquaculture facilities in the coastal zone.

II. Improve program policies and standards which affect aquaculture activities and uses so as to facilitate siting while maintaining current levels of coastal resource protection.

Resource Characterization

1. Briefly describe the state's aquaculture activities.

Aquaculture is not a significant activity in Ohio's coastal management area. One private facility for raising commercial fish (yellow perch) exists within the Coastal Management Area in Lorain, and another (rainbow trout) is just outside the boundary at Castalia in Erie County. Only two ODNR Division of Wildlife hatchery facilities are located within the Lake Erie watershed, one at Castalia and the other in Auglaize County (directly on the Lake Erie/Ohio River watershed boundary). There are no current plans to locate additional ODNR hatcheries in the Lake Erie watershed. There are nine fish and fish food propagators of native species within the Lake Erie watershed.

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

By far the most deleterious potential effect from aquaculture of nonnative species is the escape of such species into the ecosystem. The introduction of certain exotic species can result in detrimental impacts

on native species and their habitats as well as the potential for contamination of native species gene pools. As stated above, both the Division of Wildlife's regulation of aquaculture facilities and management of its own hatcheries address these issues.

Management Characterization

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

   Identify the change & whether it was a 309 change
   Briefly summarize the change
   Characterize the effect of the change

As a signatory to the *Joint Strategic Plan for Management of Great Lakes Fisheries*, and as a member of the Great Lakes Fishery Commission's Council of Lakes Committee (CLC), Ohio follows the CLC's ***Procedures for Consultation on Introductions in the Great Lakes Basin***. In short, new species (or strain) introduction into Lake Erie (or its tributaries) which could affect or influence the interests of any Great Lakes state or province requires a formal notification procedure and, if necessary, negotiations until consensus is reached among affected agencies.

The Ohio Administrative Code (OAC 1501:31-39-01(I)) has been revised to specifically prohibit cage culture in Ohio's Lake Erie waters. (Cage culture has become increasingly more popular on the Great Lakes.)

ODNR's Wildlife Council approved changes to OAC 1531:31-1-02 and 1501:31-39-01 in September 2000. The previous "A" and "B" listings have been replaced with a new system that classifies fish as: 1) *unrestricted*, 2) *restricted*, 3) *prohibited*, and 4) *unclassified*. The changes were implemented in part to protect the integrity of our natural resources and to enhance ANS prevention.

Conclusion

1. Identify major gaps in addressing the programmatic objectives for this enhancement area.

There are no major gaps, considering the limited extent of aquaculture in the coastal watershed and the controls available to address potential problems.

2. What priority was this area and what priority is it now, in the view of the coastal program?

Last Assessment		This Assessment	
High		High	
Medium		Medium	
Low	X	Low	X

3. Briefly justify the proposed priority.

The limited extent of the aquaculture industry currently in the coastal area, the low potential for future facilities to locate there, and adequate controls to regulate what does exist has led the OCMP to the conclusion that this is a low priority for implementing enhancements or conducting new strategies to address this category.